

LEGISLATIVE REFERENCE LIBRARY

SD566.M6 M563 1991a

- Minnesota forest resources plan :



3 0307 00061 8580

910566

# MINNESOTA FOREST RESOURCES PLAN ©



## PROGRAM DIRECTION FISCAL YEARS 1991 - 1995

July 1991

LEGISLATIVE REFERENCE LIBRARY  
640 State Office Building  
SAINT PAUL, Minnesota 55155



Minnesota Department of Natural Resources  
Division of Forestry

SD  
566  
.M6  
M563  
1991a  
c.2



STATE OF  
MINNESOTA  
DEPARTMENT OF NATURAL RESOURCES

44

500 LAFAYETTE ROAD • ST. PAUL, MINNESOTA • 55155-40\_\_\_\_\_

DNR INFORMATION  
(612) 296-6157

June 17, 1991

File: 9220-1

Dear Friend:

Thank You for your interest in the program update of the Minnesota Forest Resources Plan (MFRP).

In 1982 the Minnesota legislature passed the Forest Resources Management Act. The Act mandated establishment of a statewide forest resources planning program. The first Minnesota Forest Resources Plan (MFRP), completed in 1983, included an assessment of forest resources and conditions in Minnesota. The plan also included a program describing specific actions the Division of Forestry will take to implement the forest resources management policy of the Act.

This is the third time in the past decade that the Division of Forestry has officially documented how it proposes to address Minnesota's forest resource issues, challenges, and opportunities. The program portion of the plan was previously updated in 1987.

This plan update, outlines the actions to be taken to fulfill the Division's statutory mandates and meet the increasing demands being placed on the state's forests. The update also includes an estimate of the budgetary and personnel resources that will be required to carry out the proposed actions.

The Division is continually adjusting its programs as conditions change, and the planning process is ongoing. Both the MFRP *Assessment and Program* are scheduled to be completely rewritten in 1993. I invite you to review the plan and provide comments on how we can improve the 1993 version.

Sincerely,

Gerald A. Rose  
Director

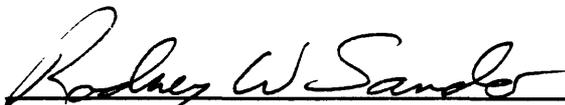
\\WP51\MFRP\ROSE.LET (TJP)

**MINNESOTA FOREST RESOURCES PLAN  
PROGRAM DIRECTION, 1991 - 1995**

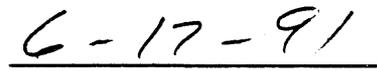
This plan has been prepared and approved pursuant to Minnesota Statutes, Section 89.011, Subdivision 3 which provides:

Subd. 3. **PROGRAM ELEMENTS.** The program shall be updated every four years and shall describe specific actions to address the assessment and to implement the forest resources management policy of Section 3, including but not limited to:

- (a) Improvement of silvicultural practices and improved methods for harvesting and utilizing timber and timber residues;
- (b) Measures to improve reforestation practices;
- (c) Measures to enhance recreational opportunities and fish and wildlife habitat;
- (d) The identification of "prime forest land" according to criteria developed by the Commissioner;
- (e) Priorities for construction and improvement of forest roads to achieve the state forest road policy, including the development of alternative methods for financing forest road construction, improvement and maintenance, and for imposing a reasonable share of the costs of the forest road system on those who directly benefit from the availability and use of the system;
- (f) A description of how the multiple use and sustained yield management policy will apply to decisions about other public and private uses of forest lands and resources.
- (g) An estimate of the expenditures necessary to implement the elements of the program, along with the sources and amounts of revenue available or necessary to finance the estimated expenditures.

  
\_\_\_\_\_

Rodney W. Sando  
Minnesota Department of Natural Resources

  
\_\_\_\_\_

Date



# MINNESOTA FOREST RESOURCES PLAN

July 1991

© Copyright by State of Minnesota

---

**For Information contact:**

Thomas J. Polasik, Statewide Forest Resources Planner  
Department of Natural Resources, Division of Forestry  
500 Lafayette Road  
St. Paul MN 55155-4044

---



## TABLE OF CONTENTS

	<u>Page</u>
Executive Summary . . . . .	i
Preface . . . . .	v
Introduction	
Planning Purpose and Process . . . . .	1
Format and Content . . . . .	4
Plan Implementation and Monitoring . . . . .	4
Future Direction for the Division of Forestry	
Basic Assumptions . . . . .	6
Vision and Mission Statements . . . . .	6
Preferred Future . . . . .	6
Division Goals . . . . .	7
Strategies and Objectives . . . . .	7
Budget and Staffing Summary	
Budget and Staffing Summary . . . . .	9
State Forest Land Management Program	
Land Administration . . . . .	23
State Forest Recreation . . . . .	27
State Forest Roads . . . . .	30
Timber Management . . . . .	34
Timber Sales . . . . .	38
Fish and Wildlife Habitat Management . . . . .	42
Cooperative Forest Management Program	
Private Forest Management . . . . .	46
Urban and Community Forestry . . . . .	49
Cooperative County Forest Management . . . . .	52
Forest Pest Management . . . . .	55
Forest Soils . . . . .	58
Nursery and Tree Improvement Program	

Nursery and Tree Improvement .....	61
Resource Protection Program	
Wildfire Protection and Management .....	66
Law Enforcement .....	70
Forest Resource Information and Planning Program	
Forest Resource Assessment and Analysis .....	72
Forest Products Utilization and Marketing .....	76
Forest Information Systems .....	79
Forest Resource Planning .....	82
Public Affairs .....	85
Administrative and Technical Support Services	
Human Resources Development .....	87
Maintenance and Administration .....	90

LIST OF TABLES

Table 1. Summary of Statewide Budget Allotments by Funding Source - Fiscal Years 1987-1991 .....	20
Table 2. Budget Needs by Program - Fiscal Years 1991-1995 .....	21
Table 3. Staff Needs by Program - Fiscal years 1991-1995 .....	22

LIST OF FIGURES

Figure 1. Map of DNR, Division of Forestry Administered Lands .....	2
Figure 2. Distribution of Commercial Forest Lands by Ownership Class in Minnesota ...	3
Figure 3. MFRP Planning Process Schematic .....	5
Figure 4. Division of Forestry Expenditures F.Y. 1985 - F.Y. 1991 .....	10
Figure 5. Statewide-all Programs, Program Time Summary F.Y. 1981-1990 .....	11

APPENDICES

Appendix A: Time Summaries by Program - Fiscal Years 1981-1990  
(Statewide, Regional) . . . . . A-1

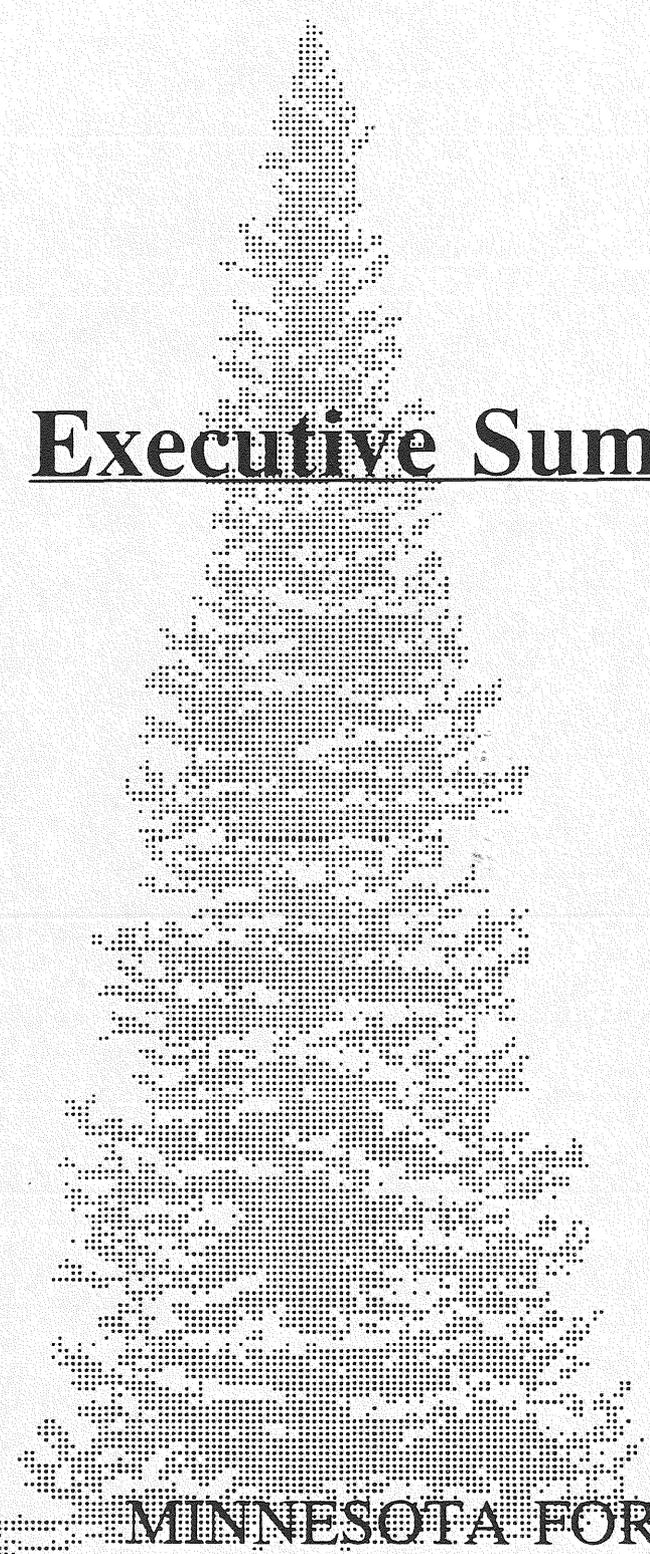
Appendix B: Summary of Forest Resources Laws . . . . . B-1

Appendix C: Glossary of Terms . . . . . C-1

Appendix D: Organizational Chart, Division of Forestry (1991) . . . . . D-1

Appendix E: DNR, Division of Forestry Administrative Boundaries  
and Office Locations . . . . . E-1





# Executive Summary

MINNESOTA FOREST  
RESOURCES PLAN





## EXECUTIVE SUMMARY

A number of important developments over the past four years have resulted in significant changes in the programs, policies and management direction of the Division of Forestry. Chief among these developments has been a series of budget adjustments and funding shifts. The shift to the general fund has left the Division more susceptible to budget cuts. With the Division's role shifting from traditional forestry toward a broadening service role, the budget hasn't kept up with demands for services. Figure 4 shows that after adjustment for inflation and fire emergency funds, the Division budget has been relatively stable from 87-91, and is still below 1985 levels. Consequently the ability to deliver service has suffered.

### CHANGES IN FEDERAL FUNDING

The Boundary Waters Canoe Area Wilderness Act (PL 95-495) authorized by Congress in 1978. It provided the Division with \$3 million annually for forestry intensification projects (about 15% of the Division's budget) from 1980-1990. The federal funding was for projects on state and county lands. The program's purpose was to reduce the impact of timberland withdrawals resulting from the designation of the BWCAW as a wilderness area. The impact was reduced by intensifying softwood regeneration and hardwood utilization on forested lands outside the wilderness area. Subject to annual appropriation and a 20% state matching fund appropriation, the program successfully funded a variety of programs, staff and activities since its beginning.

Now that federal dollars for BWCAW forestry intensification are gone, a significant reduction in program accomplishments is expected. This reduction will lower the Division of Forestry's overall accomplishments in various program areas by as much as 25 to 50 percent.

The 1990 federal farm bill continues programs originally authorized in 1985 to idle the nation's marginally productive or highly erodible farm lands. This has placed an additional workload on the Division's personnel to assist to non-industrial private landowners. This initiative, in part, is in

contrast to the general trend of declining federal cost-share dollars.

Two other significant programs included in the 1990 farm bill are expected to have a great impact on resource management programs in Minnesota. The Stewardship Program will provide significant funding for private forest management planning. The America the Beautiful Program is an urban tree planting program intended to revitalize America's urban forests by providing cost share money to communities through the country.

### PROGRAM HIGHLIGHTS

Considering these and other developments the Division of Forestry has modified its approach, and has tailored its programs to better fit this changed environment. Listed below are just a few selected examples of Division programs that have changed significantly, either in their approach to meeting future needs, or in the relative emphasis placed on these programs and activities. Other programs, although equally important, are less likely to undergo significant changes in direction or emphasis.

#### STATE FOREST LAND MANAGEMENT PROGRAM

##### State Forest Recreation

The demand for non-consumptive forest uses over the next 5 year period is expected to grow. The Division of Forestry will continue to place more emphasis on producing dispersed recreation, fish and wildlife habitat, and scenic amenities. This is consistent with public desires for increased non-timber forest outputs.

The State Forest Recreation program seeks to fulfill the outdoor recreation potential of Minnesota's state forest lands by providing both developed recreational areas, and greater opportunity for more dispersed forms of recreation. The program's major emphasis will be to provide forest users with the information they need to identify and enjoy recreational opportunities on state lands. Developed

recreational facilities will continue to be a part of the program, but emphasis will shift to dispersed forms of recreation that require considerably less operations or maintenance funding.

The goal will be achieved by analyzing the market for dispersed recreation on state lands, and then targeting the appropriate management strategy. The program will shift away from development of new facilities to one of maintaining what has been developed.

#### State Forest Roads

Emphasis of the State Forest Roads program will shift toward maintenance of existing roads. With the current tight budget, the short term outlook for construction or reconstruction of roads is poor.

#### Timber Sales

The goal of the Division's Timber Sales program is to administer the sale of timber stumpage from state-owned forest lands both efficiently and effectively. This production level must remain flexible enough to adjust to current markets, economic trends, and differing timber demand in different regions of the state. It will also reflect biological characteristics of the timber resource itself (e.g., aspen age class imbalance). Over the next five years, emphasis will continue to be placed on implementing the revised timber sale procedures to improve administrative efficiency and to remain competitive.

#### Fish and Wildlife Habitat Management

The goal of the Fish and Wildlife Habitat Management program is to continue to provide forest habitats conducive to managing and protecting a variety of fish, wildlife and native plant resources compatible with forestry and fish and wildlife management objectives, site capabilities and adjacent land uses. The Division of Forestry will work in cooperation with the Division of Fish and Wildlife to improve the integration of forest management activities, with forest habitat activities. Forest habitat improvement activities include timber harvest, reforestation, construction of forest roads and trails, wildfire control and the use of prescribed fire.

## COOPERATIVE FOREST MANAGEMENT PROGRAM

### Private Forest Management (PFM)

The Private Forest Management program will concentrate on promoting sound forest management practices on privately-owned forest lands through landowner education activities, personal contacts and technical assistance, and use of the media. The Division of Forestry will continue to assist in private timber sales, but will encourage increased participation by private forestry consultants.

Proposed federal programs will change the emphasis of the PFM program. The federal Stewardship Initiative will bring increased awareness to the importance of managing private forest lands. Stewardship goes beyond the traditional role of providing timber management on private lands. It requires comprehensive planning and implementation to achieve a variety of natural resource products that optimize the potential of the land. PFM will focus on opportunities for interdisciplinary management through the Stewardship Initiative.

### Urban and Community Forestry

The Division of Forestry has long been a provider of urban forestry advice and assistance. The Division plans to significantly increase its efforts in cooperation with the Minnesota Department of Agriculture, the University Extension Service and other public and private providers of urban forestry services.

The Division has established an Accelerated Community Forestry Assistance Program as part of a statewide multi-agency effort to improve the management of Minnesota's urban and community forests. The four main objectives of this program pertain to training, technical assistance, public awareness and coordination.

New programs will change the face of the Urban and Community Forestry program. The "America the Beautiful," and the Minnesota Releaf programs are both expected to provide substantial funding soon.

## Pest Management

The Forest Pest program will concentrate on assisting the Division's regeneration programs from seed to plantation. The combined activities of pest survey, risk rating of stands, developing management guidelines and training will provide public and private foresters with the tools to implement Integrated Pest Management (IPM) programs. This will include active involvement in the design and implementation of suppression projects (i.e., oak wilt). Continued staffing limitations will require a greater reliance upon field foresters for basic survey & monitoring information. Hazard tree management in recreational sites will be a major issue in the future. Implementing a department hazard tree policy will require significant field staff involvement and resources. Pest management activities will be directed to the most productive forest lands. Urban pest issues will be a continuing source of demand for assistance. The threat of gypsy moth introduction and establishment in Minnesota will significantly increase during this planning period. It will require an active interagency educational program to address public awareness and participation.

## Nursery and Tree Improvement

Two major changes expected in the Nursery and Tree Improvement program over the next 5 years. The first change is in nursery operations. The America the Beautiful Program is expected to increase demand for tree seedlings by anywhere from 5-7 million trees annually. That would be a change from the existing production levels of 18-20 million trees annually to 23-27 million trees a year. The second change is expected to come in the tree improvement program. Efforts are being made to purchase and develop a seed orchard complex. If the seed orchard complex is developed it would mean a major shift in the program. It would centralize all seed orchard development for northern Minnesota in one location. The result would be increased efficiency and ease of management.

## RESOURCE PROTECTION PROGRAM

### Fire Management

The Division is charged with preventing and

controlling wildfire on 50.9 million acres of public and private lands in Minnesota and with regulating the use of open fire. The program will continue to improve the DNR's ability to use controlled fire as a safe and effective vegetation management tool.

Fire prevention efforts will be substantially increased, focusing on specific causes of wildfire (e.g., arson) in cooperation with other states, local fire departments and resource management agencies. Increased problems due to the rural/urban interface will need to be addressed. Cooperative fire protection systems will also be strengthened by increasing investments in and cooperation with local fire departments to maximize fire protection capabilities.

Controlled or prescribed fire will be used as a tool to manage high hazard fuel types and to improve site productivity for specific plant and animal species. Prescribed fire can also provide a valuable training opportunity. The Division will provide leadership in implementing the DNR's prescribed fire policy and assisting others in its use.

## FOREST RESOURCE INFORMATION AND PLANNING PROGRAM

### Forest Resource Assessment and Analysis

Forest Resource Assessment and Analysis, formerly called Forest Inventory, has been responsible for collecting and processing forest resource information since 1976. The program has and will continue to change in response to diverse user needs, improved technology, budget fluctuations, personnel shifts and continuing demands on forest resources.

The program is in a period of rapid transition. Originally, to guarantee consistency and quality, a specialized inventory unit was used to carry out inventory activities. Budget reductions have resulted in phasing out large inventory field crews and relying more on line personnel and contractors. Program personnel will have to interact strongly and actively with the regions, areas, counties and other users to maintain and improve the quality and utility of inventory information. Expanded applications of remote sensing and geographic information systems capabilities will also be incorporated.

### Forest Products Utilization and Marketing (FPU&M)

In 1988, total sales by Minnesota's forest products industry exceeded \$5.0 billion. Over 56,000 people are directly involved in forest products manufacturing, the state's third largest manufacturing industry. If persons employed in related service and trade industries were included, that number would likely double. During just the past decade, the industry has made capital expenditures of more than \$1.4 billion, creating thousands of new jobs throughout Minnesota.

A key role of the FPU&M staff over the next 5 years will be to increase secondary manufacturing in the state. Increased emphasis will be placed on linking wood products producers and consumers by supplying each with pertinent data and technical assistance. The ultimate goal is to increase "value added" (any manufacturing process that adds value beyond the primary processing) production by forest products manufacturers and wood processors. The FPU&M staff will also continue to provide technical and business management assistance upon request to encourage business growth and retention within Minnesota.

### Forestry Information Systems

Over the next 5 years, forestry information systems work will be concentrated on development of geographic information system and exploring increased cooperation on Department wide computer systems.

### Forest Resource Planning

The MFRP Assessment will be updated by 1993 using new statewide inventory data and other information. The Division will also propose and support development of a comprehensive plan for forestry in Minnesota.

Regional forest land management plans will be completed for the Grand Rapids and Bemidji Regions. If staff and funding are available, forest land management plans for the remainder of the state will also be developed. The need to integrate the Department's resource management activities and to maintain biodiversity will strongly influence

regional plans.

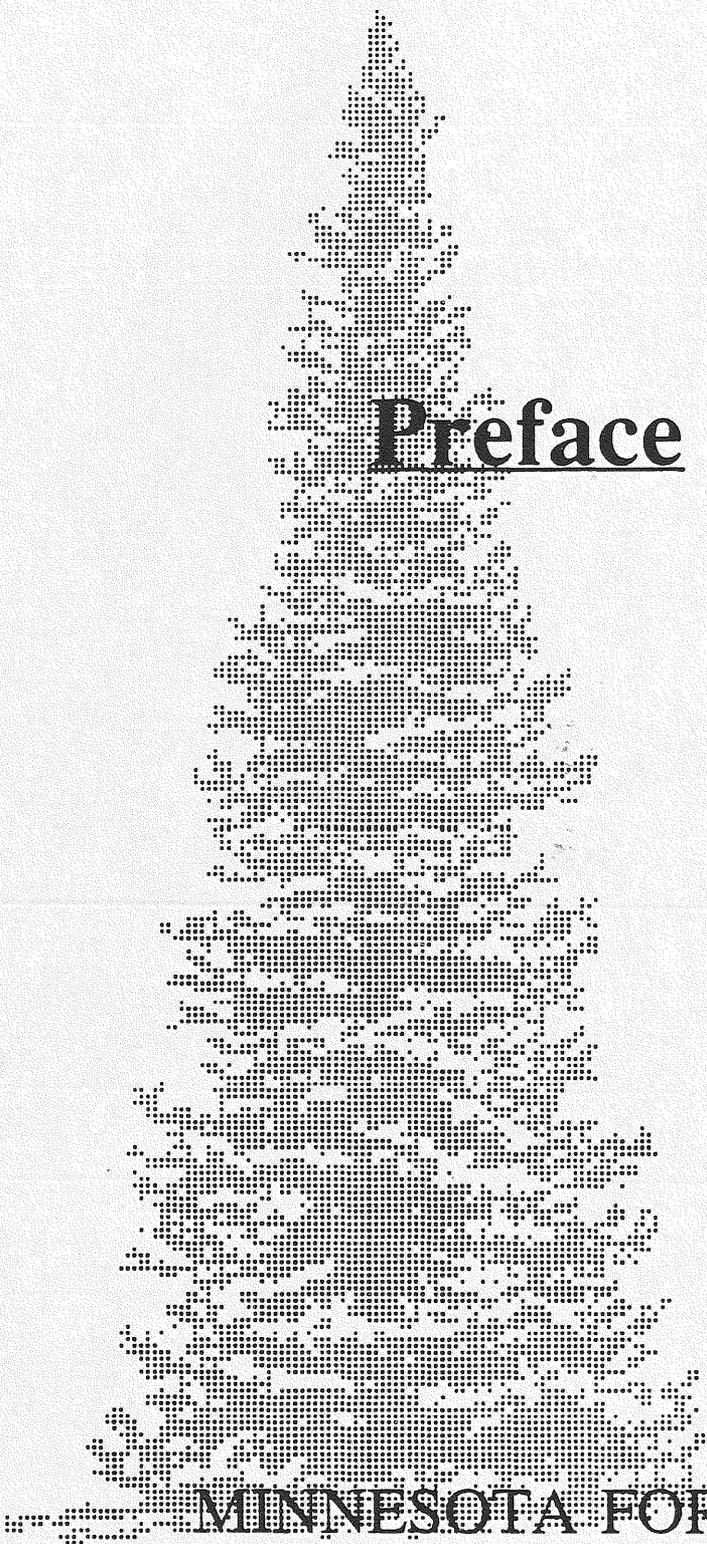
Environmental review and policy development will require increasing attention as the Division's operations come under intense public scrutiny.

To be effective, the Division's planning initiatives need to have a wide variety of public involvement. Such involvement including both review and development, is being accomplished through traditional and innovative public participation processes.

### Public Affairs

This program, also arising from the need to better inform and involve the Division's various publics in resource management decisions, will coordinate the production and release of information to key groups, cooperators and the media. The Division's public affairs efforts are intended to complement those provided by the DNR's Information and Education Bureau. A special effort will be made to continue to work closely with the regional information specialists located in Brainerd, Grand Rapids, Bemidji and St. Paul.

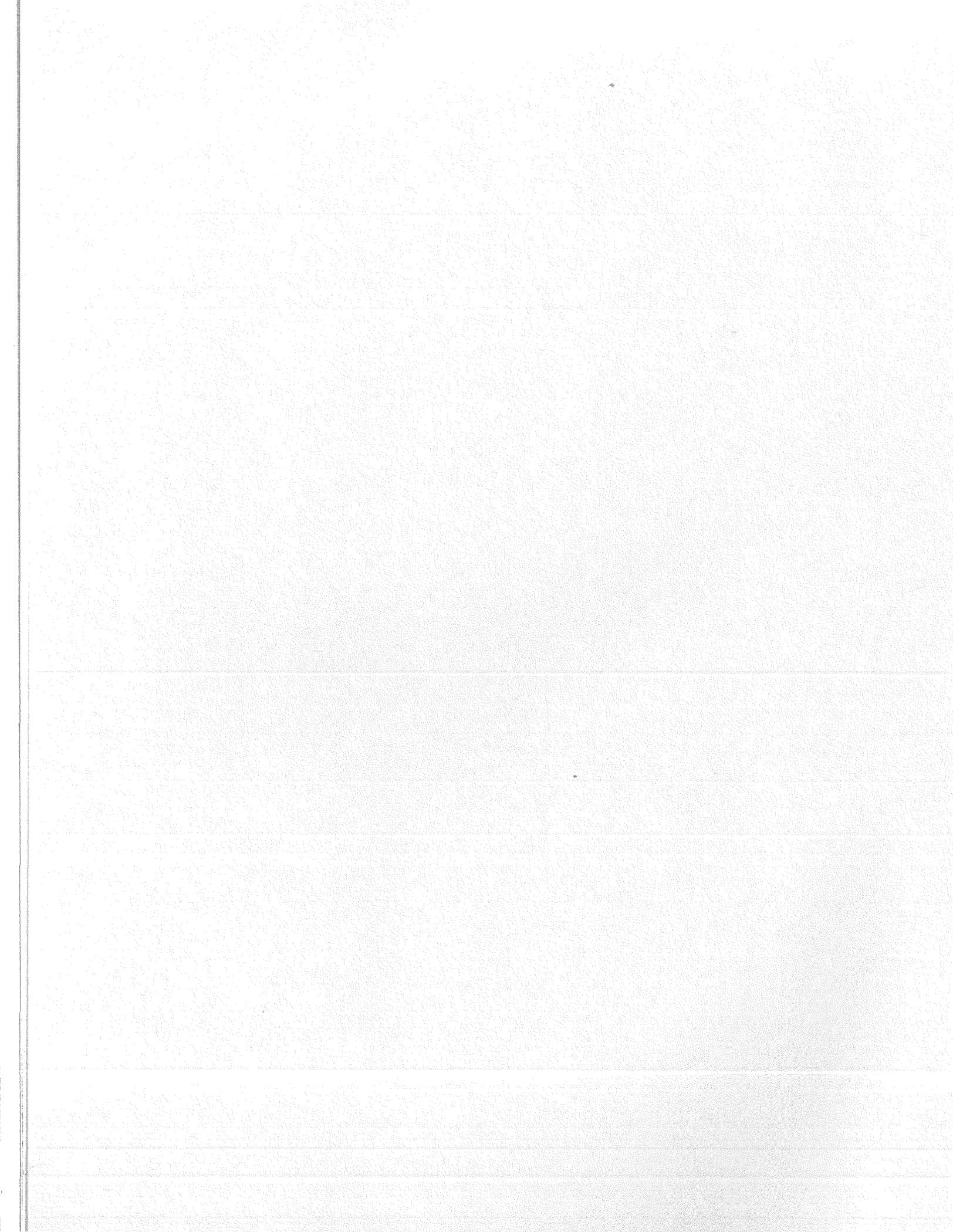
The roles and functions of the Division of Forestry require general public understanding and support for effective implementation. Public discussion of natural resource issues is essential. A new emphasis on providing public information on all facets of Division operations will cause a better understanding of how and why various management actions are undertaken.



**Preface**

**MINNESOTA FOREST  
RESOURCES PLAN**





## PREFACE

Minnesota Statutes Section 89.011, Subd. 3 requires the program portion of the Minnesota Forest Resources Plan (MFRP) to be updated every four years and the assessment portion to be updated every ten years. The program is to describe specific actions to address the assessment and to implement the forest resources management policies laid out in Section 89.002. This document is an update of the MFRP program, originally released by the Department of Natural Resources, Division of Forestry on July 1, 1983, and updated July 1, 1987. It is responsive to the April 1983 assessment and the following policies:

**Forest Resource Management Policy.** The commissioner shall manage the forest resources of the state forest lands under the authority of the commissioner according to the principles of multiple use and sustained yield.

**Reforestation Policy.** (a) The commissioner shall maintain all forest lands under the authority of the commissioner in appropriate forest cover with species of trees, degree of stocking, rate of growth and stand conditions designed to secure optimum public benefits according to multiple use, sustained yield principles and consistent with applicable forest management plans.

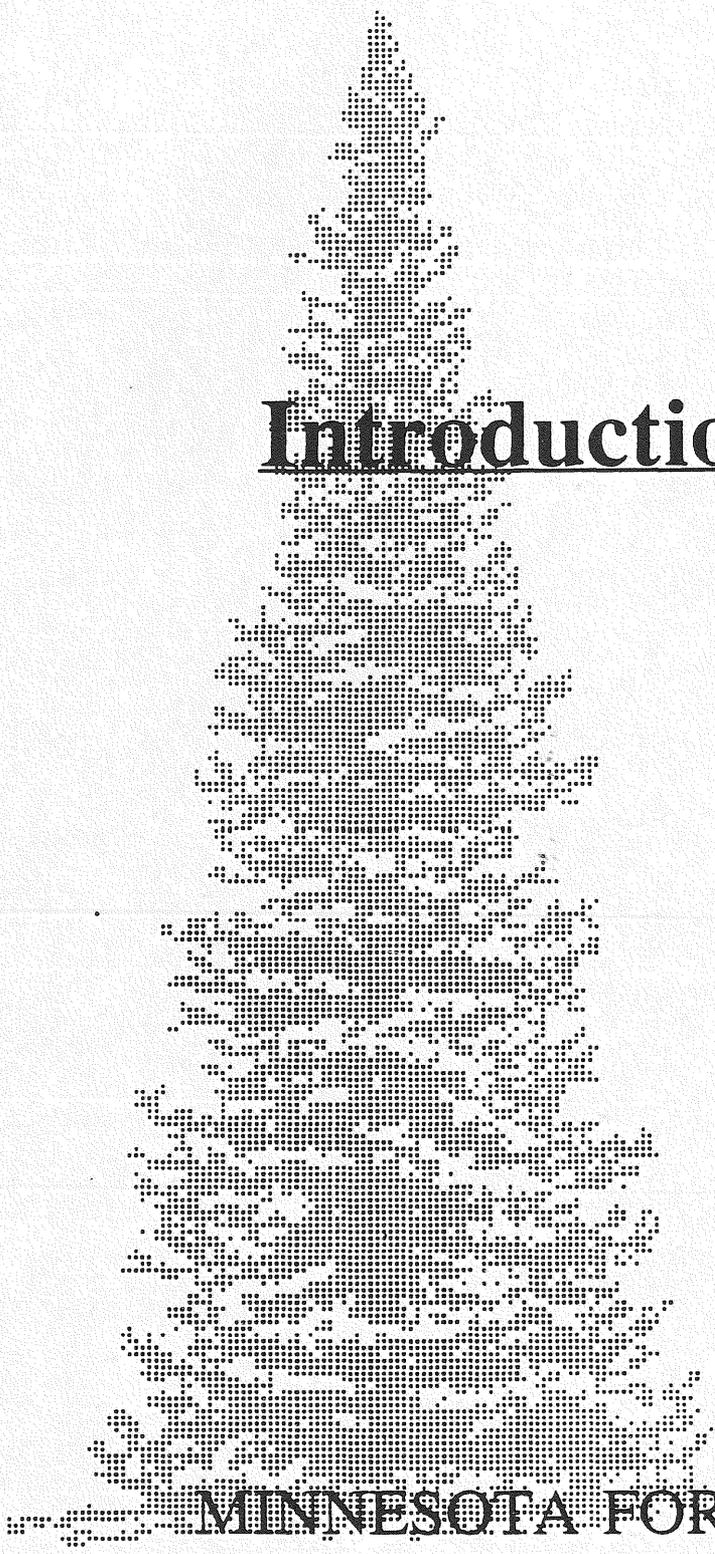
(b) Each year the commissioner shall strive to assure that (1) reforestation occurs annually on an acreage at least equal to the acreage harvested that year on all forest lands under the authority of the commissioner; (2) additional reforestation is accomplished on areas previously harvested but not adequately reforested so that the backlog of reforestation work can be eliminated; and (3) poorly stocked forest land, or forest land damaged by natural causes, shall be returned to a state of productivity.

**Forest Road Policy.** The commissioner shall provide a system of forest roads and trails that provides access to state forest land and other forest land under his authority that is adequate to permit the commissioner to manage, protect,

and develop these lands and their forest resources consistent with the forest resource management policy, and to meet demands for forest resources.

Other statutes and policies guiding the Division's operations are listed in Appendix B.

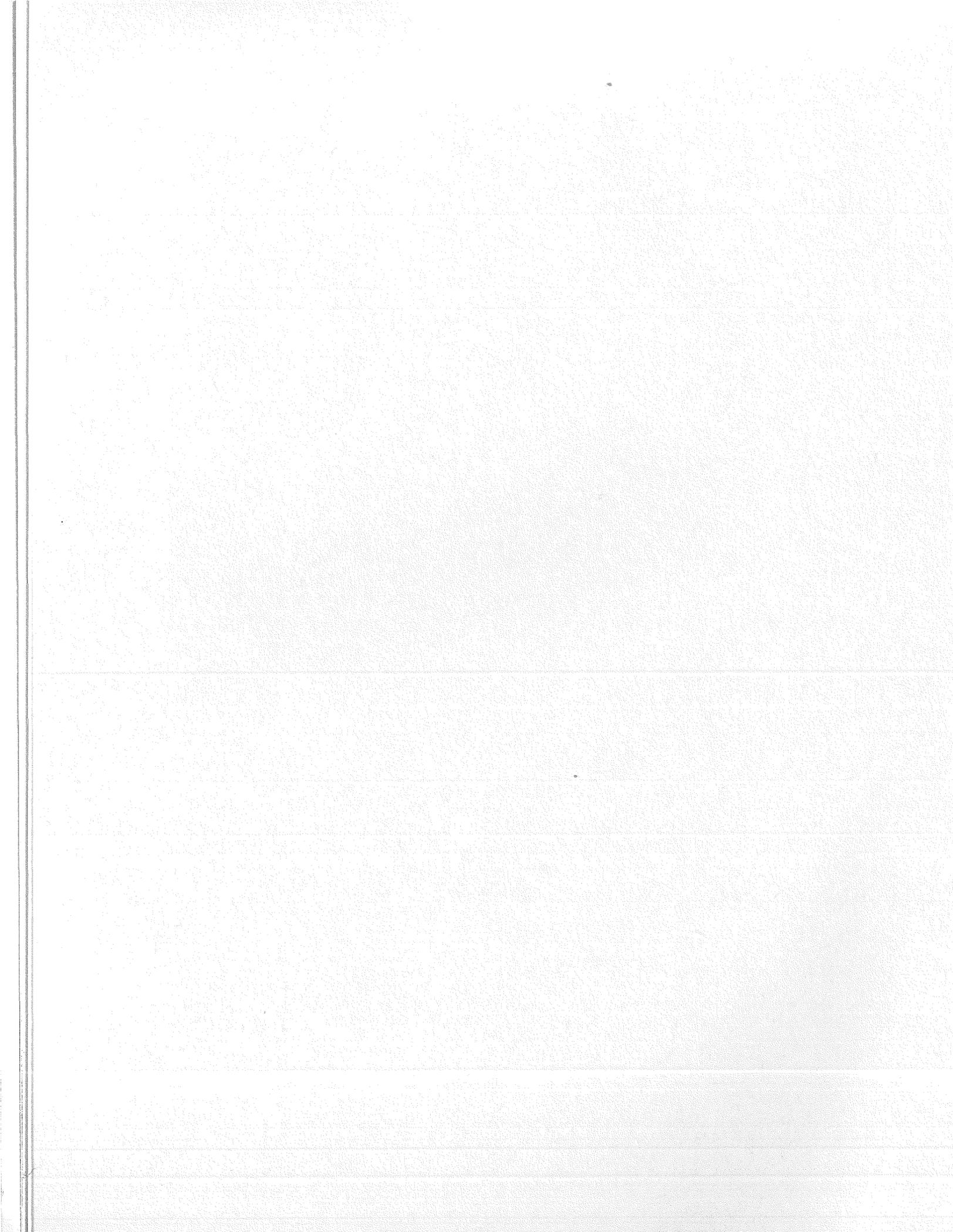




# Introduction

MINNESOTA FOREST  
RESOURCES PLAN





## INTRODUCTION

The Division of Forestry is charged with the protection and multiple-use management of 4.6 million acres of state forest and other state-owned lands (Figure 1). The Division seeks to maintain and enhance forest resources for the benefit of present and future generations. In so doing, it is also responsible for preventing and controlling wildfire on 50.9 million acres, insect and disease protection on 16 million acres of forest lands, annual production of between 22 and 25 million tree seedlings from two state tree nurseries, and for assisting private forest landowners in managing their lands.

Ownership of Minnesota's commercial forest land is nearly equally divided between the public and private sectors (Figure 2). Farmers own 3.4 million acres or about one-quarter of the state's commercial forest land. Other private owners, including private non-forest industry corporations, hold almost 2.2 million acres of commercial forest land. More than one-third of this land is owned by individuals or corporations having at least 100 acres of commercial forest land. This indicates a potential for significant forest management and production on these lands. Forest industry owns over 770,000 acres of commercial forest land.

The state of Minnesota administers 2.7 million acres of commercial forest land, and counties and municipal agencies administer an additional 2.3 million acres. Federal agencies also administer 2.3 million acres.

### PLANNING PURPOSE AND PROCESS

This document is an update of the program portion of the Minnesota Forest Resources Plan. It presents a recommended "program" and budget for the Division of Forestry for fiscal years 1991-1995. The program is responsive to the "Future Direction for the Division of Forestry," to an analysis of the current issues facing the Division, and to the Division's ongoing responsibilities.

The Division completed the first Minnesota Forest Resources Plan (MFRP) in June 1983. That plan

included an assessment of Minnesota's forest resources and a recommended program for managing the resources. The assessment part of the plan described and evaluated the past, present and prospective forest resource conditions of Minnesota. It analyzed the demands for Minnesota's forest resources and the capabilities of the resources to meet those demands. The program part of the plan contained the goals, strategies, and recommended actions to resolve the important forest management issues identified in the assessment portion of the plan. The process used to update the MFRP Program is illustrated in Figure 3.

### FORMAT AND CONTENT

This plan contains four major sections: Future Division Direction; Budget and Staffing Summary; Recommended Program, and Appendices. A brief overview and summary of plan highlights can be found in the Executive Summary.

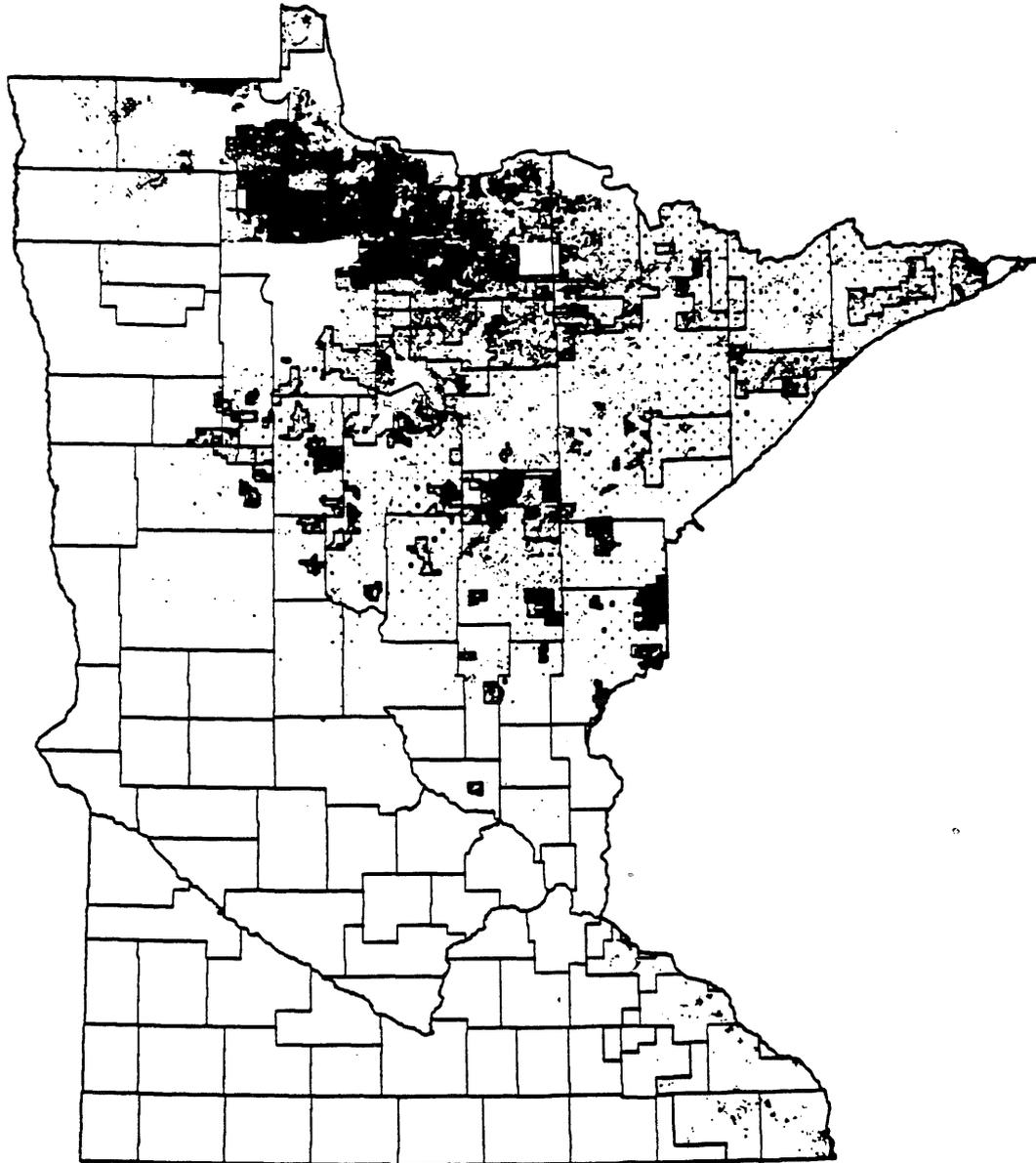
The Future Division Direction section of this plan summarizes the preferred future for the Division. In addition to a preferred future and a Division vision, this section includes major goals and strategies for the Division as a whole for the next five years. This preferred future is reflected in the action plan for each program.

The Budget and Staffing Summary reviews the sources of funds that comprise the Division's budget, and summarizes the budget and staffing needs of each program for fiscal years 1991-1995. These projections are reasonable estimates of what is needed to manage the forest resources of the state, given the current trends.

The Recommended Program lays out an action plan for each program that describes specific actions to be taken. These action plans include a brief description of program activities, a statement of the program goal, a summary of the statewide program directions, a list of major strategies and objectives for fiscal years 1991-1995, and projected targets, and staffing and budget needs for fiscal years 1991-1995.

Figure 1

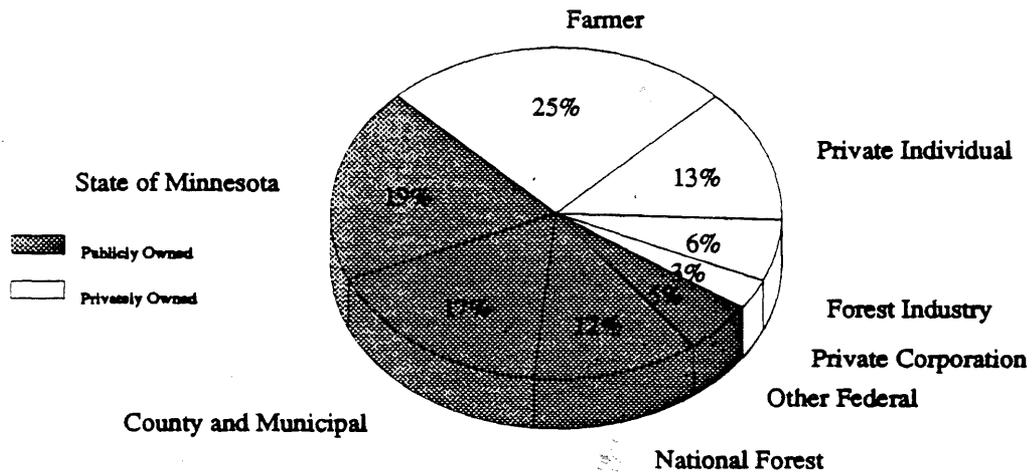
# Department of Natural Resources Division of Forestry Administered Lands



Copyright 1991, State of Minnesota,  
Department of Natural Resources

Figure 2

## Minnesota Commercial Forest Land Ownership (13.7 Million Acres)



Source: Jakes, Pamela. 1980. Minnesota  
Forest Statistics, 1977. Bulletin NC-53  
USDA Forest Service. St. Paul, MN.

The Appendices include regional time allocations by program and region for fiscal years 1981-1990, a summary of the major forest resource laws, a glossary of terms, and organizational information about the Division of Forestry.

#### PLAN IMPLEMENTATION AND MONITORING

The Division is implementing its MFRP through an improved management system that links the plan to various management processes such as budgeting, work planning, accomplishment reporting and program analysis. Program supervisors will have the primary responsibility to assure that the plan is implemented by providing oversight and direction through the above mentioned processes. Field staff then will have the primary responsibility for carrying out individual tasks.

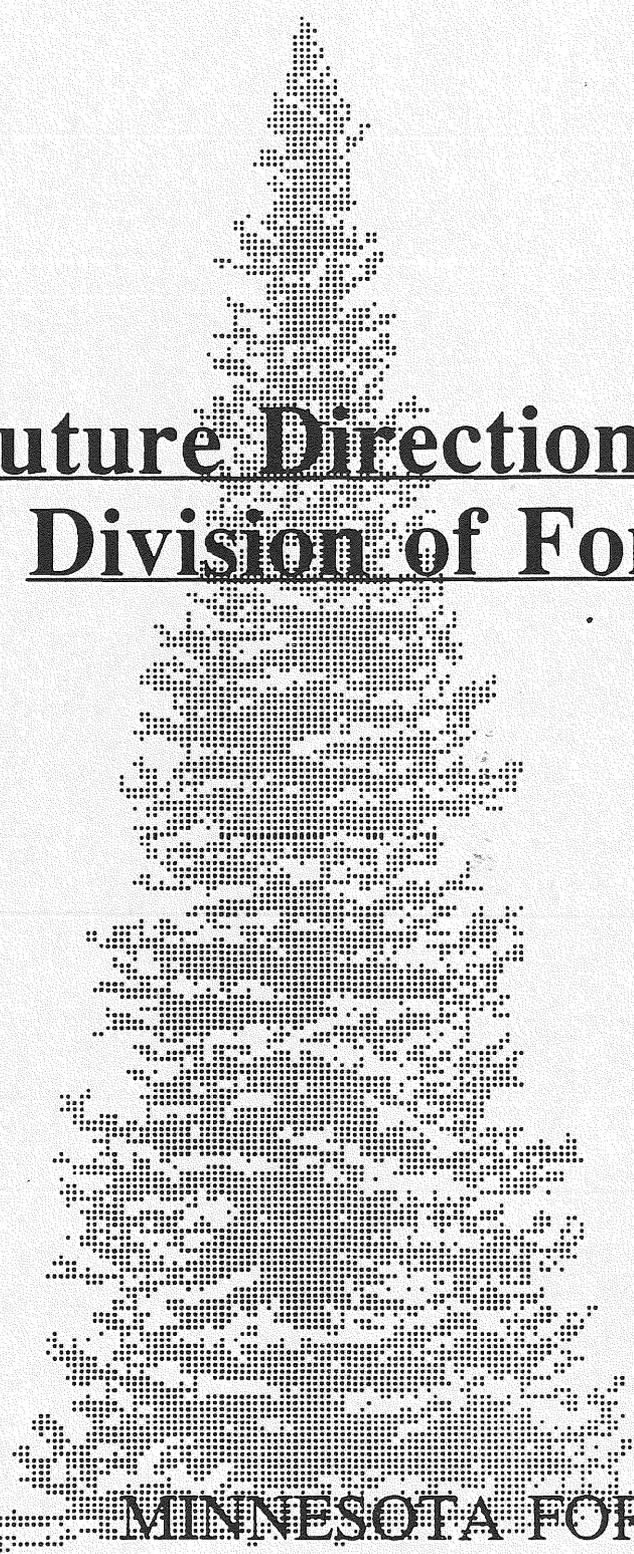
Annual work plans are the primary tool used to communicate to the Division what is expected and to guide the operations of the Division. The Division develops annual work plans at the beginning of each fiscal year to set specific targets for the year. Annual work plans are guided by the direction established in the MFRP.

Accomplishment reports are the primary tool used to determine how well the Division is meeting its goals and objectives. The Division develops an accomplishment report at the end of each fiscal year that compares actual accomplishments with the objectives established in the annual work plan.

A variety of factors, most beyond the control of the Division of Forestry, will almost certainly and significantly affect the proposed focus, direction and implementation of this plan for the years 1991-1995. External forces capable of exerting such an influence may stem from social, economic, political and technological changes. For example, recent rapid growth in Minnesota's forest products industrial activity has substantially increased the demand for and the price of timber stumpage. This has resulted in an increased workload in the areas of timber sales, timber management, forest inventory, and utilization and marketing. Similarly, the level of funding for state and federal initiatives, such as the Reinvest in Minnesota Program, America the Beautiful and the Conservation Reserve Program will, in large part, determine the level of

emphasis and effort directed towards these activities by the Division. Tax law changes, state or federal, could also trigger major changes in the approach to providing assistance to private forest landowners and would thereby have a major impact on the Division's workload.

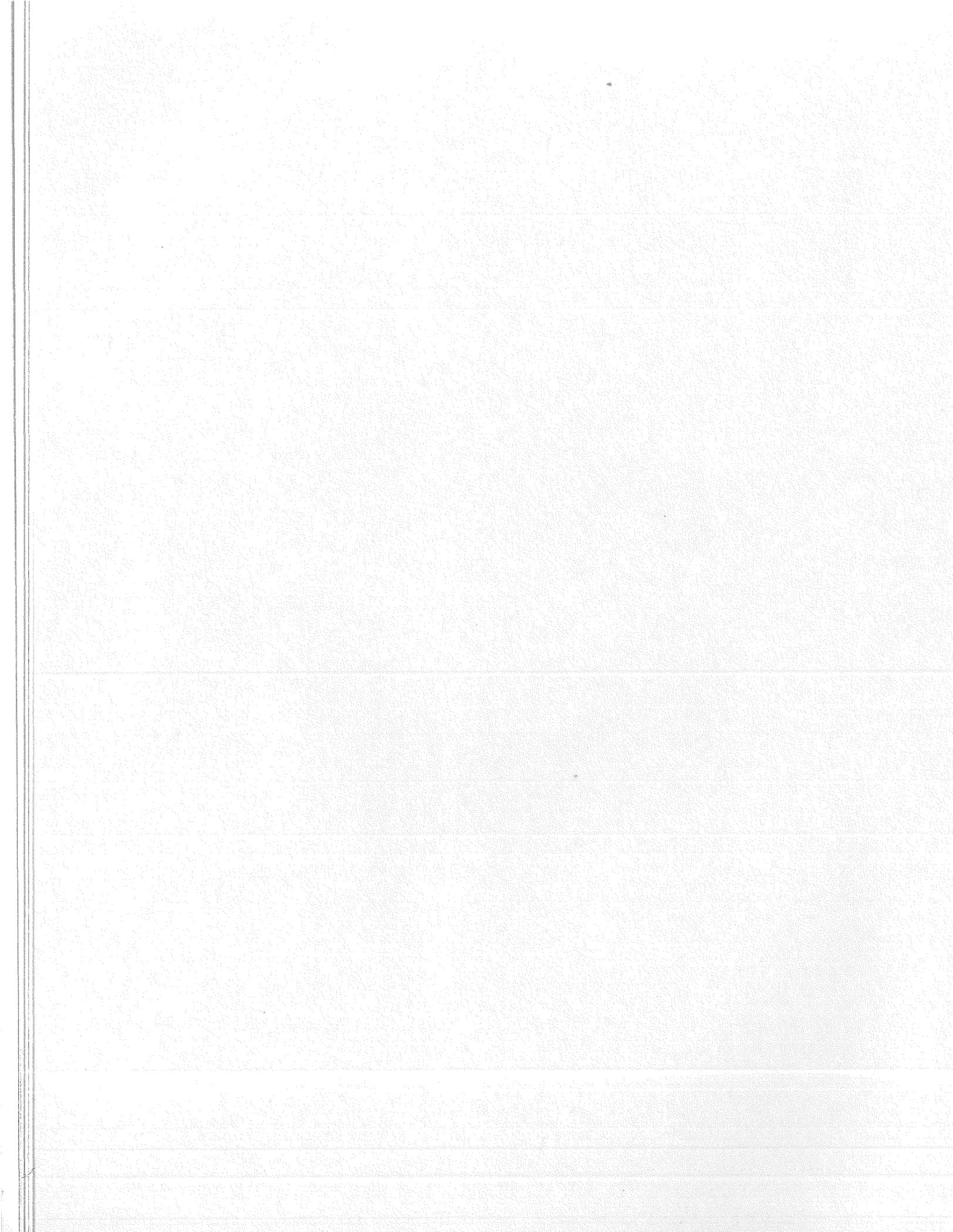
Considerable flexibility will be needed in applying the proposed program and policy direction, and in targeting the ongoing activities of the organization. If unforeseen circumstances arise, program emphasis and the requisite resources may need to be shifted temporarily. The Division, through its annual work planning process, will attempt to predict external influences and accommodate them in developing its targets and allocating resources for the following year.



Future Direction for the  
Division of Forestry

MINNESOTA FOREST  
RESOURCES PLAN





## Figure 3

# MFRP Planning Process

- Process and Program Structure Approval - December 1989
- Identify Program Leads - January 10, 1990
- Develop Draft Program Plans - April 1, 1990
  - Planning Staff would compile into a draft
    - May 1, 1990
- Region Review Meetings - Completed October 1990
- DMT and PERT Review
  - DMT will provide final approval by October 1990
  - Commissioner's Council review will take place January 1991
- Public Review
  - Mid-February through Mid-March 1991
- Revision, Final Draft Preparation, Presentation
  - Revisions, final draft preparation and printing complete by Mid-June 1991

## FUTURE DIRECTION FOR THE DIVISION OF FORESTRY

### BASIC ASSUMPTIONS

The information contained in this document is based, in part, upon a series of basic assumptions that significantly affect the future direction of the Division of Forestry and each of its programs. These assumptions, which describe the Division's perspective on the environment in which it operates, helped shape goals, strategies, targets and future directions of the Division's programs.

For example, the Division of Forestry wishes to maintain a leadership position within both the state and national forestry communities. This goal requires a highly trained and skilled professional staff with a diversity of talents and expertise. It will also require a commitment on behalf of the Division and its employees to continued professional development, and a willingness to adapt during periods of rapid change.

The direction proposed in this document is also based on the realization that government is in the midst of an extended period of contraction. Times are tough and increasingly competitive. At a time when public demands are continually increasing, the Division will need to establish priorities for its activities. This means that the Division of Forestry must become more efficient and innovative in meeting its targets. Lower priority activities may not be accomplished.

To deal effectively with changing conditions, the Division must substantially broaden and diversify its management strategy, providing for a diversity of public needs and land uses, while maintaining the basic integrity of the forest resource. The continued success of the organization will hinge on its ability to implement the "multiple-use, sustained yield" philosophy through integrated management with other organizations and disciplines, and balanced consideration of commodity and non-commodity production.

### VISION STATEMENT

The Division of Forestry's vision is to meet public needs and provide quality forest resources for the

people of Minnesota through sound natural resource management principles. The Division will cooperate with other organizations and individuals and will promote a holistic view of forest resources and forest benefits.

### MISSION STATEMENT

The Division of Forestry's mission is to work with public and private entities to promote the conservation, protection and enjoyment of Minnesota's forest resources through multiple-use management, wildfire and pest protection, and technical forestry assistance.

Forest resources include timber and other forest crops, recreation, fish and wildlife habitat, wilderness, rare and distinctive flora and fauna, air, water, soil, and educational, aesthetic, and historical values (Minnesota Statutes 1988, Section 89.001).

The Forest Resource Management Act of 1982 directs the Commissioner of Natural Resources to protect and "manage the forest resources of state forest lands under his authority according to the principles of multiple use and sustained yield." These principles shall also be promoted on other ownerships through technical assistance programs.

### PREFERRED FUTURE

For the future, the Division of Forestry envisions a more efficient, effective organization; one closer to the public it serves, more interactive with its customers and more responsive to public needs. More stable budget and staffing levels would enable a more consistent effort over time.

The Division must market its activities and services. It is not only important that the Division's clientele understands and appreciates the Division's key role in wildfire prevention and in managing nearly 5 million acres of state forest lands. It is also important that the Division understands what its clientele wants from them.

## DIVISION GOALS

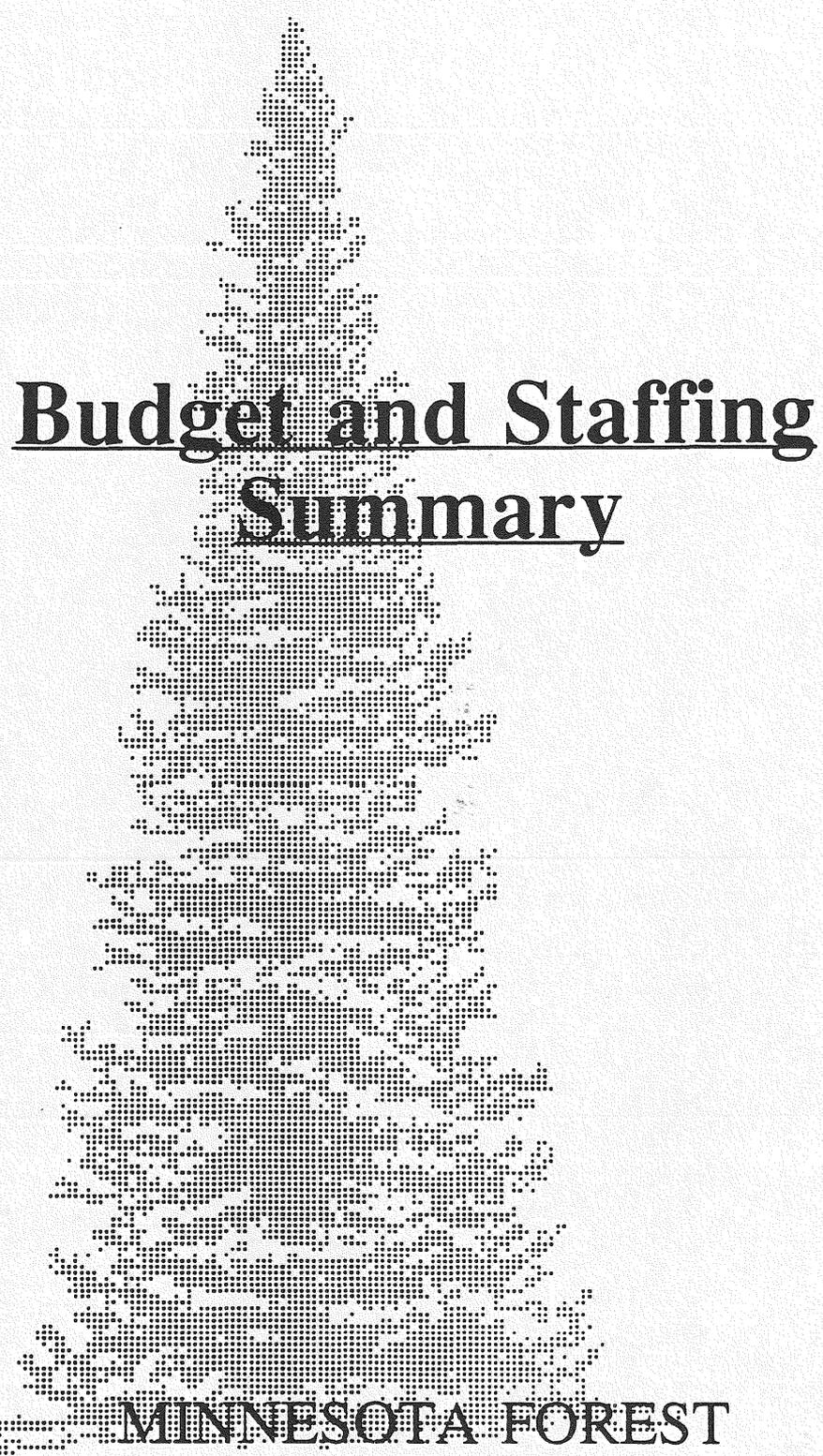
- Increase the health and productivity of forest lands to achieve higher, yet balanced levels of both commodities and amenities to strengthen Minnesota's forest products and tourism economies.
- Improve the ability to protect life, property and natural resources from wildfire.
- Improve the coordination of public/private forestry programs to effectively achieve shared goals.
- Improve the dissemination of forest resources information to better meet user needs.
- Intensify efforts to enhance aesthetics, water quality, fish and wildlife habitat, plant and animal communities; manage for biological diversity; and improve the quality of the state's forest resources.
- Maintain close communications with forest user groups in order to remain sensitive to the broad range of public needs and expectations.

## STRATEGIES AND OBJECTIVES

- Provide a sustained yield of various forest products and renewable resources from state forests including timber, wildlife habitat, aesthetics, and water quality.
- Improve biological diversity on State Forest lands.
- Encourage wood products industries that use available raw materials. Promote expansion and new development of secondary wood products manufacturing to increase value added production. Ensure the availability of a sustainable supply of raw materials for the wood products industry.
- Intensify efforts to manage for goods, services and values other than timber (i.e., dispersed recreation, nongame wildlife).
- Increase investments in and cooperation with rural fire departments and other agencies to improve rural forest fire protection.
- Develop, refine and direct cooperative fire prevention efforts toward informing the public of the dangers of wildfire and methods to prevent them.
- Seek new opportunities to transfer technical knowledge and expertise between the Division

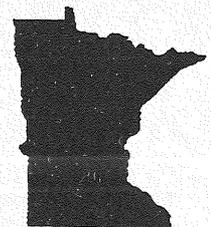
- and other organizations and individuals to better meet the public's needs.
- Share with other agencies and organizations the responsibility for pursuing joint opportunities and solving shared problems.
- Develop more and better resource information, information systems and information coordination mechanisms.
- Increase efforts to detect and evaluate forest losses, including symptoms, extent, distribution and location.
- Improve forest management practices to enhance forest resources and to reduce resource losses from such things as insects, diseases and soil erosion to acceptable levels.
- Provide coordination and technical assistance to other divisions, agencies, and organizations to encourage a cooperative approach to management and protection of aesthetics, fish and wildlife habitat, wilderness, rare and distinctive flora and fauna, rare and sensitive natural communities, air, water and soil.
- Interact more with local communities to help meet local forestry related needs, develop stronger local support, and increase the Division's visibility with the public.
- Incorporate a marketing philosophy within the Division to improve communications with user groups and increase the visibility and understanding of the Division's programs and activities.
- Recruit, train, select and maintain qualified forestry personnel.
- Conduct mobility assignments within the Division and reassign personnel temporarily between the Division and other divisions to provide training in other division's operations.
- Manage trust fund lands in a way that will maximize the long-term economic return consistent with sound natural resource management principals.
- Augment the efforts of the DNR, Bureau of Information and Education by dedicating more Division staff time to information and education activities.
- Promote Interdisciplinary Planning through the Regional planning process. Adopt an Ecological Classification System and Landscape Management techniques that promote biological diversity and integrated resource management.
- Support a policy of both "no net loss of

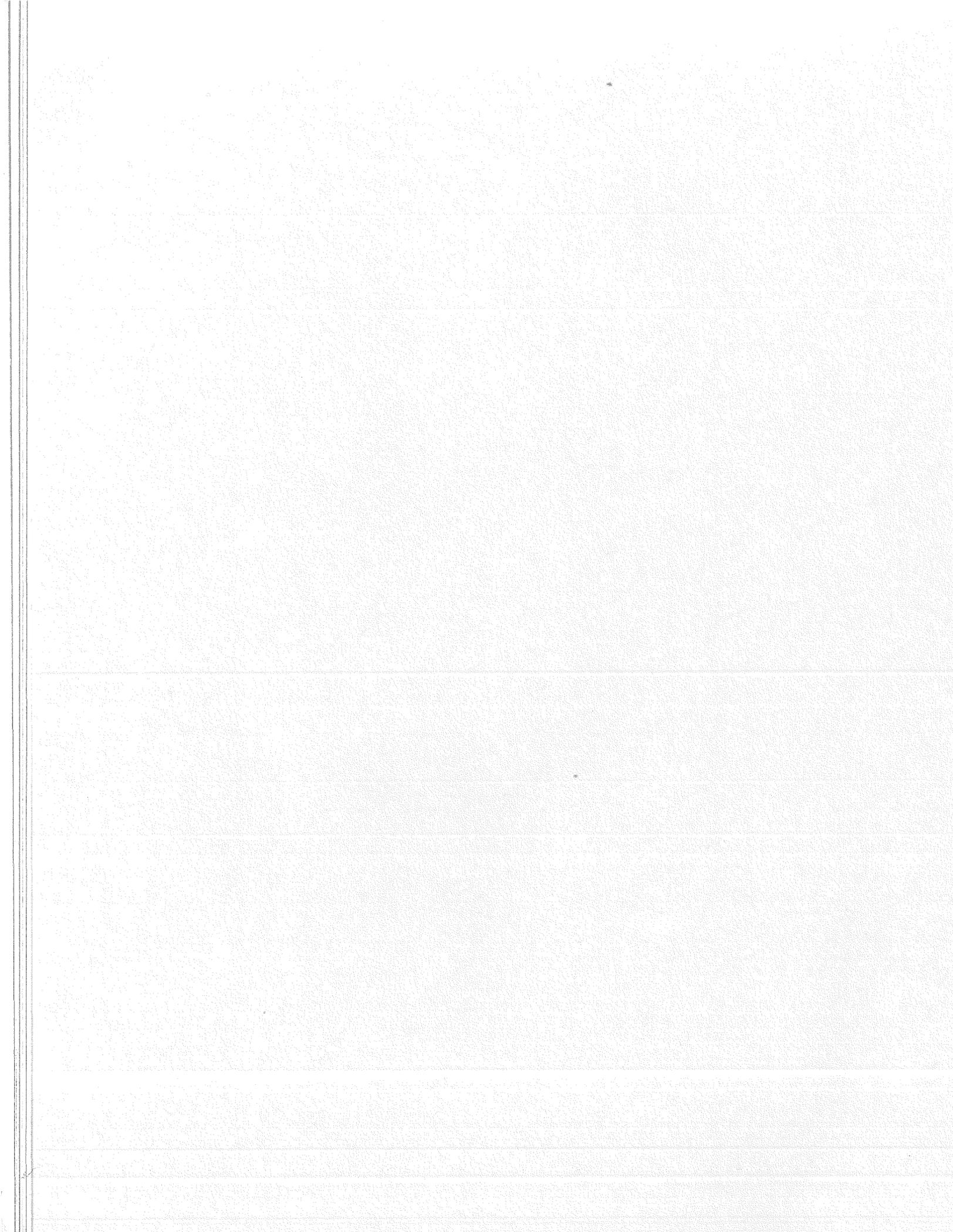
commercial forest land" as outlined in the report of the Governor's Blue-Ribbon Commission on Forestry and Forest Products, and no net loss of total forest land on all ownerships.



**Budget and Staffing**  
**Summary**

MINNESOTA FOREST  
RESOURCES PLAN





## BUDGET AND STAFFING SUMMARY

### INTRODUCTION

This update of the program portion of the Minnesota Forest Resource Plan lays out action plans, budget and staffing needs for each Division of Forestry sub-program for the next five years (F.Y. 1991-F.Y. 1995). Goals, objectives, strategies and actions have also been articulated to direct the division into the future in a continuing role as a leader in forest resource management in Minnesota and in the nation.

These program plans and their associated activities will, however, have little effect without adequate funding and staffing. In recent years, budget appropriations have consistently fallen below even modest budget requests. From F.Y. 1985 to F.Y. 1991, Division of Forestry expenditures from allocations from all sources has decreased \$1.7 million in real F.Y. 1985 dollars (see figure 4). Removing pass-through grants to other government agencies and organizations, and emergency fire fund expenditures above "normal" (10 year average) expenditure level (\$1.5 million per year) gives a truer representation of expenditures for "normal" (non-emergency) Division operations. With pass-through grants and above average emergency fire fund expenditures removed, funding for Division operations decreased \$2.3 million (9%) between F.Y. 1985 and F.Y. 1991 in real F.Y. 1985 dollars, (F.Y. 1985 - \$24.6 million, F.Y. 1991 - \$22.3 million). Major impacts of these reductions include the closing and/or consolidation of 18 field offices, phasing out 6 county assistance foresters, maintaining numerous position vacancies, eliminating or reducing maintenance of recreational facilities and recreational trails, elimination of road construction and rehabilitation projects, and an overall reduction of field and staff activities in most program areas.

Budget reductions are expected to be severe in the F.Y. 1992-1993 biennium. The Governor's recommended budget for the F.Y. 1992/1993 biennium, Division of Forestry funding could drop to \$18.4 million in constant F.Y. 1985 dollars. This is a 25% drop from F.Y. 1985.

The following section reviews the sources of funds that comprises the division's budget and provides a historical review of funding and expenditures from the various sources for F.Y. 1985 - F.Y. 1991. This budget review describes the sources and purpose of Division funds, what activities the division can and does use the funds for, what portion of the division's total budget the funds provide, and expected future funding levels. An understanding of these sources can help clarify the varying effects that change in one funding source or another can have on different activities. Table 1 is a summary of the Division's budget by source of funds for fiscal years 1987-1991. These figures are actual dollars that were expended or obligated and encumbered during that period.

In addition, a historical review of staffing levels is provided for the Division as a whole for F.Y. 1981 through F.Y. 1990 (Figure 5). Appendix A contains historical staffing data for each of the division's programs for F.Y. 1981 through F.Y. 1990. Review of historical program staffing levels helps illustrate trends in program emphasis and the resulting shifts in program efforts.

Finally, this section ends with a summary, by program, of budget and staffing needs projected for F.Y. 1991 through F.Y. 1995. Table 2 is a summary of the division's budget needs, by program, for fiscal years 1991-1995. Table 3 is a summary of the division's staffing needs, by program, for fiscal years 1991-1995. These figures are realistic projections of the budget and staffing needed to meet ongoing responsibilities of the division and to address the issues identified during the planning process.

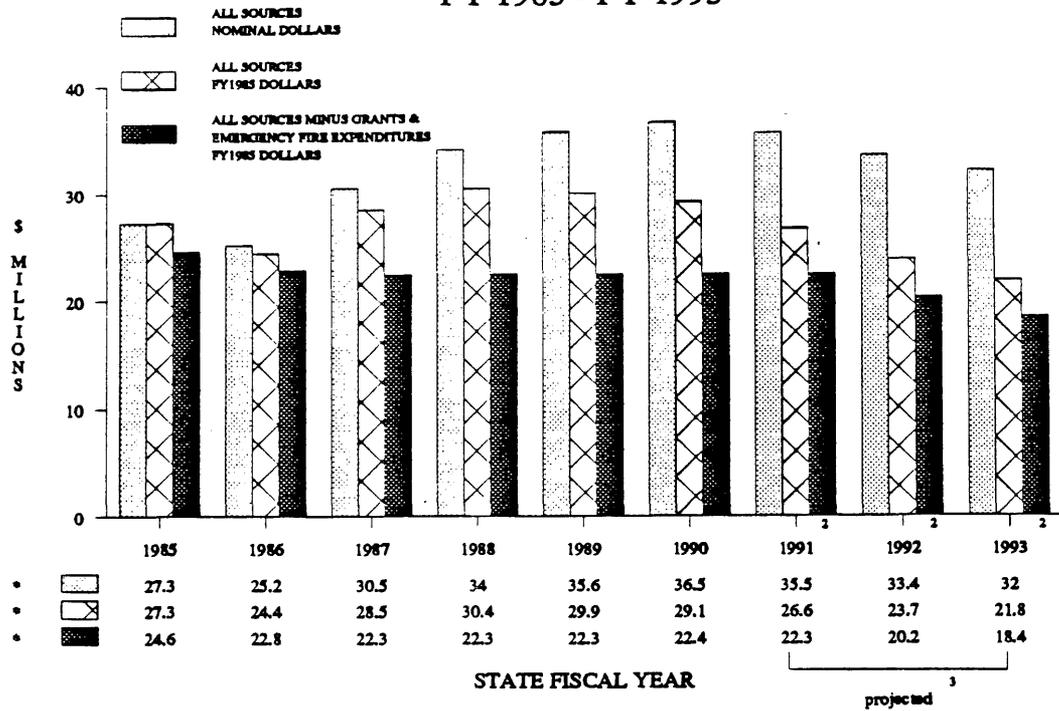
### GENERAL OPERATIONS AND MANAGEMENT

#### Forest Management

Beginning in F.Y. 1990, the Legislature consolidated numerous general fund appropriation accounts and several dedicated receipt accounts into one appropriation under general operations and management - forest management. Activities funded under the formerly individual fund accounts

Figure 4

## Division of Forestry Budget Allotments <sup>1</sup> FY 1985 - FY 1993



Source: SWAS; Business Statistics 1961-88 (12/89), Survey of Current Business (21/90)- U.S. Dept. of Commerce.

<sup>1</sup> Includes dollars spent or obligated and encumbered from all sources during each fiscal year.

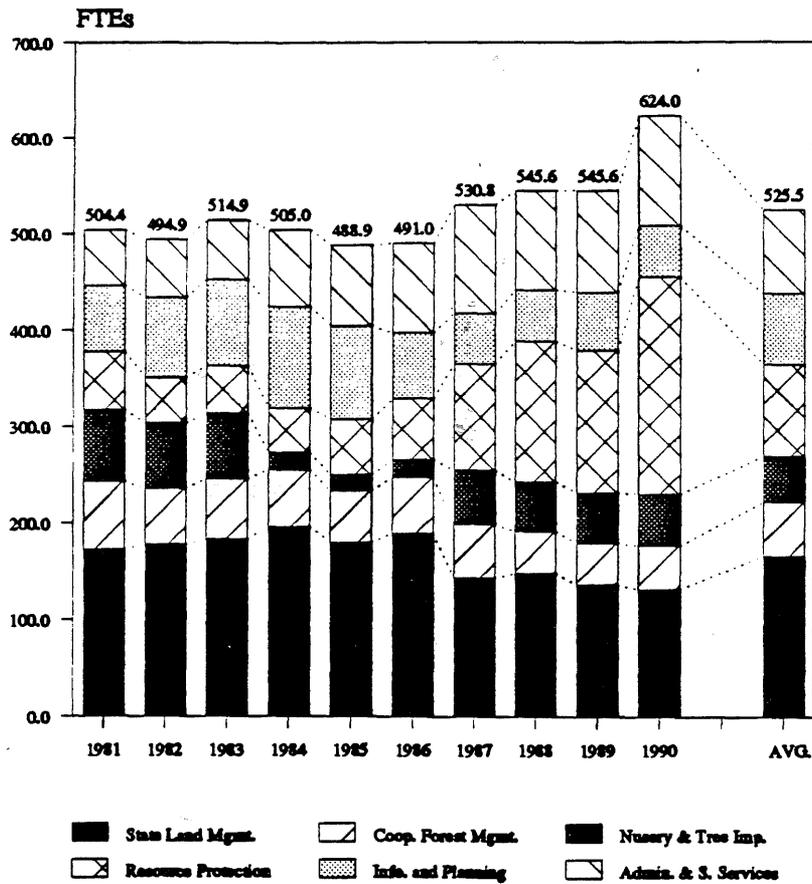
<sup>2</sup> Based on Governor's recommended budget for the FY 1992/1993 biennium.

<sup>3</sup> Discount rates based on MN Dept. of Revenue revenue forecast (3/91), Nat'l Association of Business Economists outlook (2/91), and the Federal Reserve Bank quantity forecast (12/90).

Figure 5

## Division of Forestry Staffing by Program\*

FY 1981 - FY 1990



\* Based on actual time reported on employee time summaries between July 1 and June 30 of each fiscal year. Does not include paid leave time.

are now funded through the single forest management appropriation. General fund accounts that were consolidated include: Inventory Supplement; Forest Campgrounds; Emergency Fire; BWCAW State Match; LCMR; Rural Development Act; and Statewide Inventory. Dedicated receipt accounts that were consolidated include: State Forest Development, Forest Management Fund - Trust, Acquired, and Services; Dedicated Campground, and Con-Con receipts to the State.

Purpose: This fund is the primary source of the division's budget especially due to the fund consolidation (over 70% of the division's total budget for F.Y. 90-91). It finances the basic operating expenses of the division and is not dedicated to any single project, program or activity.

Activities Funded: In F.Y. 1991, roughly 2/3 of the General Operations and Management appropriations will be used for salaries. These funds are also used for operating supplies and expenses such as office rent, heat, electricity, communications, travel, gasoline and other vehicle fuel, training and workers unemployment/compensation. Due to the fund consolidation, this account is now used to fund all types of development projects:

- All forms of forest development project activities anywhere in the state. Road work, reforestation, timber sales, program administration, and fire protection on school and university trust fund land. Forest road improvements, forest development (reforestation, timber stand improvement, etc.), and forest pest prevention and training on school trust land.
- Forest road improvements, forest development (reforestation, timber stand improvement, etc.), forest pest prevention and training, and equipment and training for fire protection on non-school trust lands. This account annually appropriates \$85,000 directly to the Youth Conservation Corps program.
- Gathering forest resource data and

providing data services to forest land administrators, planners and field managers in both the public and private sectors.

- General maintenance and operation of state forest campgrounds and picnic areas. Construction and rehabilitation are funded by other sources (LCMR, capital improvement bonds) on a special project basis.
- Maintenance and construction of water access sites, canoe and boating route campgrounds and landings, and snowmobile and cross-country ski trails.

Future Funding: \$21.2 million in F.Y. 1991. Expected to remain at this level or decline during this planning period. No increases for inflation in F.Y. 92 and F.Y. 93. Resulting real dollar effects will be significant.

#### Emergency Fire Fund

Purpose: This fund is used to prevent and suppress forest fires on some 45.5 million acres of state, other public and private land in Minnesota.

#### Activities Funded:

##### Presuppression

- training division personnel
- weather and fire danger monitoring
- airtanker and equipment availability
- equipment standby
- detection

##### Suppression

- Costs of controlling and extinguishing forest and grass fires including equipment operating costs, permanent personnel overtime, smokechasers salaries, and supplies. Hotshot crews were funded here in the past.

Future Funding: Expected to require about \$2 million each year depending on the severity of fire seasons.

#### Legislative Commission on Minnesota Resources (LCMR) Funding

Purpose: The LCMR recommends

appropriations to state agencies in the general areas of fisheries, wildlife, recreation, forestry, minerals, soil and water. These have been short-term projects designed to: (1) improve natural resource management, (2) develop and organize natural resource information, or (3) acquire land or develop facilities for a broad range of natural resource purposes.

As one of its primary operating principles, the LCMR avoids funding recommendations that would amount to replacement of regular budget funding with LCMR funding. The Commission's charge is to accelerate and improve resource management, not to substitute one source of money for another. In some cases, the Commission recommends that an agency conduct a more extensive or more intensive program in a given area than regular budget financing might allow.

Activities Funded: Past division projects include:

- accelerated Phase II Inventory
- geographic information system
- management information system
- forest recreation development (campground rehabilitation, recreational sub-area plans)
- wildfire planning and budgeting system
- forest resource planning program (MFRP, Area planning)
- accelerated PFM program
- fire management analysis program
- pulpwood weight study
- fuelwood measurement study
- urban and community forestry program

Future Funding: Future funding levels are dependent on receipts to the Natural Resources and Environmental Trust Fund Accounts and the degree to which division activities are consistent with funding priorities set by the LCMR.

#### DEDICATED RECEIPTS

##### Forest Management Fund (FMF) - Nursery

Purpose: Receipts from nursery tree seedling

##### MFRP - Minnesota Forest Resources Plan

sales are credited to this account and must be expended to fund nursery operations on a self-sustaining basis. Specific activities include general nursery operations, the tree improvement program, the capital recovery fund, the nursery information system, and seed and cone accounts.

Future Funding: \$1.9 million in F.Y. 1991. Projected to increase to \$2.5 million by F.Y. 1995.

##### Burntside State Forest Fund

Purpose: The Burntside State Forest was established with a forest land grant in 1904. The land within the forest boundaries is to be used only for forestry purposes. This is a dedicated account funded by receipts from the Burntside State Forest.

Activities Funded: Forest development activities on Burntside State Forest land only.

Future Funding: Activities in the Burntside State Forest will continue at a much lower level in the future due to the 1978 expansion of the BWCAW to include much of the forest. As a result, the funding in this account will remain at a low level.

##### Pillsbury State Forest Fund

Purpose: This is a dedicated account funded by receipts from the Pillsbury State Forest.

Activities Funded: Two-thirds of the receipts go to the University of Minnesota. The remainder is dedicated to forest development activities on Pillsbury State Forest land only.

Future Funding: The funding in this account will remain at a low level.

##### Miscellaneous Receipts

Purpose: Various dedicated accounts. Primarily air photo receipts, fire equipment fund, and seminar/conferences.

Activities Funded: Specific to individual

accounts (i.e., aerial photography, fire equipment, seminars/conferences).

Future Funding: \$300,000 in F.Y. 91. Expected to remain constant during this planning period.

## FEDERAL FUNDING

### BWCAW Forestry Intensification Program

Purpose: This fund provided for intensified forest management on state, county and non-industrial forest lands to offset the loss of available timber that resulted from the reclassification of timber lands by the BWCAW Act.

#### Activities Funded:

##### Forest Development on State Land

- accelerated reforestation of softwoods
- softwood timber stand improvement

##### Seedling production

##### State Forest Roads

- reconstruction and maintenance
- construction
- bridge repair and upgrading

##### Accelerated Forest Inventory

##### County Assistance

- reforestation
- timber stand improvement
- road reconstruction and maintenance

##### Private Forest Management

- reforestation
- timber stand improvement
- marketing

##### Forest Resource Planning

Future Funding: There will be no further appropriations from the Federal government dedicated to the BWCA. Expenditures from this account will be from previous appropriations.

### Federal Cost-Share Programs (Cooperative Forestry Assistance)

#### **Special Forestry Programs**

Purpose: Financial assistance from the federal government (U.S. Forest Service)

for approved special projects and programs. In the past, funds were received for general forest management activities, now known as traditional funds. Beginning in federal fiscal year 1986 a portion of these funds were set aside to fund special projects that best meet the goals of the U.S. Forest Service's State and Private Forestry program. This funding approach, known as focused funding, is believed to be a more efficient means of addressing important forestry issues.

#### Activities Funded:

##### Traditional Funding

- Planning Assistance
- Rural Forestry Assistance
- Insect and Disease Control
- Urban Forestry Assistance
- Rural Fire Protection and Control

##### Focused Funding

- North Central Fine Hardwoods Tree Improvement
- Intensified Woodlands Council Initiative
- Handbook for Marketing and Industrial Development
- Red River Forest Project
- Red Oak Regeneration Cooperative
- Tree Planting for Energy Conservation
- Maple Syrup Industry

Future Funding: The division received \$450,000 in F.F.Y. 1990, 35 percent of which is focused or special emphasis project dollars. A portion of focused and special emphasis project dollars is passed-through to other agencies, organizations and individuals in accordance to specific proposals. F.F.Y. 1991 appropriations have not been finalized.

#### **Other Programs**

##### Forestry Incentives Program (FIP)

Purpose: To increase the future supply of timber products harvested from non-industrial private forest lands.

Activities Funded: Treatments are provided primarily for the most productive sites with emphasis on technical assistance for timber stand improvement in Norway pine plantations including semi-commercial thinning. Other assistance is provided for reforestation (planting and seeding) and site preparation for natural regeneration primarily in over-mature aspen stands. Vendor training sessions are also provided.

Future Funding: Expected to remain stable through federal F.Y. 1991.

#### Agricultural Conservation Program (ACP)

Purpose: To enhance the environment by establishing forest tree plantations and improving existing timber stands on non-industrial privately-owned lands.

Activities Funded: Technical assistance for reforestation, timber stand improvement (pruning and thinning). Cost sharing for reforestation practices which are either too small for FIP, are also being cost shared with state funds, or are prospective participants in the federal Conservation Reserve Program (CRP).

Future Funding: Expected to remain stable through federal F.Y. 1991.

#### Conservation Reserve Program (CRP)

Purpose: This is a voluntary land retirement program to reduce soil erosion, enhance wildlife habitat, improve water quality, increase timber production, reduce surplus commodities and assist the farm economy.

Activities Funded: Private landowner sign-up, conservation plan development and technical assistance on projects planting more than two acres of trees or shrubs.

Future Funding: Funding is expected to remain stable during the life of the new Stewardship and America the Beautiful

initiatives. Active promotion and sign-up has ended.

#### Stewardship

Purpose: To enable individual landowners to achieve their personal land ownership objectives while sustaining the renewable resources on their land for the long-term benefit of society.

Activities Funded: Multiple-use natural resource management technical assistance, and information and education activities. For the purposes of the Stewardship Program, technical assistance is defined as any professional natural resource guidance or service provided in a one-on-one setting regarding on-the-ground forest management. Information and education includes publications, audio-visual programs, mass media projects, conferences, tours, correspondence courses, demonstration areas, exhibits, and any individual or committee work associated with these activities.

Future Funding: The division received \$91,000 in F.F.Y. 90 appropriations and \$150,000 in F.F.Y. 91 appropriations for use by the division. Funding is expected to remain fairly stable through this planning period (F.Y. 1995). Additional federal Stewardship funding is allocated to the Division for use by landowner associations, Minnesota Forestry Association, and the University of Minnesota, for various management and educational efforts.

#### America the Beautiful

Purpose: A Presidential initiative to enhance existing natural and recreational resources, and address the buildup of atmospheric carbon dioxide. A major component of the initiative is a nationwide multi-year program of tree planting and forest improvement. This tree planting initiative will involve public and private sector cooperation to achieve a goal of planting, improving and maintaining nearly one billion trees per year in communities and rural areas.

Activities Funded: Rural Tree Planting and

Improvement - Cost-share tree planting and forest improvement with private landowners. Funds can be used for strengthening private landowner technical assistance and infrastructure needs. Funds can also be used to assure environmentally adapted planting stock is available. Community Trees - Cooperative public, corporate and civic sector efforts to solicit funds to assist communities, and encourage volunteers in communities to plant trees. Funds raised will be used to assist communities for the costs of site preparation, tree selection, planting and maintenance.

Future Funding: The division received \$200,000 in F.F.Y. appropriations through the ATB initiative. This funding was rolled into the total appropriation to the division for Urban Forestry through the U.S. Forest Service's Northeastern Area State and Private Forestry program. Funding for Minnesota is expected to continue for several years in the \$200,000 - \$250,000 range.

#### PASS THROUGH GRANTS

##### County Forestry Assistance

Purpose: Provide funds to intensify forest management on 2.8 million acres of county-administered lands.

Activities Funded: Improving access to timber stands in need of harvest or regeneration, tree planting and seeding, and thinning and release from competing weeds to increase the long-term timber supply.

Future Funding: \$2.7 million in F.Y. 91.

##### County Forest Access Roads

Purpose: Funds deposited in this account are from unrefunded tax paid on gasoline and special fuel used to operate motor vehicles on forest roads. Funds are distributed to counties managing forest lands administered through a county land department in proportion to each county's ownership of commercial forest lands.

Activities: Construction, reconstruction, acquisition and maintenance of county management access roads, including the acquisition of rights-of-way or easements.

Future Funding: \$275,000 per year.

##### Rural Community Fire Protection Program

Purpose: Provide financial, technical and other assistance to organize, train and equip fire departments in rural areas and communities with a population of less than 10,000 for preventing and suppressing fires.

Activities Funded: Limited to 50% of requested assistance. \$2,500 limit per project area or community. Assistance is provided for organizing, planning, training and acquiring equipment.

Future Funding: Expected to continue at \$120,000 per year.

##### Consolidated Conservation (Con Con) Area Account

Purpose: This is a dedicated account for receipts from state Con Con lands for the purpose of distributing 50% of these funds to the counties where receipts were generated. Fund transfer is at the end of each fiscal year. The remaining balance is transferred to the general fund. In the case of land sales, 90% of the sale receipt is distributed to the county and the remaining 10% to the DNR Land Bureau.

Activities Funded: Rehabilitation and development within conservation area, capital outlays for school districts, and township road and bridge fund.

Future Funding: \$400,000 - \$425,000 per year.

##### State Forest Account County Payments

Purpose: Payments to counties that contain state forest land in an amount equal to 50% of the gross annual receipts of such state forest land within a county that have been credited to the state forest account. After making payments to counties, the balance in the

State Forest Account is transferred to the general fund.

Activities Funded: County treasurer can distribute as if payments were received as taxes.

Future Funding: \$450,000 - \$500,000 per year.

## GENERAL OBLIGATION BONDING

### Capital Improvement Bonds

#### Building

Purpose: Provide funding for division building construction and improvement projects.

Activities Funded: Any building site capital improvements that require a specific engineering request and plan. Includes expansion, new construction and remodeling of offices, residences, repair shops, garages, etc.

Future Funding: Additional funding is available upon submittal and approval of project funding requests and the associated bonding authority. Authority to sell bonds is granted by the Legislature depending on the State's credit rating and current bond interest rates. Future bonding money is expected to be fairly limited due to the recently enacted limits on bond interest payments as a percent of total state spending.

#### Non-Building

Funds are for forest road and bridge betterment, recreation facilities and land betterment, and land acquisition for state forests.

### Forest Roads and Bridges Betterment

Purpose: Provide funds to manage and maintain an effective system of forest access roads to support the tourism industry, forest management and the forest product industries.

Activities Funded: Development of new roads, reconstruction of existing roads and replacement of inadequate bridges.

Future Funding: Additional funding is available upon submittal and approval of project funding requests and the associated bonding authority. Authority to sell bonds is granted by the Legislature depending on the State's credit rating and current bond interest rates. Future bonding money is expected to be fairly limited due to the State's limit on bond interest payments.

### Recreation Facilities and Lands Betterment

#### Lands Betterment

Purpose: Provide funds to return Richard J. Dorer Memorial Forest lands to a multiple-use status of forest resource production, environmental protection and recreation use, and to demonstrate sound forest management practices.

Activities Funded: Forest management activities on existing and newly acquired lands in the Richard J. Dorer Memorial Hardwood Forest. Projects include tree planting, timber stand improvement, plantation weed control, erosion control structures, boundary signing, access roads, building site cleanup and closing abandoned wells.

Future Funding: Additional funding is available upon submittal and approval of project funding requests and the associated bonding authority. Authority to sell bonds is granted by the Legislature depending on the State's credit rating and current bond interest rates. Future bonding money is expected to be fairly limited due to the State's limit on bond interest payments.

#### Recreation Betterment

Purpose: The 1985 State Comprehensive Outdoor Recreation Plan (SCORP) and its supporting data base indicated a need for more primitive camping, swimming

beaches, picnic areas, nature trails and hunting opportunities. This funding is designed to meet some of those needs, protect existing state investments and protect the health and safety of the user.

Activities Funded: Development and rehabilitation of state forest recreation facilities including campgrounds, day-use areas, beaches, access roads and water accesses.

Future Funding: Additional funding is available upon submittal and approval of project funding requests and the associated bonding authority. Authority to sell bonds is granted by the Legislature depending on the State's credit rating and current bond interest rates. Future bonding money is expected to be fairly limited due to the State's limit on bond interest payments.

#### Land Acquisition for State Forests

Purpose: This program is designed to acquire key parcels of land from willing sellers to protect resources, consolidate ownership patterns, foster production of public resource values and provide access to other public lands.

Activities Funded: Acquisition efforts will be concentrated in the Richard J. Dorer Memorial Hardwood Forest. However, key parcels which become available in other state forests will be considered for acquisition.

Future Funding: Additional funding is available upon submittal and approval of project funding requests and the associated bonding authority. Authority to sell bonds is granted by the Legislature depending on the State's credit rating and current bond interest rates. Future bonding money is expected to be fairly limited due to the State's limit on bond interest payments.

#### Outdoor Recreation System Acquisition

Purpose: Acquire and improve public outdoor recreational lands and capital improvements.

Activities Funded: Acquisition of land and development and rehabilitation of state forest recreation facilities, including campgrounds, day-use areas, and trails, within units of the outdoor recreational system.

Future Funding: Additional funding is available upon submittal and approval of project funding requests and the associated bonding authority. Authority to sell bonds is granted by the Legislature depending on the State's credit rating and current bond interest rates. Future bonding money is expected to be fairly limited due to the State's limit on bond interest payments.

#### Reinvest in Minnesota (RIM)

Purpose: Provide funds to protect soil and water quality and improve wildlife resources and habitat management in Minnesota under the authority of the 1986 RIM Act. Proceeds from the sale of state bonds for this fund are kept in a special account and disbursed only for capital costs of the acquisition and betterment of public land and easements in land and improvements in land according to the RIM Act. Fish and wildlife enhancement projects to be funded include: development and improvement of the comprehensive fish and wildlife management plan; implementation of the RIM conservation reserve program; soil and water conservation practices; enhancement of fish and wildlife habitat on lakes, streams, wetlands, and public and private forest land; acquisition and development of public access sites and recreation easements to lakes, streams, and rivers for fish and wildlife oriented recreation; matching funds with government agencies and the private sector for acquisition and improvement of fish and wildlife habitat and uncommon or diminishing ecological communities; research and surveys of fish and wildlife species and habitat; enforcement of natural resource laws and regulations; information and education; implementing the

aspen recycling program and the aspen recycling pilot project; necessary support services.

Activities Funded: The 1989 Legislature modified the wording for the RIM Aspen Recycling appropriations to allow for an expanded use of these funds. Previously, the bonding money that the division received under the RIM Act was strictly for the aspen recycling program. Activities funded now include: regenerating aspen stands, prescribed burning, wildlife openings, class 5 and 6 road development, regeneration of tree species preferred by wildlife, plantation release for wildlife shrubs, recycling (not limited to aspen), and purchase of aerial photographs.

Future Funding: The division had approximately \$900,000 remaining from previous RIM appropriations at the beginning of F.Y. 1991. The 1989 Legislature did not allocate any new bonding authority for forestry activities under RIM. Future funding for RIM activities will be dependent on legislative action in future legislative sessions.

**TABLE 1**  
**SUMMARY OF STATEWIDE BUDGET ALLOTMENTS<sup>(A)</sup>**  
**BY FUNDING SOURCE**  
**FISCAL YEARS 1987-1991**  
**DIVISION OF FORESTRY**

Funding Source	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991 <sup>(B)</sup>
General Fund <sup>(C)</sup>	\$22,294,716	\$24,633,528	\$25,604,266	\$26,029,130	\$24,370,822
<u>Dedicated Accounts</u>					
Forest Management Fund					
- Nurseries	1,857,622	1,998,897	2,020,145	1,949,112	2,024,000
LCMR	414,623			109,724	210,276
State Forest Road Account			352,989	334,931	530,042
Other Receipts	20,289	34,643	89,977	121,986	427,997
Subtotal	2,292,534	2,033,540	2,463,111	2,515,774	3,192,315
<u>Federal Funding</u>					
BWCAW	1,993,128	2,174,490	2,052,582	2,085,640	1,907,811
Special Forestry Cost-Share	536,704	267,203	513,874	173,266	209,133
FIP/ACP/CRP	126,524	188,004	139,896	33,592	90,452
Other	253,402	925,141	844,936	998,313	521,000
Subtotal	2,909,758	3,554,838	3,551,288	3,290,811	2,728,396
<u>Pass-Through Grants</u>					
County Forestry Assistance	250,000	1,375,000	1,375,000	1,487,000	2,251,000
County Forest Access Roads		102,689	275,000	275,000	275,000
Rural Community Fire	119,892	121,137	119,061	134,048	223,112
State Forest Fund	403,722	392,459	428,621	454,000	460,000
Con-Con Payments/Refunds	292,519	286,931	401,635	427,000	423,550
BWCAW	570,000	570,000	570,000	570,000	
Other		24,500	24,500	508,164	698,431
Subtotal	1,636,133	2,873,716	3,193,817	3,855,212	4,331,093
<b>ANNUAL BUDGET TOTAL</b>	<b>\$29,133,141</b>	<b>\$33,095,622</b>	<b>\$34,812,482</b>	<b>\$35,690,927</b>	<b>\$34,622,626</b>
<u>General Obligation Bonding</u>					
RIM	433,257	336,730	231,612	325,431	320,000
Acquired State Forest	113,105	59,058	8,232	37,429	350,000
Acquired Outdoor Rec. System		75,844	167,263	230,084	26,809
Betterment - Recreation	56,585	42,713	92,166	8,043	33,023
Betterment - Roads & Bridges	346,279	342,114	238,112	236,192	80,000
Betterment - State Forests/RJD	437,641	94,794	56,403		18,063
<b>BONDING TOTAL</b>	<b>\$ 1,386,867</b>	<b>\$ 951,253</b>	<b>\$ 793,788</b>	<b>\$ 837,179</b>	<b>\$ 827,895</b>
<b>TOTAL</b>	<b>\$30,520,008</b>	<b>\$34,046,875</b>	<b>\$35,606,330</b>	<b>\$36,528,106</b>	<b>\$35,450,521</b>

(A) Includes all dollars expended or obligated and encumbered from all sources. Includes fiscal "x" bonding dollars expended as of the end of each fiscal year.

(B) Figures for FY 1991 are amounts allocated from available annual budget sources as of January 1991, and the expected expenditures from bonding authorizations. Actual spending levels may differ.

(C) The following appropriation accounts were consolidated into the General Fund appropriation beginning in FY 1990: General Fund Accounts: Inventory Supplement, Statewide Inventory, Forest Campgrounds, Emergency Fire Fund, BWCAW State Match, Rural Development Act, Improved Forest Management. Dedicated Accounts: State Forest Development, Forest Management Fund (FMF) - Trust, FMF - Acquired, FMF - PFM Services, Dedicated Campground, Con-Con (State portion).

**TABLE 2**  
**BUDGET NEEDS BY PROGRAM<sup>(A)</sup>**  
**Fiscal Years 1991 - 1995**  
**(000's, 1991 dollars)**  
**Division of Forestry**

	1991	1992	1993	1994	1995
<b><u>State Forest Land Management</u></b>					
Land Administration	875	725	725	725	725
State Forest Recreation	650	670	670	670	670
State Forest Roads	1,900	4,900	4,900	4,900	4,900
Timber Management	4,090	4,000	4,000	4,200	4,300
Timber Sales	2,195	2,195	2,200	2,200	2,210
Fish and Wildlife Habitat	400	400	400	405	405
<b>SUBTOTAL</b>	<b>10,110</b>	<b>12,890</b>	<b>12,895</b>	<b>12,497</b>	<b>13,210</b>
<b><u>Cooperative Forest Land Management</u></b>					
Private Forest Management	1,456	1,600	1,600	1,750	1,750
Urban Forestry	320	400	450	450	450
County Cooperative	132	132	132	132	132
Forest Pest Management	460	600	655	700	765
Forest Soils	160	190	190	180	175
<b>SUBTOTAL</b>	<b>2,528</b>	<b>2,922</b>	<b>3,027</b>	<b>3,212</b>	<b>3,272</b>
<b><u>Nursery and Tree Improvement</u></b>					
Nursery and Tree Improvement	1,900	2,400	2,500	2,500	2,500
<b><u>Resource Protection</u></b>					
Wildfire Protection & Management	5,375	5,400	5,400	5,400	5,400
Law Enforcement	125	160	200	200	230
<b>SUBTOTAL</b>	<b>5,500</b>	<b>5,560</b>	<b>5,600</b>	<b>5,600</b>	<b>5,630</b>
<b><u>Forest Resource Information and Planning</u></b>					
Forest Resource Assessment & Analysis	1,255	1,300	1,350	1,400	1,450
Utilization and Marketing	320	340	345	350	355
Forestry Information Systems	950	950	950	1,000	1,000
Forest Resource Planning	565	600	600	530	530
Public Affairs	320	480	480	480	480
<b>SUBTOTAL</b>	<b>3,410</b>	<b>3,670</b>	<b>3,725</b>	<b>3,760</b>	<b>3,815</b>
<b><u>Administrative and Technical Support</u></b>					
Human Resources Development	650	700	700	700	700
Maintenance and Administration	3,450	3,450	3,450	3,450	3,450
<b>SUBTOTAL</b>	<b>4,100</b>	<b>4,150</b>	<b>4,150</b>	<b>4,150</b>	<b>4,150</b>
<b>TOTAL<sup>(B)</sup></b>	<b>27,548</b>	<b>31,592</b>	<b>31,897</b>	<b>31,719</b>	<b>32,577</b>

(A) The program budgets in this table are the resources to be allocated throughout the organization to carry out the activities of a given program, regardless of organizational location. As contrasted with a line-item budget that is developed for an organizational unit, a program budget is built from parts of each organizational unit's budget. The program budgets were calculated using the following formula:

$$\text{Budget} = \# \text{ fte's} \times \$35,000/\text{fte} + \text{project dollars}$$

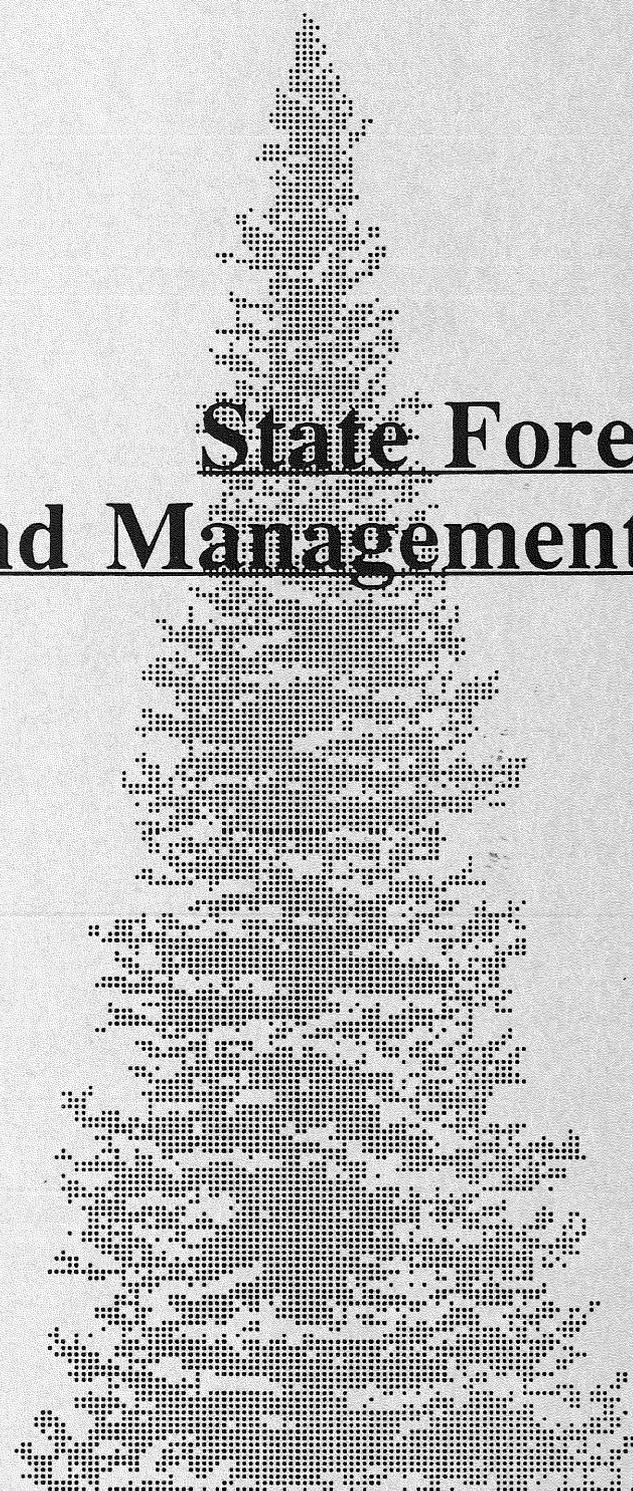
$$(\text{full-time equivalents}) \times (\text{salary \& benefits}) + (\text{contract services})$$

(B) Total does not include funding for pass-through grants.

**TABLE 3**  
**STAFF NEEDS BY PROGRAM<sup>(A)</sup>**  
**Fiscal Years 1991 - 1995**  
**(full-time equivalents)**  
**Division of Forestry**

	1991	1992	1993	1994	1995
<b><u>State Forest Land Management</u></b>					
Land Administration	7.0	7.0	7.0	7.0	7.0
State Forest Recreation	12.0	12.0	12.0	12.0	12.0
State Forest Roads	15.0	15.0	15.0	15.0	15.0
Timber Management	51.0	51.0	51.5	51.5	51.5
Timber Sales	62.7	62.7	62.9	63.0	63.1
Fish and Wildlife Habitat	4.0	4.0	4.0	4.0	4.0
<b>SUBTOTAL</b>	<b>151.7</b>	<b>151.7</b>	<b>152.4</b>	<b>152.5</b>	<b>152.6</b>
<b><u>Cooperative Forest Land Management</u></b>					
Private Forest Management	36.0	36.0	36.0	40.0	40.0
Urban Forestry	4.0	6.0	8.0	8.0	8.0
County Cooperative	3.0	3.0	3.0	3.0	3.0
Forest Pest Management	7.0	8.0	8.0	9.0	9.0
Forest Soils	3.3	3.3	3.3	3.3	3.3
<b>SUBTOTAL</b>	<b>53.3</b>	<b>56.3</b>	<b>58.3</b>	<b>63.3</b>	<b>63.3</b>
<b><u>Nursery and Tree Improvement</u></b>					
Nursery and Tree Improvement	53.3	33.3	33.3	33.3	33.3
<b><u>Resource Protection</u></b>					
Wildfire Protection & Management	77.0	77.0	77.0	77.0	77.0
Law Enforcement	3.0	4.0	5.0	5.0	6.0
<b>SUBTOTAL</b>	<b>80.0</b>	<b>81.0</b>	<b>82.0</b>	<b>82.0</b>	<b>83.0</b>
<b><u>Forest Resource Information and Planning</u></b>					
Forest Resource Assessment & Analysis	26.0	26.0	26.0	26.0	26.0
Forest Products Utilization & Marketing	7.5	8.0	8.0	8.0	8.0
Forestry Information Systems	13.0	13.0	13.0	13.0	13.0
Forest Resource Planning	15.0	16.0	16.0	14.0	14.0
Public Affairs	8.5	10.0	10.0	10.0	10.0
<b>SUBTOTAL</b>	<b>70.0</b>	<b>73.0</b>	<b>73.0</b>	<b>71.0</b>	<b>71.0</b>
<b><u>Administrative and Technical Support</u></b>					
Human Resources Development	18.6	19.7	19.7	19.7	19.7
Maintenance & Administration	91.0	88.0	87.0	86.0	85.0
<b>SUBTOTAL</b>	<b>109.6</b>	<b>107.7</b>	<b>106.7</b>	<b>105.7</b>	<b>104.7</b>
<b>TOTAL</b>	<b>517.9</b>	<b>504.6</b>	<b>507.3</b>	<b>509.4</b>	<b>509.5</b>

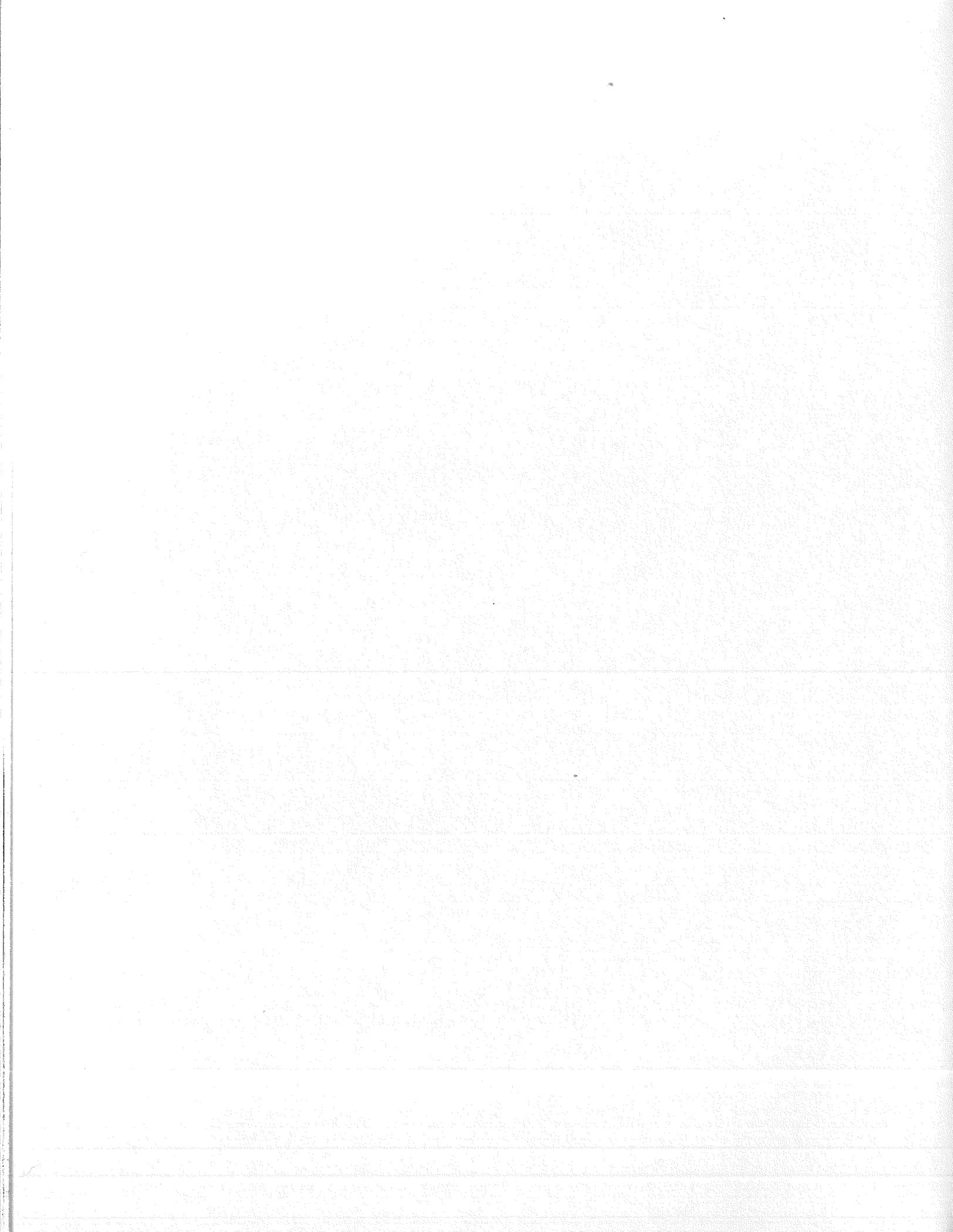
(A) Staff needs by program include all time throughout the organization to be allocated to carry out the activities of a given program, regardless of organizational location. One full-time equivalent is equal to 1750 hours. This figure includes overtime, work performed by student workers, seasonal and non-tenured labor, and 90% positions. Does not include leave time.



State Forest  
Land Management Program

MINNESOTA FOREST  
RESOURCES PLAN





## LAND ADMINISTRATION

### ACTIVITY DESCRIPTION

The Department of Natural Resources is a major land management agency in Minnesota. The Division of Forestry administers nearly 4.5 million acres of the roughly 5.3 million acres of DNR-administered land.

The Division's land administration activities include acquisition, exchange, sale and lease of lands. Field staff are involved in identifying and developing acquisition priorities, recommending sales, leases or exchanges, inspecting leases, and maintaining contacts with other agencies and individuals. The DNR Real Estate Management Bureau assumes responsibilities for negotiations, appraisals, record keeping and other services.

The Division's lands include a mix of large contiguous blocks and small isolated parcels. This checkerboard pattern of public land ownership is inefficient to manage for some purposes. Therefore, one objective of the Division's land administration activities is to consolidate scattered lands into larger more contiguous units for more efficient management. The Division recognizes that the optimal land ownership patterns vary by resource management objectives and that some scattered parcels have significant mineral, wildlife and other resource values and therefore should not be consolidated.

Acquisition, sale, transfer, lease and exchange of lands for forestry purposes is selective and aimed primarily at making forest management more efficient. Land acquisition is undertaken on a case-by-case basis for specific purposes such as improving management efficiency, protecting key forest resources and maintaining an adequate public forest resource base to provide for multiple-use forest values.

### GOAL

Achieve the optimum pattern of forest land ownership for the management of forest resources designed to best serve the needs of Minnesota's citizens while maximizing long-term resource and economic benefits through efficient resource management, land acquisition, leasing, sale and

exchange.

### STATEWIDE DIRECTION

The Division's lands include a mix of large contiguous blocks as well as many small isolated parcels. The checkerboard pattern of public land ownership is inefficient to manage for forestry purposes. Dispersed ownership increases the costs of locating property corners, surveying property lines, providing road access, preventing trespass and for a wide range of management activities that require on-site inspection.

Consolidation of public ownership can reduce these costs. Therefore, one objective of the Division's land administration activities is to consolidate the scattered lands into larger, more contiguous units for more efficient management. However, the Division recognizes that the optimal land ownership patterns vary by resource management objectives and that some scattered parcels have significant mineral, wildlife and other resource values and therefore should not be consolidated.

Although state land leases and land exchange can be useful tools in achieving an optimal pattern of land use and ownership, both can be administratively difficult, costly and inefficient. A number of inter-disciplinary (internal) issues and a lack of Department direction currently hinders the land exchange process. Similarly, the Division is not a leader in the area of land leasing, but rather implements the administrative procedures set forth by the DNR Real Estate Management Bureau. The roles of all DNR administrative groups involved in the land exchange and lease processes must continue to be examined and recommendations made to expedite and simplify land transactions. In some cases, the sale of surplus lands and the acquisition of other lands, offer the promise of more rapid and cost-effective land transactions, which could speed the attainment of a more consolidated statewide land-ownership pattern.

The amount of time and budget dedicated to land administration has varied through the years, primarily due to fluctuations in the magnitude of the acquisition program. During the 1989-90 biennium the Division annually spent approximately 7.0

person years of effort and \$475,000 on land administration. No increase in staff is proposed during the 1992-93 biennium specifically for land administration purposes. The projected increase in the budget is due primarily to an expected increase in capital bonding for land acquisition. The level of future acquisition may also increase if money from the revolving land fund is appropriated.

Emphasis over the next five years will be to:

- Develop a coordinated, comprehensive land classification and adjustment program.
- Better define and communicate to the public the Division's role in land management and the associated public benefits.
- Actively pursue a Department plan that spells out land consolidation goals consistent with multiple-use management goals and public benefits.
- Prepare legislative and administrative policies to streamline land transactions wherever possible.
- Extend the "no net loss of commercial forest land" policy for the state as defined in the report of the Governor's Blue-Ribbon Commission on Forestry and Forest Products to all forest lands.

## MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

### Land Classification

- Resolve issues surrounding the management of state administered lands outside designated management units (e.g., State Parks, State Forest, Wildlife Management Areas).

### Land Acquisition

- Continue to purchase lands in the Richard J. Dorer Memorial Hardwood Forest to meet goals outlined in the 1979 Plan for Acquisition and the Lewiston Area Plan.
- Set priorities for acquisitions in other state forests as identified in Unit Plans and purchase them as funding is available.
- Streamline the process of acquiring forest road easements by using short form appraisals or

letters of value for parcels costing under \$2,000.

- Build public support for continued acquisition of forestry lands.
- Cooperate with the DNR Real Estate Management Bureau in pursuing administrative changes needed to streamline the land appraisal and review process and to speed up land acquisition.
- Assist the Bureau of Real Estate Management determining if lands proposed for purchase are contaminated by hazardous wastes.
- Actively pursue acquisition of gifts of land and conservation easements within state forests.

### Leases

- Request that the Attorney General's Office delegate authority to issue leases to Area Forest Supervisor's and offer training in lease administration.
- Continue to work with the DNR Commissioner's Office, Attorney General's Office and the DNR Real Estate Management Bureau to establish procedures for consistent enforcement of lease provisions and trespass.
- Continue to evaluate all existing leases to determine if they should be continued or phased out through the unit planning process.

### Land Exchange

- Continue to identify potential DNR Division of Forestry land exchanges with other public agencies and private landowners through the unit planning process.
- Work with the DNR Commissioner's Office to develop a long-range departmental goal for land adjustment by taking a landscape view of department lands.
- Continue to redirect the Division's land exchange efforts from small, costly and inefficient exchanges to larger exchanges with other public agencies, timber companies and other large landowners.
- Continue to work with the DNR Division of Minerals to explore options that allow surface access for exchanged lands that overlie state-owned minerals, while allowing consolidation to maximize surface management efficiency.
- Continue to consider sale of state lands as an

alternative to small exchanges with private landowners when isolated parcels are involved.

- Continue to exchange trust fund land status (while retaining current administrative status), in Department of Natural Resources non-revenue producing management units to state forest lands to consolidate blocks of trust fund lands within state forests.

#### Transfer of Administrative Control

- Transfer administrative control of lands to other divisions as identified in Unit Plans to meet resource management objectives.

#### Land Sale

- Evaluate scattered parcels for possible sale during the Unit Planning Process.
- Seek a decision from the DNR Commissioner's Office regarding a policy of allowing proceeds from the Land Sale Revolving Fund to be used by the division selling the land to acquire more suitable land.
- Seek appropriation of the funds in the Land Acquisition Account.
- Explore the possibility of eliminating the requirement to sell agricultural land in the Richard J. Dorer Memorial Hardwood State Forest.

#### State Forest Boundaries

- Seek legislation that gives the Commissioner of Natural Resources the authority to designate state forest lands by Commissioner's Order if the changes are recommended in an approved Unit Plan.

LAND ADMINISTRATION

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Achieve the optimum pattern of forest land ownership for the management of forest resources designed to best serve the needs of Minnesota's citizens while maximizing long-term resource and economic benefits through efficient resource management, land acquisition, leasing, sale and exchange.

	Unit of Measure	1991	1992	1993	1994	1995
<u>Budget</u>						
1. Projected total	\$(000's)	875	725	725	725	725
<u>Staffing</u> (fte = full-time equivalent)	fte	7	7	7	7	7
<u>Targets</u> M = 1,000						
Leases and permits						
1. Administer leases	M leases	3.30	2.57	2.25	2.25	2.25
2. Process special product permits	permits	285	180	180	190	190
Acquisition, Sale, or Exchange						
3. Propose land sales	M acres	1.4	1.0	1.0	1.0	1.0
4. Acquire lands	acres	2330	1000	1000	1200	1200
5. Exchange land	M acres	8.5	10.0	5.0	5.0	5.0
6. Transfer administrative control	acres	500	500	500	500	500
7. Acquire rights-of-way	miles	46	10	12	12	15
Classification						
8. Transfer trust status	acres	8815	2000	2000	-	-

## STATE FOREST RECREATION

### **ACTIVITY DESCRIPTION**

Recreation facilities on state forest lands evolved over a period of many years. Campsites and other facilities were designed to concentrate users at established sites as a fire prevention measure. Many of these facilities were constructed by the Civilian Conservation Corps (CCC's) and date back to the early part of the century. Some with little modification. Additional periods of major forest recreation development took place, most notably in 1958, 1963 and 1983.

The Division of Forestry currently administers 46 campgrounds, 44 day-use areas, 1,200 miles of trail, 142 water accesses and 17 canoe and boating route campsites. Since 1983, the program has rehabilitated 18 campgrounds, 7 day-use areas and 106 miles of trail.

Today's forest recreation management activities include planning, development and maintenance of facilities, enforcement of rules and regulations, and distribution of maps and other interpretive materials. In addition, the Division produces a comprehensive brochure on state forest recreation areas and maps for almost all of its recreational trails. The Division also works with other recreation providers within and outside the DNR to keep pace with constantly changing recreation demand.

State forest lands have considerable impact on the tourism industry and the supply of outdoor recreation opportunities. These lands and their associated waters are used for many recreational pursuits including camping, picnicking, hiking, hunting, trapping, fishing, canoeing, boating, swimming, ski touring, snowshoeing, snowmobiling, trail biking and horseback riding. Twenty-five percent of all outdoor recreational activity hours occur in townships with state forest lands.

The 1990 State Comprehensive Outdoor Recreation Plan (SCORP) predicts that demand for most recreational activities will increase significantly on state forest lands. The Division, along with others in the DNR, are searching for ways to satisfy this projected demand. The Division will continue to

evaluate its recreation efforts to determine when changes in emphasis are needed to better satisfy projected demand.

### **GOAL**

Fulfill the outdoor recreation potential of Division-administered lands by providing developed recreational areas and opportunities for dispersed recreational activities compatible with other forest uses and consistent with user demand.

### **STATEWIDE DIRECTION**

The major emphasis of the State Forest Recreation Program will be to operate and maintain existing recreational facilities. New development will continue to be a lower priority. Emphasis will also be placed on providing dispersed recreation users (users such as hunters and berry-pickers who do not need developed facilities) with maps and other information to allow them to use forest lands without the need for the Division to provide additional facilities.

If budget cuts reduce the Division recreation maintenance budget we will have to look at innovative ways to manage our recreation facilities or close some facilities. Development of an "Adopt a Campground" program, concessionaire contracts, sentence to serve crews and other volunteer efforts will also have to be looked at.

### **MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995**

The Division will work with other units of the Department to analyze the recreation market for state forests, and to develop a management strategy that addresses the needs of the identified market. Efforts then will be targeted to areas with highest need and return to the user.

### Information and Education

- Continue to assist the Bureau of Engineering in developing comprehensive maps showing recreation facilities and public lands.
- Continue to develop high-quality user information that identifies and promotes dispersed recreational opportunities.
- Continue to develop an information program for state forests including interpretive trails, driving tours and demonstration areas.
- Continue to distribute a comprehensive map of state forest recreation areas.
- Work to increase the Division's visibility, to build support groups for state forest management programs.

### Management

- Integrate Aesthetic Guidelines and Best Management Practices (BMP's) into land management activities to protect recreation resources.
- Maintain cooperative relations with other public and private recreation providers.
- Initiate a working group to develop comprehensive rules and regulations for state forest lands, sub-areas, ORV's and other special uses.
- Work with conservation officers and county sheriffs to ensure state forest rules and regulations are enforced.
- Implement the hazard tree policy.
- Evaluate the level of use at all recreation sites and adjust the capacity to fit the need.
- Work to secure adequate funds for recreation management, including rehabilitation and maintenance.
- Continue to assign Division personnel to work weekends at heavily used state forest campgrounds to insure adequate supervision and public contact.
- Continue to identify appropriate ORV/ATV use areas during the Regional Planning process.
- Cooperate with the DNR Units to develop statewide ORV/ATV rules and regulations.
- Continue to work with wildlife and fisheries managers to enhance wildlife and fisheries related recreation opportunities on state forest lands.
- Continue to evaluate opportunities for

motorized and non-motorized trail uses during the Unit Planning Process to resolve existing and/or potential user conflicts.

- Look at the possibility of developing an "Adopt a Campground" program.
- Consider turning operation and maintenance of some forest campgrounds over to concessionaires.

### Forest User Analysis

- Resurvey state forest campground users in 1994.
- Continue to identify opportunities to expand the forest recreation market to benefit both public and private sector providers.
- Evaluate the effectiveness of ongoing recreational marketing efforts.

### Promotion

- Intensify promotion of state forest recreation through public distribution of maps, brochures, and interpretive and educational resource information.
- Increase the visibility of the Division's field staff to recreational forest users.
- Build support among non-timber forest users by developing and distributing informational and educational materials.

## FOREST RECREATION

## FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Fulfill the outdoor recreation potential of Division administered lands by providing developed recreational areas and opportunities for dispersed recreational activities compatible with other forest uses and consistent with user demand.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total	\$(000's)	650	670	670	670	670
<b>Staffing</b> (fte = full-time equivalent)	fte	12	12	12	12	12
<b>Targets</b>						
<b>Development and Rehabilitation</b>						
1. Rehabilitate existing facilities	campgrounds	2	5	5	5	5
	day-use areas	0	1	2	1	3
	water accesses	13	4	5	3	2
	miles of trail	125	100	100	100	100
2. Develop new sub-areas	campgrounds	1	0	1	0	0
	day-use areas	2	0	1	0	0
	water accesses	0	0	0	0	0
	miles of trail	1	0	0	0	0
<b>Policy, Regulation, Planning</b>						
3. Develop Regional Recreation Plans	plans	2	2	1	1	1
<b>Information</b>						
4. Develop information programs or brochures	programs	1	1	2	1	2
	brochures	0	0	0	0	0
5. Develop new forest user maps	maps	0	?	?	?	?
6. Market outdoor recreation and tourism opportunities	projects	1	1	1	1	1

## STATE FOREST ROADS

### ACTIVITY DESCRIPTION

The Division of Forestry maintains 2,064 miles of road that serve the 4.5 million acres of state forest lands. These roads also serve several million acres of county, federal and private forest lands. Much of the existing forest road system was constructed by the Civilian Conservation Corps (CCC's) in the 1930's and later was improved and expanded through timber harvesting and fire protection activities. Today some 2500 loggers, and 15 major wood-based industries benefit from the availability of state forest roads. However, in a recent study of the traffic on state forest roads in Minnesota the recreational use of these roads was shown to be approximately 97% of the traffic. The study found that there are over 15 million miles of public travel annually on State Forest Roads for recreation and other purposes.

The following are the major activities of the State Forest Road Program:

- A. Inventory the forest transportation system to provide basis for other program decisions.
- B. Maintain existing transportation facilities in good condition.
- C. Reconstruct bridges and roads to bring facilities up to required standards.
- D. Plan for the construction of new access as needed to serve the protection, management and use of forest resources, using the most cost effective means available.
- E. Manage the transportation system by developing policies and procedures, and reviewing regional programs, projects, and Regional and Area Transportation Plans.

### GOAL

Identify, develop, and maintain a safe, efficient forest transportation system that provides access to protect, manage and use Minnesota's forest resources.

### STATEWIDE DIRECTION

Cooperative transportation planning on the area and division scale will be the major portion of the work under this program. The key portions of the plans will be based on a knowledge and projected use of all resources and will include coordination with other resource managers at field levels. An analysis of needs based on existing facilities, resource use, costs and available funding will be completed for each project. Road management training will be directed at specific groups and will provide the knowledge that is most useful for the people involved. Emphasis will be placed on the safety of the bridges and the maintenance of the recent investment in improvements. Substantial underfunding of this program continues to plague the transportation system. Public demand for utilization of the roads for pleasure driving, berry picking, hunting and other non-consumptive uses will continue to increase as the proportion of the population in the cities continues to expand. However, restrictions may need to be placed on road use due to funding limitations. Summer access for management and timber harvesting is also constrained by limited funding. Continued underfunding will effect the volume and value of wood the DNR is able to sell in a competitive market.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

#### Transportation Planning

- Analyze regional program needs that are consistent with budget allotments to best manage the statewide access network.
- Finalize the forest access inventory procedures and carry out localized road inventories before area transportation plan development. Develop a system to house data in a manner that is accessible by field offices.
- Develop a detailed access plan for each administrative Area during the Regional Planning Process that considers specific resource and access needs for the 10-year period. This plan will guide area and region

expenditures through the period.

- Develop management guidelines for state forest access corridors.
- Examine the access network to determine opportunities to cooperate or turn over roads to other agencies. Follow up with the appropriate actions in a timely manner.
- Continue to use the Forestry/Wildlife guidelines in reviewing forest road projects of both Divisions, include road specifications and location in the reviews.
- Consider multiple-use forest benefits as well as negative impacts when planning or evaluating forest road projects.
- Coordinate forest road activities with other agencies and outside interests through Area Road Committees.
- Actively participate in discussions with other agencies regarding the issues of abandonment and retention of roads and rights of way.
- Implement the Best Management Practices (BMP'S) in the planning and operation of the forest road program.
- Identification of long term gravel needs will follow the transportation planning. This may have a major impact on the Division's gravel leasing program in areas where gravel resources are limited.

#### Policy Development

- Define procedures for road abandonment, exchange with other agencies, easements, design, inventory, transportation planning.
- Create a forest road manual to consolidate existing literature.
- Revise circular letters to meet current needs.
- Develop policy guidelines for cooperative road maintenance agreements and easement exchanges with other divisions, agencies, corporations and interest groups.
- Develop heavy equipment policy covering acquisition and use of Division equipment for forest roads consistent with other program needs.
- Work cooperatively with other divisions, agencies and groups to develop policies to address issues of road densities and access to areas where road development is needed.
- Work with other divisions to develop policies

on road abandonment that consider conversion of forest roads to other uses.

- Explore the possibility of providing guaranteed legal access to state land for multiple-use forest management and to timber sold by the state.
- Develop a uniform policy on gating of roads that includes provisions for public notification and signing, coordinate this with other agencies as much as feasible, during the unit planning process.

#### Training

- Conduct a forest road policy, planning and design Area workshops.
- Provide information on outside training opportunities to the Division's Training Board and regional staff.
- Plan a construction and maintenance workshop for 1991. Follow with training at the Area level.
- Provide one-on-one training for region, area and district staff as needs arise and opportunities permit.
- Work with regional staff to develop heavy equipment training programs.

#### Administrative Support

- Develop budgets to support program needs.
- Propose and follow legislation to provide better funding and control of forest roads.
- Integrate access information with the other resource information through the Division's Geographic Information System in a manner that is easily accessible to the area and region offices.
- Explore the need to coordinate access needs of the Department.
- Support efforts of townships and counties to increase funding for roads accessing state lands.

#### Strategies for Reduced Budgets

- Road closure or restriction of use will substantially reduce the damages that occur on state forest roads. Closing of roads during fall and spring seasons may be necessary in some locations to protect our investments. These actions will require information to the public users before any changes.

- Limiting of load weight during some periods may also help reduce our road maintenance costs and extend the reconstruction schedule.
- The construction of new roads will be the lowest priority in order to retain funds for maintenance and necessary reconstruction. Much of the construction work will be left for the loggers to do under the direction of the Division's field staff.
- Funding will be sought from such sources as the Minnesota Vehicle Excise Tax (MVET) funds and or other conservation funding sources.
- Resurfacing is scheduled on a 15 year rotation due to the nature of the subgrade materials on most of the road system. Postponement of this activity by two years will lead to a 30 percent increase in costs and a delay of 5 years will double the cost due to increased deterioration of the roads.
- Reconstruction is projected on a 30 year basis postponement of 2 years will not substantially effect this cost but 5 years would increase the cost 20 to 30 percent. An 8 to 10 year delay will increase the costs by an estimated 60 percent.

## STATE FOREST ROADS

## FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Identify, develop and maintain a safe, efficient forest transportation system that provides access to protect, manage and use Minnesota's forest resources.

	Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total	\$(000's)	1900	4900	4900	4900	4900
<b>Staffing</b> (fte = full-time equivalent)						
	fte	15	15	15	15	15
<b>Targets</b>						
<b>Development and Reconstruction</b>						
1. Construction	miles	10	11	11	11	11
2. Reconstruction (resurfacing)	miles	100	75	75	75	75
3. Bridges repaired or replaced	projects	3	6	6	6	6
<b>Maintenance</b>						
4. Road grading	miles	8200	8200	8400	8600	8800
5. Snow plowing	miles	1000	2000	2000	2000	2000
6. R.O.W. maintenance						
a. Mowed	miles	950	1500	1500	1500	1500
b. Chemically treated	miles	200	200	200	200	200
c. Mechanically brushed	miles	110	100	100	100	100
d. Hand brushed	miles	55	50	50	50	50
7. Miscellaneous (not associated w/projects)						
a. Bridges	bridges	10	10	5	5	5
b. Culverts	culverts	185	200	200	250	250
c. Signs	signs	190	500	500	500	300
d. Gates	gates	30	100	100	100	100
<b>Operations</b>						
8. Develop forest road manual	sections	8	5	-	-	-
9. Forest management workshop on forest roads	workshops	2	3	3	3	3

## TIMBER MANAGEMENT

### ACTIVITY DESCRIPTION

It is the responsibility of the Division of Forestry to manage state-owned forest lands to best meet the needs of Minnesota's citizens. This requires coordinated forest resource management to attain the optimum mix of public benefits. Management must also be compatible with the purposes for which the lands are held and with all laws, regulations, and instructions of the DNR Commissioner.

The Timber Management Program includes two major functions: timber stand regeneration and regulation of harvest. The basic function of stand regeneration is to coordinate timber harvest and regeneration plans to assure that state lands are maintained in appropriate cover types to meet future multiple-use demands. Regulated timber harvests are needed to promote sustained yields of forest products. These functions involve various aspects of timber scaling, sales, timber harvest, stand regeneration and stand maintenance.

The major activities of the Timber Management Program include:

- A. Silvicultural review of selected timber sales.
- B. Regeneration of harvested, poorly stocked, and non-stocked forest lands.
- C. Timber stand improvement: release of plantations and natural crop trees, selected pruning of crop trees, and thinning.
- D. Other forest development: erosion control, boundary fencing, abandoned well sealing.
- E. Silviculture and forest management training.
- F. Planning, forecasting and budgeting.

The Forest Resource Management Act of 1982 requires the Division of Forestry to assure that reforestation activities will occur in three areas: 1) reforestation on an acreage equivalent to the acreage harvested each year, 2) regenerate previously harvested areas that have not been reforested adequately, and 3) regenerate poorly stocked forest stands to return them to a state of

greater productivity.

A Wildlife/Forestry Coordination Policy (DNR Policy #8, revised 5-3-82) and Forestry/Wildlife Guidelines to Habitat Management (MN DNR Wildlife, 1986) guide the integration of forest and wildlife management. DNR Commissioner's Guideline No. 8 states, "As state administered lands are to be managed for compatible multiple-use benefits, unless otherwise dedicated by law, both Divisions of Forestry, and Fish and Wildlife are jointly charged with the responsibility of achieving the goal of integrating forest and wildlife management, while recognizing other multiple-use purposes."

Program efforts over the next five years will be aimed at addressing the following issues:

- A. There is an increasing demand for pulp wood and other commercial wood products from all of Minnesota's commercial forest land.
- B. There is an increasing demand for forest resources such as aesthetics, recreation, game, non-game wildlife, and watershed protection.
- C. There is increasing public concern for the issues of old growth, old forest, biodiversity, forest fragmentation, endangered species, non-native species, water quality.
- D. The federal funding source (BWCAW Act) that has provided 50% - 60% of the program operating budget over the last ten years ends in 1990.
- E. Oak is a decreasing component of the hardwood forest.
- F. The public is not generally aware of the extent and effectiveness of forest management in Minnesota.

### GOAL

Efficiently apply sound silvicultural practices to regenerate and improve productivity of state-owned forest lands while providing a sustained-yield of forest resources for Minnesota citizens.

## STATEWIDE DIRECTION

The potential of increasing timber harvests on state land with the subsequent increase in reforestation needs, increasing public awareness and input into the management process, an increasing demand for non-wood product forest benefits and the potential of decreasing program budgets offer a challenge to forest managers. The program direction for the next five years will include:

1. Potential of increasing annual total reforestation acreage.
2. Increasing application of natural regeneration, seeding and other lower cost reforestation practices.
3. An acceptance of more within stand diversity and an increased emphasis on mixed wood management and biodiversity.
4. Increasing emphasis on protecting and regenerating non-wood product forest benefits.
5. Increasing emphasis on dense hardwood (particularly oak) regeneration and improvement.
6. Increasing efforts to inform forest users and the public of the benefits, effectiveness and extent of forest management in Minnesota.

## MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

### Forest Regeneration

- Implement timber sale and reforestation practices that promote more economic regeneration of harvested stands to the most suitable species.
- Cooperate with the University of Minnesota and other agencies in research to: 1) to develop summer harvesting systems that minimize deterioration of site quality and regeneration potential, 2) to improve oak regeneration systems, 3) to develop more cost effective artificial regeneration systems, 4) to improve white pine regeneration, and 5) improve cedar regeneration.
- Develop silvicultural systems that result in acceptable stand establishment and vegetation

management while reducing physical and visual impacts on the environment.

- Concentrate on improving the cost effectiveness of artificial regeneration systems.
- Inform foresters, other resource managers and public forest users about the multiple benefits of the Division's forest management program.
- Promote oak and other hardwood species regeneration on medium to good hardwood sites.
- Intensify aspen management through clone development, hybrid aspen silviculture, bigtooth aspen regeneration.
- Improve the forest development information system so that development records can be used to develop management information.
- Best Management Practices (BMP's) to protect water quality will be incorporated into every applicable management activity.
- Develop silvicultural systems that address old growth, old forest, biological diversity and forest fragmentation, as guidelines are developed.

### Technology Transfer

- Improve technology transfer within the Division through the use of Roots articles, field trips, management practice demonstration areas, area workshops, and distribution of information from the staff level to the field.
- Actively take part in technical workshops sponsored by other agencies and organizations both in- and out-of-state.
- Hold multi-regional or statewide silvicultural forest development workshops to facilitate information and idea transfer.
- Actively take part in and promote interagency field research focusing on regeneration problems.
- Provide continuing education opportunities relating to forest regeneration/management problems (e.g., white cedar, oak, summer harvesting aspen) by encouraging personnel to pursue advanced college degrees focusing on specific management problems in their graduate study.

### Timber Stand Improvement

- Work to improve methods of determining the need for plantation release.
- Continue work on determination of minimum acceptable stocking levels for commercial softwood species.
- Accept more within stand diversity in lieu of unnecessarily intensive plantation release programs.
- Continue to develop herbicide application systems as a management tool that meets management objectives and satisfies department policies and guidelines over the next five years.

TIMBER MANAGEMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Efficiently apply sound silvicultural practices to regenerate and improve productivity of state-owned forest lands while providing a sustained-yield of forest resources for Minnesota citizens.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total <sup>(a)</sup>	\$(000's)	4090	4000	4000	4200	4300
<b>Staffing</b> (fte = full-time equivalent)	fte	57.0	51.0	51.5	51.5	51.5
<b>Targets</b> M = 1,000						
1. Reforestation						
a. Site preparation	M acres	8.3	8.0	7.5	7.5	7.0
b. Natural regeneration	M acres	27.5	30.0	31.5	33.0	35.0
c. Seeding	M acres	4.2	4.5	4.5	4.7	5.0
d. Planting	M acres	7.2	7.0	7.0	7.0	6.5
2. Timber Stand Improvement	M acres	5.8	5.7	5.5	5.3	5.0

(a) In addition to reforestation and timber stand improvement, project funding includes funds for abandoned well sealing, erosion control structures, fencing, signing, and other forest development activity.

**NOTE:** The Forest Resource Management Act of 1982 requires that reforestation occur on an acreage equal to the acreage harvested each year. It is anticipated that industrial demand for timber will continue to increase with a concurrent increase in timber harvested from state land. Aspen will become an increasingly larger proportion of total timber harvest and natural regeneration will become an increasingly larger proportion of the timber management program. Seeding will increase somewhat over the next five years. Timber stand improvement, primarily release, will remain stable or decrease somewhat with improved site preparation techniques and increasing acceptance of within stand diversity. The proportion of hardwood reforestation and TSI will increase over the next five years.

## TIMBER SALES

### ACTIVITY DESCRIPTION

The Division of Forestry is responsible for managing the forest resources of state-owned forest lands under the authority of the Commissioner of the Department of Natural Resources as defined in Minnesota Statutes Chapter 90. The Division of Forestry Timber Sales Manual and the Timber Scaling Manual document the policy for regulating how state timber sales are administered.

Timber harvest is an important tool available for forest management. To carry out this management function the Division is authorized to sell timber from public lands. Timber sales activities include:

- A. Appraisal, sale and supervision of the harvest of timber on state lands, including special fuelwood harvesting for personal use.
- B. Timber scaling to account for all wood harvested from state land.
- C. Conducting timber sale field inspections for compliance of permit regulations.
- D. Maintain and improve the timber sale data processing system.
- E. Conduct timber sale meetings and joint planning and training sessions with other timber sellers.
- F. Development of timber sale manuals and procedures for the administration of state timber sales.

The Division uses public auction and informal permit sales to sell timber. The auction sale was originally designed for large logging operations. It enabled companies to have large operations with logging camps and many timber cutters. Mechanization has drastically changed the large operations. The logging camps are gone and few logging operations now employ more than half a dozen loggers. Most of the harvesting conducted on auction permits is now done by independent operators working independently or under contract with a forest products company.

The original auction sale law provided for a maximum appraised value of fifteen thousand

dollars per tract offered. Only one auction sale, with any number of individual tracts, was allowed per county each year. Quite often, 50 to 100 tracts would be offered at a sale and companies would purchase their needs for one or more years. Individual permits were for a four-year period and could be extended up to six more years. Today, the regular auction has a maximum appraised value per tract of twenty thousand dollars and a permit duration of three years with two one-year extensions allowed. Recent law changes now allow any number of sales to be held in a county and more than one sale may be held on the same day.

Intermediate auctions, geared for independent loggers with small cash flow, offer permits with a maximum appraised value of seven thousand dollars for a duration of one year with two possible one-year extensions. Individuals can hold up to four permits at any one time.

The informal timber permit was enacted in 1925 primarily to enable farmers and other settlers to obtain timber for their own needs and to provide them with an additional source of income. The law limited the value of a permit to fifty dollars and allowed only one permit at a time to an individual. Cutting was limited to dead or down timber.

The informal permit has undergone many changes. Today the informal permit allows the cutting of green timber, increases the monetary limit to \$3,000, and increases the number of permits that can be held at any one time to two. The duration of the permit is for one year with a one-year extension. The Division also sells fuelwood permits for personal use with a permit length of up to one year.

In the past five years, 3,465,000 cords of timber has been sold from state lands and 3,192,000 cords have been harvested, which met goals but did not exceed recommended levels of sustained management.

### GOAL

Administer the sale of timber stumpage from state-

owned lands as a means of managing state owned timber.

## STATEWIDE DIRECTION

The Timber Sales program will reexamine the Division's overall strategy for offering timber for sale statewide. It will recognize current economic trends, varying market demand and the diverse biological and resource conditions found in different regions of the state. Integrated timber harvest goals will be developed for geographic locations in coordination with county, federal, and private landowners. This will be done by better integrating the Division's timber sale and timber management planning efforts, and by considering the full array of land management activities (i.e., recreation, wildlife, roads, natural and environmentally sensitive areas) when setting up sales. Timber sales practices will be integrated with wildlife habitat needs through application of the Department's Forestry/Wildlife policy and guidelines.

Increased costs of administering timber sales are attributable to using timber sales to achieve multiple-use management goals. Administrative efficiency has improved, because Division field foresters have become more efficient in selling timber while incorporating non-timber values that are a legitimate benefit of timber sales. A major emphasis of the program over the next five years will be to implement new and/or revised timber sale procedures to continue to improve administrative efficiency and to make the state's timber sales more competitive.

## MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

### Policy and Legislation

- Conduct a thorough evaluation of the current timber sales operations to make the program more cost effective and better able to meet market demand. This would include overhead costs, policies and procedures, size of the program, market share, legal and revenue issues. In addition, timber appraisal and scaling methods should be evaluated how best to accomplish these tasks.

- Update the timber sales manual to incorporate recommended changes from the program review and from legislative action.
- Broaden and accelerate efforts to identify unique, natural and environmentally sensitive areas, to increase the awareness to visual resource impacts and develop guidelines to lessen the impact of increased timber harvest of state forest lands.
- Establish a timber sales information systems user group to help redesign and modernize the computer programs used in the sale of timber.
- Formalize policies and standards for timber sales.
- Monitor and administer timber sale laws and policies to maintain a flexible timber harvesting program.

### Marketing

- Aggressively advertise timber sales after they are put up for sale.
- Meet with industry representatives, other agencies and interested clientele to better coordinate state timber sales to meet their needs, including timing, size, species location and access.
- Involve Utilization and Marketing Program staff more in developing the annual timber sales work plan.
- Reduce sale and cutting regulations -- list only those regulations that are absolutely necessary. Post-sale treatment may have to be charged to site preparation costs and paid for accordingly.
- Study and propose legislation that will improve the marketability of state timber.
- Consider guaranteed access as a means of increasing marketability.
- Attempt to sell at least 75% of timber by auction. Informal sales will account for no more than 25% of the volume sold.

### Operations

- Implement Best Management Practices (BMP's) on every forest management activity.
- Implement new or revised timber sale procedures as necessary to improve administrative efficiency such as a computerized cost accounting system, revise timber appraisal standards, reduce sale and

cutting restrictions, update or eliminate price guide factors, and increase sales.

- Reduce workload needing the Attorney General's review or approval.
- Continue to include wildlife, old growth, visual impact, silvicultural needs, and other resource values when planning and implementing timber harvests.
- Coordinate with County and Federal governments in the sale of timber stumpage and in the development of transportation systems.
- Concentrate the implementation of harvest plans (TMPIS prescriptions) by selling stands in proximity to each other in such a manner as to minimize access development and maintenance, travel and time spent on management activities.
- Automate consumer scaling through electronic reporting.

## TIMBER SALES

## FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Administer the sale of timber stumpage from state-owned lands as a means of managing state owned timber.

	Unit of Measure	1991	1992	1993	1994	1995
<u>Budget</u>						
1. Projected total	\$(000's)	2,195	2,195	2,200	2,200	2,210
<u>Staffing</u> (fte=full-time equivalent)	fte	62.7	62.7	62.9	63.0	63.1
<u>Targets</u> M = 1,000						
1. Conduct timber sales on state land						
a. Timber reoffered	acres	7,100	6,900	7,550	7,950	8,350
	M cords	123.8	138	151	159	167
b. Timber offered <sup>(a)</sup>	acres	36,200	33,650	36,850	38,850	40,900
	M cords	618.5	673	737	777	818
c. Timber sold <sup>(b)</sup>	acres	31,350	35,300	38,650	40,700	42,850
	M cords	645.3	707	773	814	857
2. Appraise and supervise special fuelwood sales	permits	1,160	1,150	1,150	1,150	1,150
	M cords	11.7	9	9	9	9
3. Scale timber harvested on state land						
a. Division scaled	M cords	79.3	88	96	101	107
b. Consumer scaled	M cords	538.1	588	644	678	713
Total	M cords	617.4	676	740	779	820
4. Administer consumer scale agreements	agreements	90	92	94	95	95

(a) Could reduce the volume that is offered for sale.

(b) Important that we sell this volume annually.

## FISH AND WILDLIFE HABITAT MANAGEMENT

### ACTIVITY DESCRIPTION

Forests and associated waters on Division administered lands provide habitat for a variety of fish, wildlife and native plant species. Manipulation of plant communities is a key to managing for wildlife as well as timber products. Successful management for these purposes depends upon achieving the desired combination and distribution of vegetation communities.

To improve integration of DNR management practices, a Wildlife/Forestry Coordination Policy (DNR Policy #8, revised 5-3-82) and Forestry/Wildlife Guidelines to Habitat Management (MN DNR Wildlife, 1986) were developed. DNR Policy No. 8 states, "As state administered lands are to be managed for compatible multiple-use benefits, unless otherwise dedicated by law, both Divisions of Forestry, and Fish and Wildlife are jointly charged with the responsibility of achieving the goal of integrating forest and wildlife management, while recognizing other multiple-use purposes."

In response to the DNR policy directive, the Division has modified forestry practices (e.g., timber harvest, reforestation, timbers stand improvement) on lands under its jurisdiction to assure that fish and wildlife habitat is maintained or improved. Other activities the Division conducts that contribute to enhanced fish and wildlife management are: constructing openings, roads and trails; controlling wildfire; managing shrub and grass habitat; conducting prescribed burns; coordinating the Division's land administrative activities to enhance opportunities for the production of fish, wildlife and native plant species; participating in fish and wildlife improvement activities by providing personnel or other forms of support; and providing training or planning assistance to and coordination with the DNR Division of Fish and Wildlife.

The major link between forestry activities and fish habitat is the impact that specific management activities have on water quality. This link was made in 1972 through the passage of the Federal

Water Pollution Control Act which established water quality goals. The major objective of that legislation was to restore and maintain the chemical, physical and biological integrity of the nation's waters. In 1980, the Governor of Minnesota signed the Minnesota Water Quality Plan called for in the Federal Act. Subsequently, Division of Forestry cooperated with the Minnesota forestry community in the writing of a comprehensive set of forestry best management practices to protect water quality. These best management practices will be incorporated into all Division field management activities.

### GOAL

Provide forest habitats conducive to managing and protecting a variety of fish, wildlife and native plant resources compatible with forestry and fish and wildlife management objectives, site capabilities and adjacent land uses.

### STATEWIDE DIRECTION

Specific fish and wildlife management objectives may vary geographically and will be targeted at producing or protecting specific fish, wildlife and native plant communities associated with particular forest habitats. These objectives will be designated in the Division's Regional Plans.

The long-term protection of the biological diversity found on state forest lands requires the early identification and protection of rare, endangered, or unique plant and animal species habitats and sites. In response to this need, the Division is increasing its cooperative efforts with the Division of Fish and Wildlife to identify these sites. Similarly the Division is increasing its efforts to establish Scientific and Natural Areas or Natural Heritage Registry sites to assure their long term protection. The Division is also committed to retaining a diversity of forest community types in the forest land base in recognition of the varied habitat requirements of all plant and animal species found on this land base. As rare plant communities or

important geologic features are identified, the Division will take steps to protect them.

The Division's Best Management Practices (BMPs) for water protection are designed to minimize impacts on water resources. These management practices are itemized in the BMP Handbook and include directions on road design standards, timber harvesting, site preparation, pesticide application, etc. BMPs will be incorporated into all applicable field management projects.

## **MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995**

### Policy

- Continue to implement Forestry/Wildlife Coordination Policy and Guidelines in all areas of the state.
- Implement the old growth guidelines as developed by the interdisciplinary task force when approved by the commissioner that defines old growth, establishes site selection criteria and defines the amount and distribution of old growth to be retained and protected.

### Planning

- Designate, in the Division's Region Plans, wildlife, fish and plant communities to be managed on a geographic basis. Coordinate this with the Division of Fish and Wildlife's planning efforts and with local resource management efforts.
- Conduct joint planning sessions using the Timber Management Planning Information System (TMPIS) during region planning to reduce the need for additional reviews.
- Review the Division's realignment plan in conjunction with the DNR, Division of Fish and Wildlife planning efforts to identify opportunities where each division could share common data bases, administrative boundaries, and office facilities.
- Encourage joint forestry and wildlife research and planning efforts to explore ways to improve wildlife habitat while minimizing timber depredation problems.
- Coordinate Forestry, and Fisheries and Wildlife

planning at all levels to assure compatible programs and activities.

- Incorporate natural heritage database into the forestry Cooperative Stand Assessment data base.
- Cooperate with the Division of Fish and Wildlife in managing upland and lowland grass and brush ecosystems of various sizes for sharptail grouse, woodcock, moose, deer and other game and non-game species.
- Support cooperative research efforts to examine the effects of even-aged, short rotation, single species timber stands on wildlife.
- Cooperate with other DNR disciplines and agencies in developing an ecological land classification and mapping system.

### Training

- Train Division personnel in fish and wildlife habitat management practices and in managing woody shrubs.
- Cross train personnel between DNR Divisions of Forestry, and Fish and Wildlife by sending Forestry personnel to Division of Fish and Wildlife training programs and Wildlife personnel to Division of Forestry training programs.
- Plan prescribed burns for wildlife habitat through joint meetings with wildlife managers. Provide training on the Department's Prescribed Burn Policy - Operational Order #47.
- Provide information to wildlife managers and foresters on dealing with wildlife depredation on timber regeneration.
- Endangered Species training.

### Management

- Develop brochures, slide shows and other media to inform the public of the Division of Forestry's role in enhancing fish and wildlife habitat.
- Actively pursue support for the Division's fish and wildlife enhancement activities from forest user groups through talks at club meetings and articles in outdoor publications.
- Set up wildlife habitat improvement demonstration areas. Solicit volunteer support to complete these projects.
- Participate in establishing Scientific and Natural

Areas and Natural Heritage registry sites where rare resources and plant communities worthy of protection have been identified.

- Continue field efforts to improve habitat management to enhance opportunities for the production of fish, wildlife and native plant species.
- Resolve conflicts regarding wildlife depredation of timber regeneration and agricultural crops.
- Inform forest users of the Division's efforts to enhance fish, wildlife and native plant management.

FISH & WILDLIFE HABITAT  
MANAGEMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Provide forest habitats conducive to managing and protecting a variety of fish, wildlife and native plant resources compatible with forestry and fish and wildlife management objectives, site capabilities and adjacent land uses.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total <sup>(a)</sup>	\$(000's)	400	400	400	405	405
<b>Staffing</b> (fte = full-time equivalent)	fte	4	4	4	4	4
<b>Targets</b>						
1. Aspen recycling <sup>(b)</sup>	acres	400	300	300	200	200
2. Shrub management	acres	200	200	200	200	200
3. Participate in special nongame projects	projects	As opportunity and needs arise				
4. Conduct prescribed burn-- <sup>(c)</sup> wildlife management (RIM)	acres	26.5	26.5	27.0	27.0	27.0

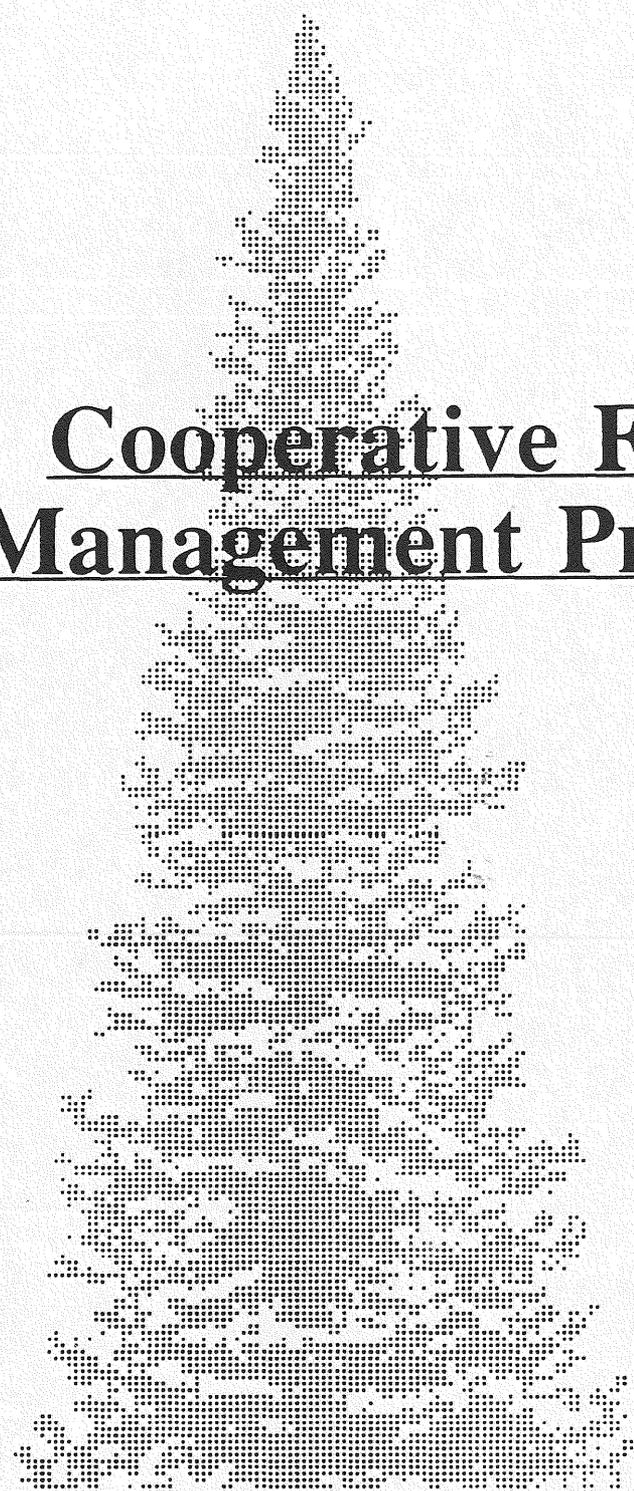
(a) Project funding for this program has come from the Reinvest in Minnesota (RIM) bonding fund. The five-year action plan is based on the level of spending for F.Y. 91. Actual accomplishments for the remainder of the five-year period will depend on legislative appropriation of RIM bonding funds.

(b) The need for aspen recycling has declined substantially with the surge in industrial demand for aspen. Only badly deteriorated, non-merchantable stands are now being recycled.

(c) Most of the wildlife management-prescribed burning is for the maintenance of grass and shrub types on WMA lands.

**SPECIAL NOTE:** This section only contains action plans for RIM-funded activity. Fish and wildlife management practices and considerations are incorporated into all timber management activities according to DNR Policy #8 and the Forestry-Wildlife Habitat Management Guidelines.

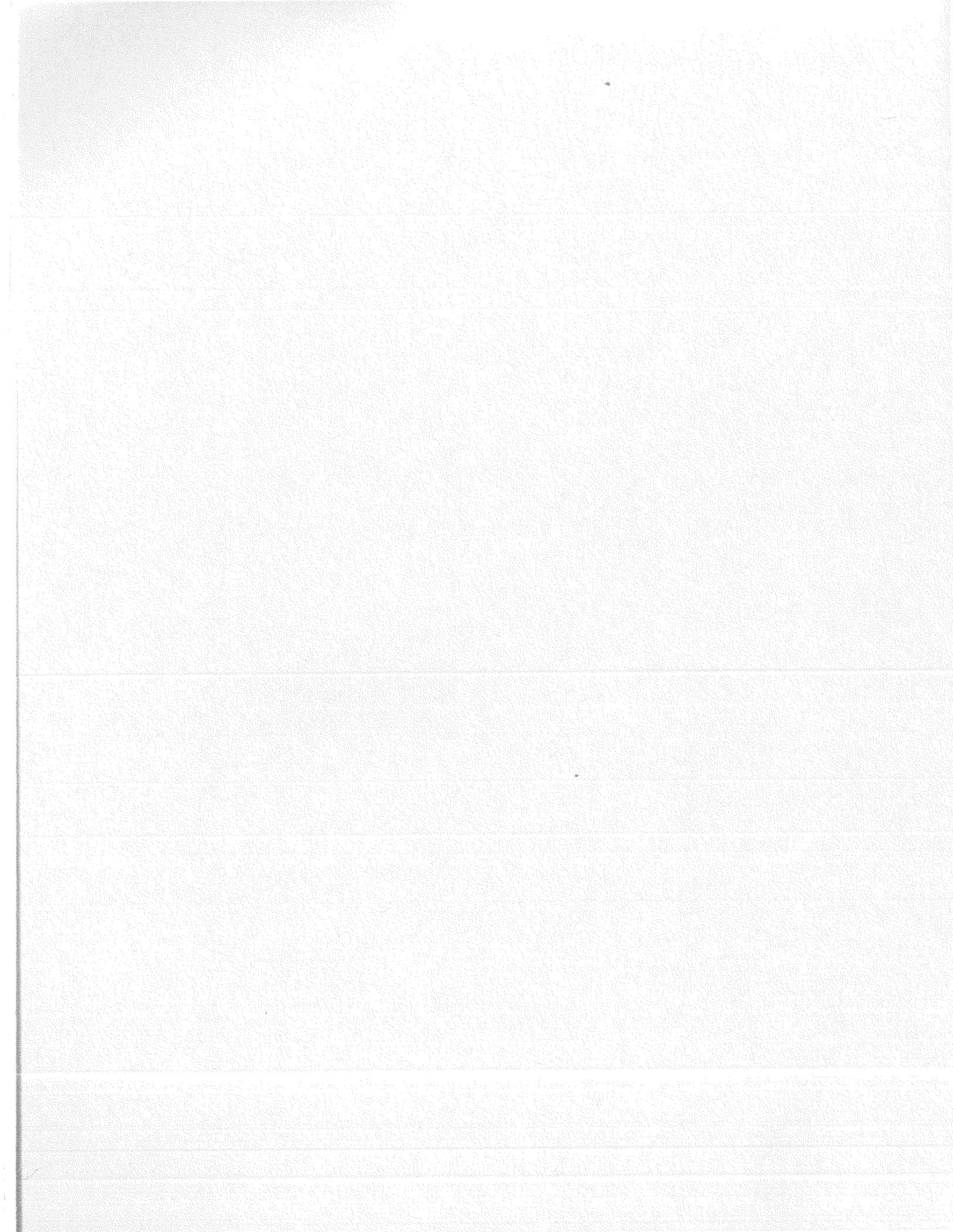




Cooperative Forest  
Management Program

MINNESOTA FOREST  
RESOURCES PLAN





## PRIVATE FOREST MANAGEMENT (PFM)

### ACTIVITY DESCRIPTION

Approximately 5.6 million acres (41 percent) of all of Minnesota's commercial forest land is in private ownership. These acres are owned by nearly 130,000 individuals with widely varied land management interests and objectives. The potential productivity of these lands typically is greater than the average for other forest ownerships in Minnesota, and they are capable of providing a diversity of resource benefits. Therefore, it is important that the Division provide the technical assistance needed to ensure the continued management and productivity of these lands.

Typical PFM activities include: 1) Promoting forest management on non-industrial private forest (NIPF) lands through personal contacts with landowners and the use of the media; 2) Providing landowner education opportunities by conducting and sponsoring workshops, adult education classes, tree planting clinics, and forestry field days; 3) Developing multiple-use management plans for individual landowners; 4) Providing technical assistance for specific recommended practices such as tree planting and timber stand improvement; and 5) Providing utilization and marketing assistance associated with timber harvesting.

### GOAL

Improve and increase the multiple-use forest resource management of non-industrial private forest lands in a way that is cost-effective to the Division, consistent with Departmental policies and complementary of other governmental and private efforts.

### STATEWIDE DIRECTION

An increased awareness of the environment is expected to bring extra attention and funds to the PFM program. Much of this will be directed through the Federal Stewardship Initiative. This program requires comprehensive planning and implementation to achieve a variety of natural

resource products that optimize the potential of the land. Single products and/or species must be considered in context of the overall ecosystem. A 30 percent increase in management plan activity is expected because of the Stewardship Initiative. Close inter-agency cooperation will be necessary to achieve this initiative. This inter-agency cooperation will be a hallmark of the program.

It must be noted that while plan preparation is necessary and useful, it is not the end goal of the PFM program. Implementing the recommendations of the plans in on-the-ground accomplishments is the mission of the program.

The Federal Conservation Reserve Program (CRP) may be modified to promote tree planting. If so, the level of planting may continue at 20,000 acres per year. The Stewardship Initiative will also increase tree planting.

Another potential large program affecting the PFM program is the "America the Beautiful" program. The impact on the Division is unpredictable until more about the program is known. Most of this work will be tailored to community forestry.

The Division will also continue to assist in private timber sales and will continue to encourage increased participation by consultants that emphasize a full range of forest resource benefits.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Expand public knowledge and awareness of forestry and its importance to Minnesota.
- Increase professional resource manager's knowledge and commitment to managing from the perspective of the ecosystem thereby providing an optimum variety of products for society without impairing long-term ecosystem productivity and diversity.
- Target assistance to landowners who demonstrate commitment to managing their lands. The level of plan detail must reflect the resource potential and the landowner's needs. Recognize

- differences between regions and adjust type of service provided to best suit needs.
- Actively promote the use of DNR disciplines that reflect other forest values, consulting, industrial and other private foresters in managing private forestlands.
  - Promote holistic management on private lands by involving other DNR disciplines that reflect other DNR values and interests.
  - Minimize the conversion of non-industrial private forest (NIPF) lands to non-forest uses.
  - Coordinate the PFM services so that they complement those provided by other DNR divisions, industry, consulting foresters and forestry vendors.
  - Use increased environmental awareness, form stronger alliances with those who share an interest in NIPF forests and/or overall environmental concerns.
  - Promote changes in the current property tax system to encourage increased management of NIPF lands.
  - Expand the system requiring NIPF landowners to pay for services for which they receive significant benefit (i.e., timber sales).
  - Integrate NIPF management planning into the development of Regional Forest Management Plans and other local planning efforts.
  - Identify and promote the use of private consultants for special temporary projects that focus on specific products or objectives.
  - Include other governmental agency personnel and private consulting and industrial foresters in PFM-related training sessions.
  - Promote the use of Best Management Practices (BMP's) on private lands to ensure water quality is maintained.

#### TARGETS FOR F.Y. 1991-1995

- Form a closer alliance between the Division and various statewide PFM-related forest user groups.
- Provide information and support as needed to promote the Stewardship Initiative.
- Rewrite the present PFM service and PFM timber sales policies, to combine them into a single, comprehensive PFM program policy. Include revisions in the fees charged for PFM services.

- Provide information and support necessary to pass legislation regarding changes in forest property taxation.
- Streamline the paperwork needed to operate an effective PFM program.
- Develop an improved "Stewardship" format for landowner management plans to replace current format for comprehensive plans and brief plans that cover more than one activity.
- Establish management guidelines regarding the involvement of the DNR Division of Fish and Wildlife in the preparation of forest management plans and other aspects of the PFM program.
- Continue adoption of local agreements between Soil and Water Conservation Districts (SWCD) and Area Forestry offices. Where significant local matching funds are available, use SWCDs to increase effectiveness of the PFM program.
- Participate in the implementation of a computerized tracking system for PFM cooperators and their forest resources.
- Establish closer working relationships with Resource Conservation and Development (RC&D) Committees through the joint funding of an RC&D forester position and through cooperative projects.
- Streamline paperwork while improving the interdisciplinary framework needed to operate the PFM program and provide tools needed to efficiently provide PFM service in the field.
- Support increased commitment of cooperating disciplines and agencies necessary for the success of an increased PFM program.
- Continue to promote the American Tree Farm Program to promote good forest management on private lands.
- Increase the role of private sector vendors by increasing targets for referrals to private consultants.

PRIVATE FOREST  
MANAGEMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Improve and increase the multiple-use forest resource management of non-industrial private forest lands in a way that is cost-effective to the Division, consistent with Departmental policies and complementary of other governmental and private efforts.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total	\$(000's)	1,456	1,600 <sup>(a)</sup>	1,600 <sup>(a)</sup>	1,750 <sup>(a)</sup>	1,750 <sup>(a)</sup>
<b>Staffing</b> (fte = full-time equivalent)	fte	36	36	36	40	40
<b>Targets</b> M = 1,000						
1. Field assists	M assists	6.1	8.5	8.5	8.5	7.5
2. Stewardship plans	plans	560	600	600	600	600
	M acres	50	54	54	54	54
3. Natural regeneration	M acres	7.7	7.7	7.7	8.5	8.5
4. Total tree planting	M acres	15	8	8	8	8
5. Timber stand improvement	M acres	2.3	2.3	2.3	2.3	2.3
6. Recreation improvement	M acres	5.9	5.9	5.9	6.5	6.5
7. Habitat improvement	M acres	16.1	16.1	16.1	17.7	17.7
8. Timber sales	sales	400	400	420	440	440
	M acres	10	11	12	13	13
9. Watershed protection	M acres	5	5	5	5	5

(a) Includes expected acceleration of \$250,000 for Stewardship Initiative, but does not include possible increases from America the Beautiful Program. FTE expected to remain nearly even due to increased use of contractors.

## URBAN AND COMMUNITY FORESTRY

### ACTIVITY DESCRIPTION

The Division of Forestry has a long history of providing urban and community forestry assistance to Minnesota communities. In the late-1970's, a formal Urban Forestry Program was established in the Division including the federal Dutch Elm Disease Demonstration Program. At this time, the Dutch elm disease was a relatively new and serious threat and it served as the nucleus around which various local and state programs were formed. Among them was the Shade Tree Program administered by the Department of Agriculture and the Urban Forestry Program administered by the DNR, Division of Forestry.

Cuts in state and federal funding for these programs were experienced in the early-1980's due to budgetary limitations. The Division's Urban Forestry Program was regarded as a necessary component of the Division's operations and, therefore, was retained (at a reduced level) despite substantial budget reductions. Throughout the 1980's, the Division continued to provide technical forestry assistance, primarily insect and disease related assistance, to urban residents and their communities. In 1989, the Division published and distributed a "Community Forestry Resource Directory" containing a comprehensive listing of urban and community forestry practitioners by location, various sources of advice and assistance, and a current bibliography of reference materials. Also, the Division continued to extensively promote Arbor Day throughout Minnesota, recognizing the importance that this day has in building public awareness and appreciation for trees and forests.

### GOAL

Maintain a proactive and comprehensive approach in urban and community forestry assisting Minnesota communities with the management of their urban vegetation through cooperation with other governmental agencies, volunteer organizations, and private citizens, so that the environmental, psychological, social and economic well-being of these communities is enhanced.

### STATEWIDE DIRECTION

The Division has established an Accelerated Community Forestry Assistance Program as part of a statewide multi-agency effort to improve the management of Minnesota's urban and community forests. The four main objectives of this program pertain to training, technical assistance, public awareness and coordination.

The first objective is to provide the training necessary to improve the understanding, management and protection of community forests. This training will be provided to foresters, municipalities, community leaders, contractors, developers and others involved in making decisions that affect their community forests.

The second objective is to expand and improve the technical assistance provided to local communities and individuals. Local DNR Foresters will be trained to provide much of this assistance including tree inventories, management planning, ordinance development, local program budgeting, and tree planting and maintenance techniques. These Foresters will also advise communities on wood waste utilization and disposal, and make recommendations to local land-use planning and zoning committees regarding community forestry matters.

The third objective is to increase the public's awareness of the economic value, ecological and social benefits, and needs of community forests. This is to be accomplished by expanding existing programs such as Arbor Day celebrations, increasing the number of TREE CITY USA participants, and identifying needs for informational and educational materials and supporting their development.

The fourth objective is to increase interagency coordination to improve program efficiency and responsiveness to the needs of the resource. Specifically, one action to accomplish this objective will include conducting a statewide survey of communities to better assess their needs and how

they might be met.

In development are cost-share programs to assist communities in various urban forestry activities including conducting inventories, developing management plans, establishing municipal tree nurseries; and, planting trees for energy conservation that includes funding support from local power companies. Also being developed is an informational brochure on construction damage to trees that is intended to inform a wide audience about these problems.

Planning for the future of the Division's urban and community forestry efforts will continue in cooperation with key actors and agencies involved in urban and community forestry activities statewide. Efforts will be made to identify the appropriate role and responsibilities of the Division in relation to other public and private sector providers of urban and community forestry services.

#### **MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995**

- Implement Cost-Share Programs for (a) Community Forestry Assistance Program, and, (b) Energy Conservation Tree Planting.
- Implement MINNESOTA RELEAF program coordinated with American Forestry Association.
- Determine and implement state's role in the "America the Beautiful" Program.
- Develop programs/publications to increase public awareness of urban and community forestry including articles for publication in various magazines, newsletters, etc.
- Promote TREE CITY USA program through community contacts; establish goal of 100 communities by 1995.
- Organize and sponsor a statewide Urban and Community Forestry Conference.
- Identify Division internal training/education needs related to urban and community forestry (e.g., develop urban and community forestry handbook).
- Provide forestry personnel with the training and information needed to directly assist communities.
- Cooperate in sponsoring Arbor Day/Arbor

Month events with other agencies, organizations and units of local government.

- Work with other agencies in developing information and educational materials for distribution to public (emphasis on construction damage to trees).
- Continue distribution of Community Forestry Resource Directory (update as necessary).
- Assist local communities in developing tree inventories, management plans, ordinances, planting plans and forestry program budgets.
- Advise communities on tree maintenance, tree planting and wood waste utilization or disposal methods.
- Coordinate urban and community forestry activities with public and private sector interests.
- Promote urban and community forestry input into local land use planning and zoning activities.
- Cooperate with other agencies and organizations to provide the necessary training for local housing and right-of-way developers to minimize damage to the urban forest environment.
- Promote the use of Best Management Practices (BMP's) in urban areas to ensure water quality is maintained.

**GOAL:** Maintain a proactive and comprehensive approach in urban and community forestry assisting Minnesota communities with the management of their urban vegetation through cooperation with other governmental agencies, volunteer organizations, and private citizens, so that the environmental, psychological, social and economic well-being of these communities is enhanced.

	Unit of Measure	1991	1992	1993	1994	1995
<b><u>Budget</u></b>						
1. Projected total	\$(000's)	320	400	450	450	450
<b><u>Staffing</u> (fte = full-time equivalent)</b>						
	fte	4	6	8	8	8
<b><u>Targets</u></b>						
1. Individual Assists	assists	766	1000	1100	1200	1300
2. Community Assists	assists	182	300	400	400	500
3. Focus and special projects	projects <sup>(a)</sup>	9	5	5	5	5

(a) Names of projects: Community Forestry Cost-Share Assistance Program, Planting Trees for Energy Conservation, Minnesota Releaf, "America the Beautiful"- National Tree Planting Initiative

## COOPERATIVE COUNTY FOREST MANAGEMENT

### ACTIVITY DESCRIPTION

The Cooperative County Forest Management (CCFM) program, formerly the County Assistance Program, was established in the 1940's under the Iron Range Resources and Rehabilitation Board to assist northern counties in managing large parcels of tax-forfeited land. In 1978 CCFM was transferred by Executive Order to the DNR. Its primary function was to assist county land departments with managing and administering approximately 2.8 million acres of tax-forfeited forest lands.

Until 1985, 10 county assistance foresters provided direct assistance to eight counties active in the program (Aitkin, Becker, Beltrami, Clearwater, Crow Wing, Itasca, Lake and St. Louis) under a cost-sharing matching agreement. Direct assistance has been discontinued in favor of a cooperative approach to assisting counties. No full-time staff remain active in the program.

Region, area and district forestry personnel currently provide requested assistance on land transactions, administrative issues, forest inventory, ownership mapping, and aerial photo interpretation. Financial support is also made available to carry out reforestation, timber development and forest road projects. Division efforts concentrate on channeling financial support and/or technical services through ongoing Division programs rather than through direct staff support.

### GOAL

Support and assist efforts to intensify the multiple-use, sustained-yield management of county tax-forfeited forest lands.

### STATEWIDE DIRECTION

The restructured Cooperative County Forest Management program will pursue the complementary integration of county and state staff, programs, resources and goals to maintain and improve the quality of Minnesota's forest resources.

The historical role of the Division in providing forest fire protection, seed and seedling production, insect and disease control and forest inventory for county programs will be maintained. Identification of new interactions or means of assisting counties in managing forest lands will be pursued.

Where statutory responsibilities allow flexibility, the regulatory role of the Division in relation to county programs will be de-emphasized in favor of an advisory role. However, in counties without established Land Departments the division carries responsibility for assistance in directing forest management activities on tax-forfeited lands. The oversight for statutory responsibilities has been decentralized to allow greater interaction between state and county field staffs. Routine projects and problems will be dealt with locally by the Division's Area Forest Supervisors. Specialized assistance will be provided upon request.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Administer state and federal grants earmarked for county resource management and development.
- Conduct joint state/county training exercises and personnel development workshops.
- Make available adequate forest tree seedlings for county reforestation projects.
- Cooperate with counties in effectively using and maintaining forest inventory information.
- Assist counties in using the Division's Timber Management Planning and Information System (TMPIS).
- Conduct joint state/county meetings (i.e., stumpage price review) to regularly exchange expertise and information.
- Carry out cooperative projects (i.e., prescribed burns, road development) and engage in cooperative project planning at the local level.
- Encourage active involvement of County Land Departments in the Division's ongoing MFRP and Regional planning processes.
- Support the development of a more stable

funding source for tax-forfeited land management.

- Clarify and revise, as necessary, laws governing the relationships between the Division and County Land Departments.
- Provide direct assistance to counties without an organized Land Department.
- Conduct temporary personnel assignments to accomplish special projects or training.
- Develop cooperative agreements with individual counties as necessary to meet joint needs.
- Execute statutory responsibilities for the review of tax-forfeited land sales.
- Assist in determining Tree Growth and Auxiliary tax rates.
- Encourage joint state-county goal-setting and problem-solving sessions.

COUNTY COOPERATIVE  
FOREST MANAGEMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Support and assist efforts to intensify the multiple-use, sustained-yield management of county tax-forfeited forest lands.

	Unit of Measure	1991	1992	1993	1994	1995
<b><u>Budget</u></b>						
1. Projected total	\$(000's)	132.0	132.0	132.0	132.0	132.0
<b><u>Staffing</u></b> (fte = full-time equivalent)	fte	3.0	3.0	3.0	3.0	3.0
<b><u>Targets</u></b> M = 1,000						
1. Administer county grants	state grants	14	14	14	14	14
	road grants	14	14	14	14	14

## FOREST PEST MANAGEMENT

### ACTIVITY DESCRIPTION

Insects, diseases and weed competition are the major causes of growth loss and mortality in Minnesota forests. The activities of pests such as the spruce and jack pine budworms, white pine blister rust, hypoxylon canker of aspen, dwarf mistletoe, oak wilt, bronze birch borer and wood decayers result in the loss of about one-half of the annual forest growth in the state. Weed competition in forest plantations restricts the establishment of forest stands following harvest, hampering forest management intensification efforts.

The Division of Forestry is charged by state law with controlling forest pests on public, municipal and private lands within Minnesota. The Division provides forest protection assistance to nursery managers, Christmas tree growers, non-industrial and industrial landowners, urban, municipal, county and state forest managers. Previously, the program concentrated primarily on state-administered forest lands. Emphasis is needed in nursery, tree improvement, urban, private and county forest pest management but is restricted by staffing capabilities. Pest management techniques must be practical, economical and efficient. To insure this, the Division must focus its efforts in pest management to the regeneration or restructuring of stands that reduce the potential loss to pests.

### GOAL

Provide efficient forest resource protection from insects, diseases and competing vegetation to reduce productivity constraints and losses.

### STATEWIDE DIRECTION

The Forest Pest program will concentrate on assisting the Division's regeneration programs from seed to plantation. The combined activities of pest survey, risk rating of stands, developing management guidelines and training will be used to provide public and private foresters with the tools to implement integrated pest management programs. This will include active involvement in the design

and implementation of suppression projects (e.g., oak wilt control). Continued staffing limitations will require a greater reliance upon field foresters for basic survey and monitoring information. Hazard tree management in recreational sites will be a major issue in the future. Implementing a department hazard tree policy will require significant field staff involvement and resources. Pest management activities must be directed toward the most productive forest lands. Urban pest issues will be a continuing source of demand for assistance. The threat of gypsy moth introduction and establishment in Minnesota will significantly increase during this planning period and require an active interagency educational program to address public awareness and participation in addressing the problem.

Pest control practices on DNR-administered lands will employ integrated pest management techniques and priority will be given to non-chemical management alternatives. Commitment to the implementation of the Forest Herbicide Mediation goals will be maintained. The Division needs to continue evaluating its use of herbicides, develop better application systems and assess on-site effectiveness in relation to its management goals.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Participate in a national forest health monitoring system to assess long term changes in forest health.
- Initiate and support an urban oak wilt control program based at the municipal level.
- Support the implementation of new regional standards for pest impact assessment within the National Forest Inventory and Assessment System (FLA) permanent plots. Provide training and written support materials to state and federal crews.
- Develop and provide technical guidance to the implementation of a hazard tree management policy and program on state recreational lands.
- Restructure pest survey guidelines to produce information compatible to GIS systems. Develop and promote management techniques which

- reduce the need for broadcast chemical application.
- Develop a long range management plan for gypsy moth.
  - Develop a quantitative (field-oriented) system for determining the need for herbicide use.
  - Analyze and develop effective control programs for Minnesota pests. Integrate forest pest management techniques into forest nursery production and forest management practices.
  - Evaluate the effectiveness of prescribed pest management techniques and control strategies.
  - Maintain cooperative relationships with public and private agencies to ensure an open exchange of pest management information.
  - Cooperate with the U.S. Forest Service in surveillance monitoring and evaluation of regional (multi-state) and national forest pest problems.
  - Cooperate with the Minnesota Department of Agriculture to monitor and control the introduction or expansion of the gypsy moth within Minnesota.
  - Conduct surveys and investigations to determine the presence and monitor the levels of infestations of forest pests and evaluate the damage or potential for damage they cause.
  - Develop pest management guidelines and control strategies for each major timber type in Minnesota; integrate these guidelines into management practices through the unit planning process.
  - Maintain up-to-date expertise in forest pathology, entomology, silviculture, vegetation management and the use of pesticides through continuing education opportunities.
  - Provide training for public, industry, private and urban forest managers in pest management techniques and their integration into forest management practices.
  - Provide technical review of forest development proposals using pesticides to insure their safe, effective and economical use.
  - Promote the use of Best Management Practices (BMP's) during pest control activities to ensure water quality is maintained.

PEST MANAGEMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Provide efficient forest resource protection from insects, diseases and competing vegetation to reduce productivity constraints and losses.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total	\$(000's)	460	600	655	700	765
<b>Staffing</b> (fte = full-time equivalent)	fte	7	8	8	9	9
<b>Targets</b> M = 1,000 MM = 1,000,000						
<b>State-Federal Cooperative Targets</b>						
1. Conduct surveys and investigations to determine presence of forest pests and evaluate damage or potential damage	MM acres	11	10	10	10	10
<b>Integrate Pest Management Principles with Forest Management Activities</b>						
2. Conduct risk and hazard rating of Minnesota's forest lands	M acres	674	700	700	700	700
<b>Surveys, Evaluations, and Research</b>						
3. Monitor major pest populations	pheromone traps	2100	1500	1000	1000	1000
4. Publications for information transfer	publications	60	65	65	70	70
5. Conduct special projects to develop management strategies by studying biology, impact and/or possible control practices	projects	14	15	16	17	20

## FOREST SOILS

### ACTIVITY DESCRIPTION

The productive capacity of forests is mainly defined by the physical and chemical characteristics of the soil. Soil and landform relationships directly influence the capacity of the land to provide for an optimum mix of such public benefits as timber, wildlife habitat, and high quality water resources.

The Division is charged by the Forest Resource Management Act of 1982 with managing the state's forest land according to principles of multiple-use and sustained-yield. Yield of timber products (type, quantity and quality) varies across the state depending on the productive capacity of the land. This capacity is determined by climate, landform, and soils but is modified by insects, diseases, and past disturbances. Improving the Division's understanding of the relationships between climate, landform, soils and forest community dynamics is the major benefit from the forest soils program efforts. Understanding these relationships is essential for evaluating resource management options, concentrating intensive timber management on the most productive forest land, and minimizing negative impacts on land and water.

Funding for the forest soils program was provided by the LCMR during the 1982-1983 biennium. The Forest Resource Management Act of 1982 reinforced legislative support for this program by instructing the Commissioner of Natural Resources to include three forest soil and hydrology specialist positions in the 1984-1985 Department budget. The Division currently has one full-time soils specialist in each of Regions I, II and III, and a soil scientist as program manager in St. Paul.

The forest soils program provides forest soil interpretations to land managers to assist in the statewide forest management programs.

The major activities of the forest soils program include:

- A. Conducting site specific field examinations to identify and interpret the impact that different landforms and associated soils

have

on forest productivity and management activities.

- B. Providing technical evaluations and assessments on environmental issues related to forest management.
- C. Integrating soil management principles into silvicultural practices.
- D. Providing recommendations for road construction and reconstruction projects.
- E. Providing training in the use of soil surveys, forest management supplements to the county soil surveys, and field identification of site characteristics (soils, vegetation, landforms).
- F. Providing assistance in regional planning efforts.
- G. Assisting other divisions and agencies in collecting soil baseline and interpretive data.
- H. Assisting Department wide efforts to develop an ecological classification system of public forest lands.
- I. Locating gravel deposits and aggregate resources for road construction and maintenance.

### GOAL

Enhance forest resource management and maintain site productivity through the application of technical landform, soil and vegetation information.

### STATEWIDE DIRECTION

The forest soils program will be administered to obtain the dual objectives of integrated resource management and protection of the soil and water resources. Major emphasis will be on evaluating sites based on landform/soil/vegetation relationships; then applying this information to field forestry site management decisions. Increased public demands for environmental protection will influence how resource management activities are carried out.

Specific site evaluations, identification of productive landforms and soils, use of soil surveys, training and information transfer to field foresters will be

used to facilitate land use decision making in the regional planning process. These activities will aid in evaluating the suitability of forest land for other proposed uses. Development and use of soil surveys and forest management supplements to the county soil surveys will be enhanced by continued participation in the Minnesota Cooperative Soil Survey.

#### MAJOR STATEWIDE STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Provide site-specific evaluation and analysis before initiating management activities.
- Integrate soil/landform concepts into forest management practices from the planning phase to harvesting and regeneration.
- Participate in educational efforts to facilitate implementation of BMPs by all disciplines and Division's that operate on DNR forested lands.
- Assist public and private forest managers to focus resource management efforts and target investments to the most productive sites.
- Assist regional planning by developing management goals and direction based on land capability.
- Develop forest management supplements to the county soil surveys.
- Provide training for forest managers to assess site characteristics to aid in making management decisions.
- Standardize and automate soil/landform /vegetation data collection methods and reporting procedures.
- Develop and test a hierarchical ecological classification system based on climate, landform, soils and vegetation.
- Provide review and evaluations of documents and reports produced as part of the generic environmental impact statement on expanded timber harvesting.
- Maintain activities with the Minnesota Cooperative Soil Survey to enhance the quality, accuracy and utility of soils information as related to forest management.
- Provide analysis of gravel resources and long term need.

FOREST SOILS

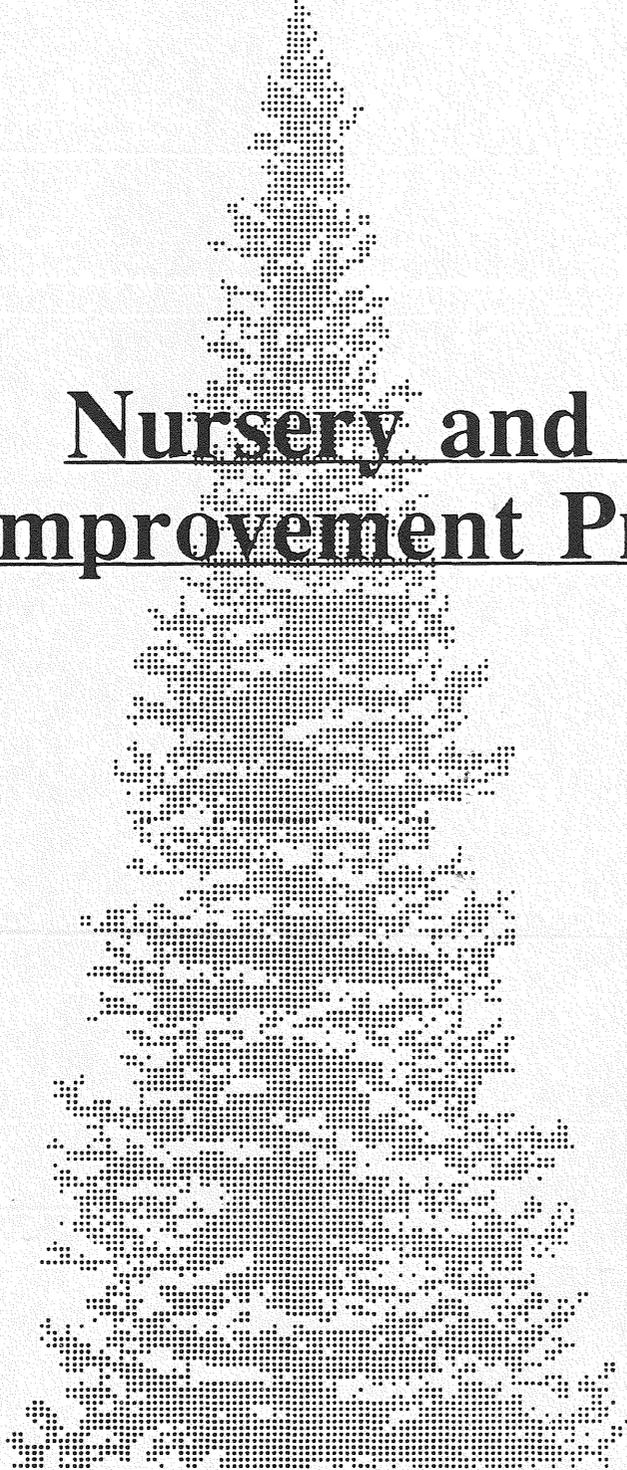
FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Enhance forest resource management and maintain site productivity through the application of technical landform, soil and vegetation information.

	Unit of Measure	1991	1992	1993	1994	1994
<b>Budget</b>						
1. Projected total	\$(000's)	160	190	190	180	175
<b>Staffing</b> (fte = full-time equivalent)	fte	3.3	3.3	3.3	3.3	3.3
<b>Targets M = 1,000</b>						
<b>Forest Soil Interpretation and Management Assistance</b>						
1. Forest management project review						
a. state land	M acres	3.5	4.0	4.0	4.5	5.0
b. private land	M acres	.7	.5	.5	.5	.5
2. Identification of potential gravel deposits	projects	8	8	8	8	8
3. Review of soil mobile pesticide projects	% of total	100	100	100	100	100
<b>Information and Education</b>						
4. Soil workshops	workshops	10	10	11	12	12
5. Develop soil survey supplemental publications	supplements	4	4	5	5	5
<b>Minnesota Cooperative Soil Survey Targets</b>						
6. Collect forest productivity and other interpretive data for major soil units	plots	17	19	20	20	20
<b>Special Projects</b>						
7. Focus or special projects	projects <sup>(a)</sup>	10	10	12	13	14

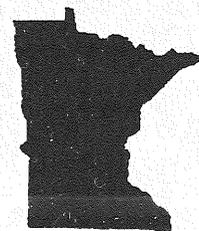
(a) Names of projects: Vegetation competition study, DNR - U of M cooperative aspen harvest & regeneration study, region planning, Itasca State Park vegetation management, BMP implementation, soil survey digitization, ecological classification system development





Nursery and Tree  
Improvement Program

MINNESOTA FOREST  
RESOURCES PLAN





## NURSERY AND TREE IMPROVEMENT

### ACTIVITY DESCRIPTION

The Division is one of the largest producers of forest tree and shrub seedlings in the Northeastern United States. Since the Division provides the bulk of the planting stock used on lands in Minnesota, it is responsible for distributing the best possible planting materials to insure the effectiveness of planting programs. This requires an aggressive genetic tree improvement program. Genetic improvement of forest trees is a widely accepted, economical, and effective tool for increasing the survival of seedlings, and the productivity and quality of plantings.

The Forest Resource Management Act also requires submission of a Nursery and Tree Improvement Plan to the State Legislature describing the benefits and costs of making the Nursery and Tree Improvement Program self-supporting. This plan was completed and submitted to the Legislature in early 1983. The nurseries became self-supporting in F.Y. 1985.

The primary functions of the Nursery and Tree Improvement Program are divided into three major categories: nursery operations, tree improvement, and marketing.

#### A. Nursery Operations

Nursery Operations are a combination of seed procurement, seedling production, and seedling distribution. Seed procurement is based on the anticipated regeneration needs of state, county, and private forest lands. These same needs also determine the levels of seedling production. Seedlings are then sold to over 4000 customers statewide.

Nursery operations also coordinates grower contracts and distribution of containerized seedlings for use on state forest lands.

#### B. Tree Improvement

Tree improvement combines silviculture with tree breeding to increase forest productivity. It can be as basic as avoiding dysgenic selection (high grading). By favoring the better quality trees in a stand, foresters can maintain, and often improve the

genetic quality of the stand. At the intermediate level, tree improvement is seed source control. Almost without exception, seeds collected from a local source will survive and grow better than non-local sources. At a higher level, tree improvement involves plus tree selection, cloning, establishment of seed orchards, progeny testing, selective breeding, and production of superior clones.

#### C. Marketing

Seedlings are sold on availability. The cost of seedlings is determined by availability and the cost of nursery operations and tree improvement activities. Periodic statewide news releases are made to inform land owners and planters of seedling availability. Future needs of the Division, County and private sector are evaluated to determine nursery production goals.

### GOAL

Economically produce forest regeneration material of the highest genetic and biological quality in the quantity needed for environmental programs.

### STATEWIDE DIRECTION

Program activities during the next five years will focus on the following:

- A. Seeding and cultural changes necessary to meet demands of state and federal environmental programs. This includes determining needs, ordering seedlings, and distributing seedlings.
- B. Acquire and develop a tract of land to serve as a centralized, production-oriented seed orchard complex.
- C. Expand distribution of nursery information.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

#### Primary Objectives

- Implement a contract for lifting and packaging seedlings.

- Explore and implement methods to improve the logistics of seeding distribution.
- Meet the increasing demands for seedlings created by special environmental programs such as: Reinvest in Minnesota, and America the Beautiful.
- Implement the revised Tree Improvement Plan for the Minnesota DNR.
- Improve coordination of the Tree Improvement Program with other Division programs.
- Continue participation in and support for state and regional cooperative tree improvement programs.
- Promote environmental programs and sound resource management.

#### Nursery Operations Objectives

- A. Improvements in nursery operations
- Explore and implement improved nursery techniques (seed source control from extraction through planting, lifting methods, and storage systems).
  - Expand seed collection networks.
  - Link field survivability results to stock quality (reports to Nursery).
  - Improve containerized stock contracts.
  - Improve nursery/field coordination concerning containerized stock needs and timing.
  - Make lifting operations weather independent.
- B. Improve cultural management
- Make adjustments in cultural practices for specific species.
  - Increase production periods for specific species.
  - Change cultural practices for increased hardwood production for state and federal environmental programs.
- C. Increase coordination with and education of user groups
- Educate the consumer on proper stock handling, care, and storage.
  - Encourage notification of stock quality upon receipt.
  - Coordinate production and distribution of Arbor Day material with the Division Public Affairs Specialist and other involved program supervisors.

- Encourage increased production by private nurseries.

#### Tree Improvement Objectives

- A. Implement revised Tree Improvement Plan for the Minnesota DNR
- Adjust species priorities as needed.
  - Intensify management of tree improvement projects.
  - Develop central seed orchard production facility.
  - Create and staff tree improvement technician position.
  - Provide program funding through surcharge on seedlings sold by Nursery Program.
- B. Coordinate tree improvement program activities with other Division programs
- Identify roles and responsibilities in the management of tree improvement projects.
  - Coordinate tree improvement program activities with nursery operations.
  - Represent tree improvement program at Division workshops and meetings.
- C. Continue participation and support for cooperative tree improvement
- Minnesota Tree Improvement Cooperative
  - North Central Fine Hardwoods Tree Improvement Cooperative
  - University of Minnesota, Institute of Paper Science and Technology, Aspen/Larch Genetic Improvement Cooperative

#### Marketing Objectives

- A. Expand marketing activities
- Expand distribution of nursery and tree improvement information by way of news media (newspaper, radio, billboards).
  - Accommodate public agencies, such as the Division of Fish and Wildlife, with specialized tree orders.
  - Identify guidelines for custom ordering procedures.

- Develop alternative seedling ordering procedures.
  - Explore legislative and legal opportunities for expanding sales.
- B. Increase the accuracy of regeneration material needs forecasting
- Increase coordination of forecasting with Private Forest Management Program, Timber Management Program, county forestry, and other user groups.
  - Work with county land departments to develop long-term contracts.
  - Promote use of long-term contracts.
  - Implement contract alterations as written in the 1983 Nursery and Tree Improvement Program Plan.
- C. Review cost recovery methods
- Establish a Division budget for Arbor Day activities.

NURSERY AND TREE  
IMPROVEMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

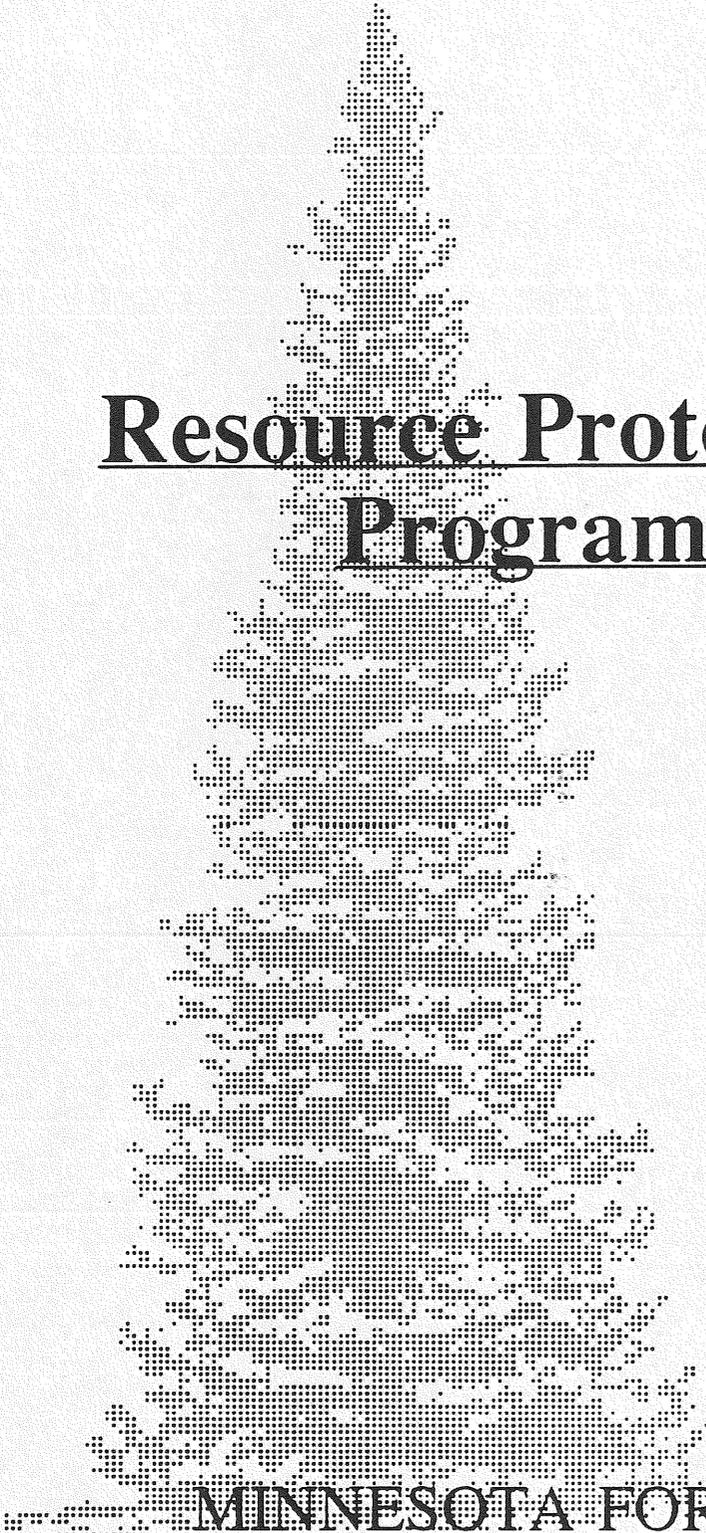
GOAL: Economically produce forest regeneration material of the highest genetic and biologic quality in the quantity needed for environmental programs.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total	\$(000's)	1900	2400	2500	2500	2500
<b>Staffing<sup>(4)</sup></b> (fte = full-time equivalent) fte		53.3	33.3	33.3	33.3	33.3
<b>Targets</b> M = 1,000; MM = 1,000,000						
<b>Nursery</b>						
1. Produce sufficient quantities of quality regeneration material to meet demand						
a. Conifer seedlings	MM seedlings	25	27	27	27	27
b. Hardwood seedlings	MM seedlings	3.3	4.0	4.0	4.0	4.0
c. Conifer transplants	M seedlings	700	700	700	700	700
d. Supervise contracts for production of containerized seedlings	MM seedlings	1	1	1	1	1
2. Special environmental programs						
a. Arbor Day	M seedlings	225	250	250	250	250
b. Conservation Reserve Program	MM seedlings	3	4	-	-	-
<b>Tree Improvement</b>						
3. High priority						
a. White spruce						
1) Manage seed orchard	acres	12	12	12	12	12
2) Manage Progeny tests	acres	6	6	6	6	6
3) Grafting	grafts					1000
4) Controlled breeding	# crosses					50
5) Site pre 1.5 gen orchard	acres					10
b. Black spruce						
1) Manage seed orchard	acres	3	3	3	3	3
2) Plant full sib. progeny test	acres		3	3	3	3
3) Manage progeny test	acres		3	6	9	12
4) Controlled breeding	# crosses	50	75	75	75	75
5) Grafting	grafts	500	100			
6) Site Prep 1.5 gen. orchard	acres	5				
7) Plant 1.5 gen. orchard	acres		5			
8) Manage 1.5 gen. orchard	acres		5	5	5	5
c. Black walnut						
1) Manage seed orchard	acres	9	9	9	9	9
2) Manage sublines	acres	5	5	5	5	5
3) Grafting	grafts	600	200	100	100	100
	Unit of					

	Measure	1991	1992	1993	1994	1995
3. High priority (cont.)						
d. Aspen						
1) Manage progeny test	acres	2	2	2	2	2
2) Grafting	grafts	100	100			
3) Manage potted orchard	# trees	100	150	150	150	150
4) Produce hybrid seed	M seeds			50	100	150
d. Region III Red oak						
1) Plus tree selection	trees	45				
2) Grafting	grafts	800	200	100	100	100
3) Plant Sublines	acres	1	1			
4) Manage Sublines	acres	1	2	2	2	2
5) Site Prep. Seed Orchard	acres	5				
6) Plant Seed Orchard	acres		5			
7) Manage Seed Orchard	acres		5	5	5	5
e. Region V Red oak						
1) Plus tree selection	trees	25	25			
2) Grafting	grafts	500	500	200	100	100
3) Plant Sublines	acres		1	1		
4) Manage Sublines	acres		1	2		
5) Site Prep. Seed Orchard	acres		5			
6) Plant Seed Orchard	acres			5		
7) Manage Seed Orchard	acres			5	5	5
4. Intermediate priority						
a. Red pine						
Manage progeny tests	acres	8	8	8	8	8
b. Jack pine						
Manage progeny tests	acres	9	9	9	9	9
c. White pine						
Manage seed orchard	acres	3	3	3	3	3
d. Scots pine						
Manage seed orchard	acres	3	3	3	3	3

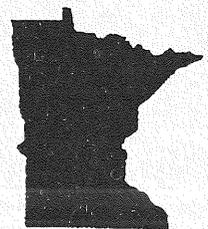
(a) A reduction of 20 fte if contract for seedling harvest is made.





Resource Protection  
Program

MINNESOTA FOREST  
RESOURCES PLAN





## WILDFIRE PROTECTION AND MANAGEMENT

### ACTIVITY DESCRIPTION

By state statute, the Division is charged with preventing and suppression of wildfire on public and private lands in Minnesota. This responsibility encompasses some 45.5 million acres of land. In addition the Division is responsible for managing the use of prescribed fire by the DNR. Wildfire protection functions can be divided into three major categories: prevention, presuppression, and suppression.

- A. Prevention activities are designed to reduce the likelihood of fire occurrence and to minimize the potential damage resulting from fires that might occur. Activities include such things as public education, regulation of open burning, vegetation ("fuels") modification, and law enforcement as a deterrent.
- B. Presuppression activities provide for and prepare suppression forces for the eventuality of fires and provide for early detection of fires. Activities include training firefighters and support personnel, developing and maintaining inter- and intra-state agreements for sharing personnel and equipment, maintaining and operating an interagency coordination center, developing fire action plans and dispatching plans, monitoring ambient weather conditions and associated fire danger, maintaining equipment in a state of readiness, maintaining a combined DNR/US Forest Service, Region 9 fire cache at the Northern Service Center and maintenance of communication systems, and contracting for the use of private equipment. Fire detection is carried out through a network of lookout towers, aerial detection flights, and a variety of citizen and agency reports.
- C. Suppression activities are directed at effective initial attack action that strives to extinguish wildfires in the shortest time possible, considering the values at risk, and extended suppression action on fires escaping initial attack. This is done through a balanced application of suppression forces, including trained

firefighters, support personnel, aerial and ground equipment.

Fire management includes the safe, effective use of controlled fire for a specific purpose. Controlled or prescribed fire is a management tool used for site preparation, forest regeneration, forest pest management, maintain certain natural community types to improve habitat for specific plant and associated wildlife species and to manage high hazard fuel types. In addition, prescribed fires can provide valuable training for suppression personnel.

### GOAL

Provide wildfire protection to the level necessary to avoid loss of life and, considering values at risk, minimize the potential for loss of property and natural resources on public and private land. Improve the Department's ability to use controlled fire as a safe and effective vegetative management technique.

### STATEWIDE DIRECTION

Wildfire prevention efforts will be accelerated. The public will be informed of the dangers of uncontrolled wildland fires and techniques that they can employ to prevent fires and minimize losses. This will be accomplished through cooperative efforts with fire departments and other agencies. The Division will actively support and participate in the national mobility of fire suppression resources. Presuppression planning and training will be emphasized with Division personnel and cooperators. Equipment capabilities will be strengthened to meet the growing challenges of the rural/urban interface fire situation.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

#### Prevention

- The majority of the wildfires that are suppressed by fire departments are not reported. Methods to improve the reporting of these fires will be developed so the total scope of the fire

problem can be identified.

- Intensify efforts to inform the public of the dangers of wildfire, methods to minimize losses and means to prevent fires.
- Identify and involve other agencies and organizations such as fire departments, insurance carriers, zoning administrators, and private corporations in prevention efforts.
- Stress the enforcement of statutes designed to prevent wildfires as a deterrent and return suppression expenditures to the state.
- Better enforcement of permit requirements to ensure burning hours are complied with.
- Provide additional training and information to the state's 2,000 plus Township Fire Wardens and encourage active participation in prevention efforts.
- Review and, if necessary, revise methods and regulations used to prevent railroad caused fires. This includes statutes, railroad fire patrols and railroad fire prevention methods.
- Integrate fire prevention goals in agriculture, forest and wildlife habitat programs.
- Identify property development in high fire hazard areas (rural/urban interface) and, in cooperation with local fire departments and others, emphasize prevention and hazard reduction to minimize danger to life and property.

#### Presuppression

- Strengthen cooperative wildfire protection systems by increasing investments in and cooperation with rural fire departments and other agencies.
- Establish and participate in the operation of the Minnesota Interagency Incident Command Coordination Center that will coordinate the suppression efforts of all Minnesota Incident Command System (MNICS) members.
- Strive to cooperate in the development and operation of a "full service" wildland fire management center for the purpose of increasing efficiency and sharing fire expertise among MNICS members.
- Increase training and strengthen relationships with fire departments to improve the protection of life and property in the expanding rural/urban interface.
- Develop regional plans to improve and streamline 911 emergency response contacts.
- Improve the general condition and capabilities of Department fire fighting and communications

equipment so the rural/urban interface fire problem can be coped with. Establish standards for Division fire equipment.

- Actively support and participate in the national mobility of fire suppression resources.
- Develop and implement actions to solve the wildfire situation that has developed through cropland reduction and wildlife habitat programs in areas of the state that were largely immune to wildfire and now have problems beyond local fire department capabilities.
- Refine wildfire training direction by developing organization training responsibility levels, establish standards for trainers, determine specialist positions needs, channel individual employee training desires to organizational needs.
- Improve Division personnel's understanding of fire weather systems and the associated impacts of fire suppression preparedness levels. Train field staff to operate the BEHAVE computer program for predicting fire behavior.
- Modernize fire weather instruments and methods of collecting fire weather observations.
- Improve the fire weather forecasting system to allow better preparation for wildfire situations.
- Develop methods to integrate fire planning into regional planning, providing updates of local plans as needed using automated data processing and geographic information systems.
- Use fire planning information to establish baseline information for region and area presuppression budgets that would be based on historic fire data and anticipated staffing guides.
- Develop and implement plans to adjust permanent employee work schedules for the purpose of minimizing overtime.
- Develop guidelines for the expenditure of funds from the fire account.
- Using fire danger rating indices guidelines to establish area preparedness levels.
- Increase statewide fire staff to the numbers needed to develop statewide presuppression standards and cope with suppression coordination.
- Develop position descriptions, establish classifications, and secure funds to establish seasonal fire suppression positions that are now hired and funded through emergency authorities.
- Increase the Regional Manager's role in coordination of Area fire management activities.
- Increase cooperation between districts, areas and regions in fire protection activities.
- Support establishing a full time fire cache

manager, a fire cache repair person and an electronics technician in the Bureau of Field Services so that the existing fire cache and communication system can continue to be maintained in a quality manner.

- Train equipment operators in maintaining fire equipment as part of their training program.
- Maintain lists in Area offices of private equipment vendors and forest industry equipment and personnel available locally.

#### Suppression

- Develop regional and area command organizations to provide for adequate staffing and decision making during emergency situations.
- Improve the mobility of personnel and equipment between areas and regions for pre-positioning and suppression of fires.
- Using the joint U.S. Forest Service/Division economic analyses, explore joint suppression capabilities and develop dispatching procedures that provide an efficient mix of resources. Evaluate such actions for the purpose of reducing protection imbalances with the U.S. Forest Service.
- Strengthen training in basic fire suppression methods and equipment application using tools such as the fire simulator and equipment.
- Strengthen the interagency use of aircraft in fire suppression by developing local interagency standards and where necessary incorporate national standards. Apply such applications to the protection imbalance.

#### Fire Management (prescribed fire)

- Expand efforts to train other DNR personnel to conduct prescribed burns.
- Emphasize the need for all prescribed burning to follow the policies and procedures established in the Department's prescribed fire operational order.
- Develop a method of post burn evaluations for the purpose of refinement of prescriptions.
- Encourage the use of prescribed fire on private lands through efforts such as the Private Forest Management Program to encourage wildlife habitat development and hazard reduction.
- Increase cooperation and communications between and within DNR disciplines in fire

management activities.

- Increase use of prescribed burning as a training tool (i.e., hazard reduction burns).
- Enhance efforts to inform the public of the benefits of prescribed burning and the differences between controlled fires and wildfires.
- Seek funding for an expanded prescribed burning program.
- Develop prescribed fire prescriptions for vegetation management that addresses all factors and impacts of the prescribed burn.
- Promote the use of Best Management Practices (BMP's) on prescribed burns to ensure water quality is maintained.
- Review prescribed burn policies and procedures through an interdisciplinary Department committee.

FIRE MANAGEMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Provide wildfire protection to the level necessary to avoid loss of life and considering values at risk, minimize the potential for loss of property and natural resources on public and private land. Improve the Department's ability to use controlled fire as a safe and effective management technique.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget<sup>(a)</sup></b>						
1. Projected total	\$(000's)	5375	5400	5400	5400	5400
<b>Staffing<sup>(a)</sup> (fte = full-time equivalent) fte</b>						
<b>Targets<sup>(a)</sup> M = 1,000</b>						
<b>Prevention</b>						
1. Issue and inspect burning permits <sup>(b)</sup>	M permits	106.5	110.0	120.0	130.0	140.0
2. Administer and train township fire wardens	wardens	2560	2600	2700	2800	2900
3. Media activity (Ads, P.S.A.'s appearances, etc.)	number	750	850	1000	1100	1250
<b>Presuppression</b>						
4. Maintain or update cooperative agreements	agreements	105	105	105	105	105
5. Maintain/develop fire department agreements	agreements	290	290	300	300	300
6. Develop new/renegotiate equipment agreements	agreements	688	700	700	700	700
7. Prepare/administer aerial detection contracts	contracts	23	25	30	30	30
8. Establish fire department engine strike teams	teams	22	25	25	25	25
<b>Suppression</b>						
9. Suppress wildfires	fires	1540	1600	1600	1500	1500
10. Acres burned	acres	52,000	52,000	50,000	45,000	45,000
<b>Training</b>						
11. Rural fire departments	departments	227	230	250	250	250
12. Temporary employees (smoke chasers, tower, etc.)	number	445	450	450	400	400
<b>Prescribed Fire</b>						
13. No. of prescribed burns (include all DNR burns)	burns	300	300	300	300	300
	acres	38,000	38,000	38,000	38,000	38,000

(a) Budget staffing and some targets will vary greatly on severity of fire seasons. F.Y. 1991 budget figures are based, in part, on historical emergency fire fund appropriations, base-level appropriations from federal sources, and other anticipated operating costs. Staffing is based on the historical average from F.Y. 1981 through F.Y. 1989.

(b) An effort is being made to increase the number of permits for outdoor burning. Fires with permits have a person identified who is responsible for the fire, and they have restrictions attached that ensure safety.

## LAW ENFORCEMENT

### ACTIVITY DESCRIPTION

The Division of Forestry is responsible for enforcing statutes related to the prevention of wildfires. This authority was granted after many people lost their lives to wildlifes around 1900. The 1990 legislature reaffirmed the potential for loss of life and property by amending Minnesota's arson laws to include wildfires. As of August 1990 it is a felony to set a wildland fire with the intent of allowing it to burn out of control. Other statutes charge the Division with the collection of fire suppression costs and damages when a statutory violation results in a wildfire.

Over the years, the Division has been given responsibility for enforcing laws relating to state timber trespass, state land timber sales, state tree nurseries, cutting and transporting Christmas trees, regulating woodlot management and school forests, land management and recreation. Today, the major areas of Division involvement in law enforcement include: 1) wildfire investigation and related law enforcement; 2) state land timber trespass investigation and enforcement; 3) timber sale regulations; and 4) Division of Forestry recreational area rules and regulations.

### GOAL

Provide compliance with state statutes to prevent wildfires, to protect the public's interest in state land and its assets and to ensure that the public can safely enjoy the Division's recreational facilities.

### STATEWIDE DIRECTION

The enforcement of statutes, for which the Division is responsible, will continue to be a cooperative effort with the Division of Enforcement. The program will be guided by standards established in the Department's law enforcement operational orders and the Division's Law Enforcement Manual.

The Division of Enforcement will place special emphasis on the enforcement of wildfire statutes during periods of fire danger. In addition, Conservation Officers will stress public cooperation with statutes during other times of the year.

Conservation Officers will continue to provide assistance with the enforcement of rules and regulations on Division of forestry recreational units. The Division of Enforcement's role in the enforcement of statutes relating to timber and other property under Division of forestry administration will be defined.

As part of a continuing emphasis on fire prevention, enforcement of statutes relating to wildfire will be accelerated. The Division of Enforcement will continue to be the lead discipline within the department providing law enforcement expertise, training, and service.

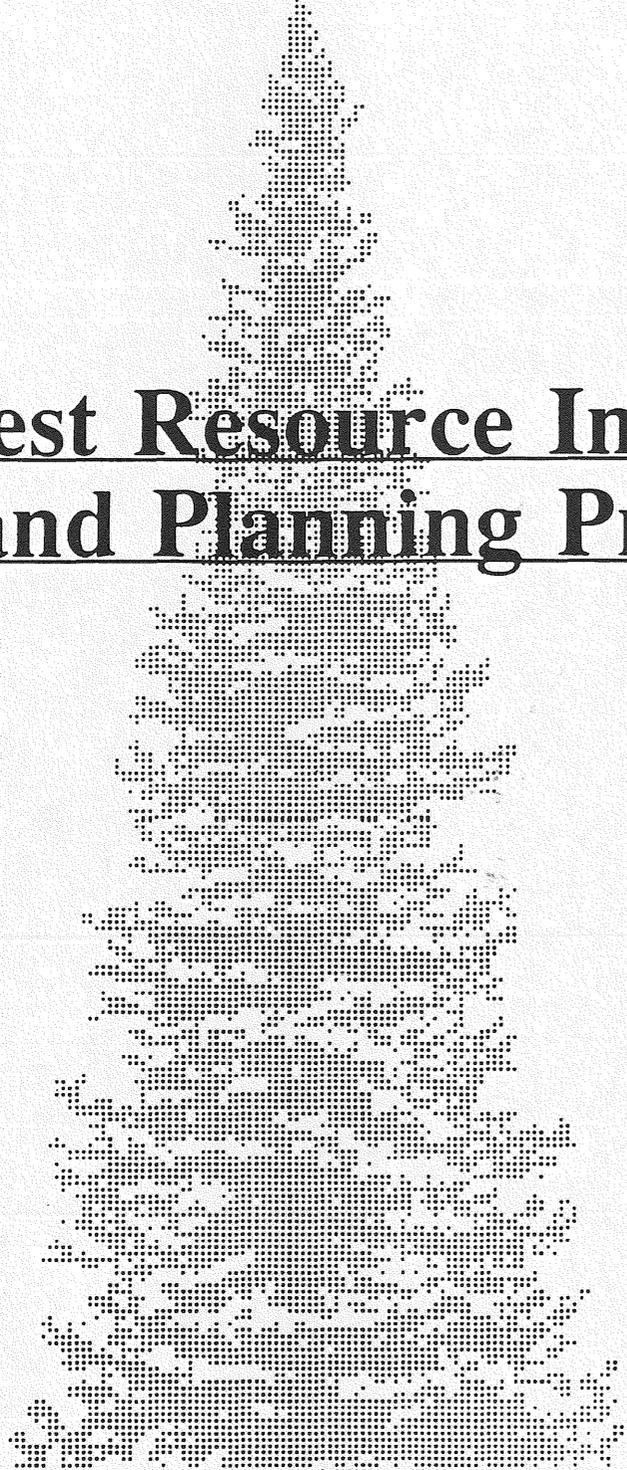
### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Reduce the number of brush pile burning permits when snow is not present or when rekindling may result in the fire spreading.
- Continue to strengthen cooperative efforts with the Division of Enforcement.
- Increase enforcement of statutes relating to wildfire and collection of fire fighting costs for the purpose of fire prevention.
- Seek methods to acquire the necessary equipment for forest officers to carry out their responsibilities.
- Comply with training standards established in the Department's law enforcement policy.
- Develop a method of public reporting of wildfire statute violations similar to the Turn-in-Poachers (TIP) concept. This may include development of an arson hotline, or it may be included as part of the TIP program.
- Review and update the Department's air quality agreement with the Pollution Control Agency.
- Increase training and experience base of the Arson Team members.
- Provide increased refresher training for Level II Officers.
- Redefine the relationships between wildfire prevention statutes and the Pollution Control Agency's rules and regulations for open burning with the objective of meeting public needs in both areas and to minimize public confusion.
- Strengthen the investigation and prosecution of state land theft and trespass on state land.

GOAL: Provide compliance with state statutes to prevent wildfires, to protect the public's interest in state land and its assets and to ensure that the public can safely enjoy the Division's recreational facilities.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Project Funding	\$(000's)	125	160	200	200	230
<b>Staffing</b> (fte = full-time equivalent)	fte	3 <sup>(a)</sup>	4	5	5	6
<b>Targets</b>						
<b>Fire Laws</b>						
1. Fires investigated	investigations	970	1000	1100	1200	1200
2. Written warnings	warnings	420	450	450	450	450
3. Citations	citations	165	300	350	400	450
4. Complaints	complaints	15	15	15	15	15
5. Fire billings	billings	520	550	600	650	700
<b>Timber Laws</b>						
6. Written warnings	warnings	55	65	75	85	100
7. Theft citations	citations	15	25	35	45	50
8. Trespass, Timber - civil	cases	50	50	60	60	65
9. Trespass, Land - civil	cases	20	25	35	40	40
10. Xmas tree - criminal actions	cases	6	10	15	20	25
<b>Recreation Areas</b>						
11. Written warnings	warnings	95	100	110	125	125
12. Citations	citations	35	50	55	65	65
13. Criminal complaints	complaints	5	5	10	10	15
14. Vehicle warnings	warnings	105	120	130	140	150

(a) Increased staff time will be spent on enforcing compliance with statutes.



**Forest Resource Information**  
**and Planning Program**

**MINNESOTA FOREST  
RESOURCES PLAN**





## FOREST RESOURCE ASSESSMENT AND ANALYSIS

### ACTIVITY DESCRIPTION

Forest Resource Assessment and Analysis (FRAA), formerly called Forest Inventory, has been responsible for collecting and processing forest resource information since 1976. The program has and will continue to change in response to diverse user needs, improved technology, budget fluctuations, personnel shifts and continuing demands on the resource.

The resource assessment and analysis group faces five clear challenges:

- To support a field commitment to the inventory process.
- To inform the public as to what resource assessment is and what it can and does do for Minnesota.
- To expand and change survey efforts to capture new (non-traditional) data, capitalize on new environmental initiatives and incorporate developing technologies.
- To streamline the process of getting inventory data to users in a cost-efficient manner.
- To cooperate in producing an accessible and user-friendly inventory analysis program.

The program currently includes the Resource Assessment, Remote Sensing and Biometrics activities in the Division of Forestry. Programs continue to change to meet the demands of budget restrictions and client needs. In the area of field survey, the State's commitment for contracting of Forest Inventory and Analysis (FIA, formerly Phase 1) fieldwork was completed in June of 1990. Analysis and reporting on this new file will continue into 1994. Updating of the Cooperative Stand Assessment (CSA, formerly Phase 2) file will now be done with Division staff; as contract dollars were shifted to cover field salaries. Update projects will now be scheduled through the regions. Program staff will develop the template, process and tools to make the Areas self-sustaining on CSA management updates. Quality control will remain a program priority. The Remote Sensing program will provide new photography and image processing on a five to ten year cycle to prompt formal comprehensive covertime redrawing outside the

activities of management updates (eg. natural change, model verification and special projects). Geographic Information Systems technology will then provide updated boundary maps designating stands needing remeasurement. Field survey will then be initiated using programmable data recorders whose files can be directly off-loaded to the Area computer.

### Resource Assessment (RA)

RA is the portion of the FRAA program that deals with the design and field implementation of the FIA, CSA, and special inventory projects. The staff cooperates in the design and implementation of resource inventories on private, county and military ownerships. It provides survey information for the development of old growth tables, fixed radius growth plots and site index evaluations.

The objective of the RA unit is to provide an accurate assessment of present conditions and changes in the natural resource data base by:

- A. maintaining FIA permanent plots and data base,
- B. maintaining and updating the CSA,
- C. conducting special projects (in cooperation with other public agencies).

### Remote Sensing (RS)

Remote sensing is the technique of data gathering without being in direct contact with the observed objects. Remote sensing techniques include the use of both photographic and non-photographic sensors. Remote sensing activities are designed to produce photographic and other interpretable imagery to use as a tool in resource management. The objectives are to: educate resource managers on the capabilities of remote sensing products, interpret these products and promote their increasing use in Division management activities.

New initiatives in image processing will tighten the tie between RS and GIS by front-ending vector updates and identifying areas of natural change that need ground checks.

### Biometrics

The Division Biometrician provides analyses for industrial expansion, inventory data summaries, survey design reviews, computer graphics, growth projections and special reports. He maintains a close working relationship with the Intertechnologies Group (formerly IMB - Information Management Bureau, Department of Administration) and department and university biometricians and research analysts. As the new FIA data comes on line, analysis and summary requests will increase.

Routines will be developed and implemented to grow forward Phase 2 stands and identify the need and timing for field revisits to these projected stands.

### GOAL

Integrate all inventory activities into a comprehensive assessment program that provides accurate information in response to changing user needs and expanded applications.

### STATEWIDE DIRECTION

With the completion of State FIA field work in 1990, program emphasis shifted to analysis of the file and information transfer to interested publics. CSA updates will continue as a line organization function with program oversight and enforcement. Integrated survey efforts will expand through the Camp Ripley Land Condition Trend Analysis Project, Cooperation with the Natural Heritage and County Biological Survey projects, joint LCMR projects and DNR ecological classification systems development.

The resource analysis group also seeks to expand and modify survey efforts to capture new (non-traditional) data, and to incorporate developing technologies. Remote sensing image processing front ended to a Geographic Information Systems (GIS) are examples of technologies that provide for collecting, synthesizing and analyzing diverse, site-specific data. Such methods promise to improve land management capabilities by making data more readily accessible in a timely and useful format.

Front end the inventory update process by using image processing to update covertype boundaries and identify areas needing field checks. Automate

field data collection by using data recorders with direct down-load to area personal computers. Provide menu driven update and analysis packages for area use.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

#### Resource Assessment

- A. Establish the Minnesota "Continuous Inventory" program that includes ongoing and cyclic updates of the FIA (Phase I) and CSA (Phase II) data base in conjunction with expanded remote sensing capabilities and the development of a Division geographic information system.
- Seek and maintain adequate funding levels.
  - Request funding from other agencies that benefit from the inventory information.
  - Maintain the FIA on a 10-year cycle.
  - Process CSA alterations and updates on a timely basis.
  - Establish priorities for the conversion of hand drawn maps.
  - Reassess 10 percent of each area's land base annually (CSA).
  - Where possible, use available funds to accomplish fieldwork.
- B. Maintain a qualified field survey crew in Grand Rapids to set standards, write contracts, direct and quality check field survey efforts.
- Set standards for CSA and FIA field survey.
  - Establish quality control checks for all field survey including alterations.
  - Develop the FIA and CSA into comprehensive multiple-use inventories.
- C. Provide continuing education for the Division's Inventory Specialist in the areas of field survey, remote sensing, biometrics and geographic information systems.

#### Biometrics

- A. Expand biometric analysis and improve the utility of the continuous forest inventory data

for multiple-use forest development in the state.

- Establish joint appointments or work assignments with the Division's Forest Information Systems staff.
- Strengthen ties with the North Central Forest Experiment Station and the University of Minnesota through joint projects.
- Lead the development of GIS modeling efforts in the Division while cooperating with FIS staff.
- Lead the analysis and reporting of the new FIA file.

#### Remote Sensing

A. Continue to expand and develop the remote sensing program:

- Continue the university intern contract.
- Continue interaction with the University of Minnesota Remote Sensing Lab and North Central Forest Experiment Station.
- Continue interaction with line organization on projects and training.
- Provide for a timely update of high altitude photography, 35mm and 9x9 photography.
- Test and implement the findings of the NASA grant project on covertype updates from satellite data.
- Implement image processing in the Division.
- Test airborne video technologies for covertype updates.

GOAL: Integrate all inventory activities into a comprehensive assessment program that provides accurate information in response to changing user needs and expanded applications.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total	\$(000's)	1256	1300	1350	1400	1450
<b>Staffing</b> (fte = full-time equivalent)	fte	26	26	26	26	26
<b>Targets</b>						
1. Forest Inventory and Analysis:						
a. County reports for FIA units	counties	5	4	4	4	4
2. Cooperative Stand Assessment (CSA)						
a. Provide pre-work and quality control services to cooperators doing CSA updates	counties contracts	5 21	4 -	4 -	4 -	4 -
b. Updates - redraw covertype boundaries & field survey	townships	325	140	140	140	140
3. Forest management applications of the inventory data						
a. Conduct 35mm photography for management purposes in forestry	M acres	2200	1100	1100	1100	1000
b. 9x9 aerial photography	counties	4	3	3	3	3
c. Biometric analyses	projects <sup>(a)</sup>	7	6	6	6	6

(a) Major projects per year; up to 100 ad hoc per year

## FOREST PRODUCTS UTILIZATION AND MARKETING (FPU&M)

### ACTIVITY DESCRIPTION

Funding and technical assistance from the U.S. Forest Service provided the initial impetus for developing Minnesota's FPU&M program. The Division has participated in the program since its inception in 1966. The program was administered by a single staff forester until 1976. In 1976 the staff was increased to three and later to five. Since 1980 the FPU&M program has been staffed by seven foresters located in four regions and St. Paul. The seven-member FPU&M program staff work cooperatively with the other agencies and organizations involved in developing Minnesota's wood resources. FPU&M program activity falls within five broad categories; Division of Forestry initiatives, public awareness, forest products marketing, forest products economic development and wood energy development.

- A. Division of Forestry Initiatives - The FPU&M program influences the Division's area, region and statewide planning and operations by providing an overall marketing perspective through reports, meetings and workshops. FPU&M staff also serve an active role as liaison between the Division and wood based industry.
- B. Public Awareness - The FPU&M staff has raised the awareness of various publics on the need for forest management and the positive impacts of Minnesota's forest products industry through presentations, fact sheets, articles, tours and workshops.

Major clients include other state agencies, statewide news media, legislators, private organizations and civic groups.

- C. Forest Products Marketing - Forest products marketing is aimed at bringing the needs of wood products producers and consumers together. FPU&M staff, in cooperation with the MN Extension Service, publish a bimonthly marketing newsletter (2600 circulation), a forest products price report, and a periodic roundwood market outlook. More than a hundred individual marketing requests are assisted annually. A comprehensive wood products marketing

directory is published every three to five years. This marketing initiative has resulted in over one million dollars per year of increased business in the forest products industry.

- D. Forest Products Economic Development - Economic development activities have been extremely successful in the past; approximately \$3 billion in capital improvements will be invested in the state by wood industries between 1979 and 1995. Rather than continued expansion of the use of Minnesota's resources, development emphasis will shift towards analyzing new forest inventory data to monitor resource availability, promoting secondary or value-added industry, business management and improved processing and logger efficiency.
- E. Wood Energy Development - Once a means for promoting greater use of under-utilized species, wood energy activities now emphasize use of excess mill residue. Stockpiled sawdust and bark present potential environmental problems, while commercial combustion of mill residues can reduce air pollution produced by coal burning facilities. Since 1980, the number of commercial wood energy users has grown from less than 25 to over 200.

### GOAL

Direct the proper use of Minnesota's wood resources; increase the economic benefits derived from the production of forest products within the state; increase the wood-using efficiency of Minnesota's forest products industry; and provide forest resource and forest product information to the forest products community and the general public.

### STATEWIDE DIRECTION

Division initiatives will include continued FPU&M input into Statewide and Region Plans. Emphasis will be on awareness opportunities for foresters regarding visual management on timber harvests, timber sale design to provide better operating efficiency for loggers, and hardwood management direction.

Timber related issues have recently received a great deal of public interest. As the level of timber harvesting increases throughout the state, the visibility of harvested areas will also increase, as will the need for public understanding of basic forest science and Minnesota's wood industry. Public awareness, therefore, will be a priority in the next decade.

Marketing, bringing the needs of wood products producers and consumers together, is an area of expertise lacking in many smaller wood products companies. FPU&M staff will continue to provide marketing assistance to industries as well as explore new markets for Minnesota wood products. One additional full-time staff position for secondary marketing and processing assistance will be sought to handle the increased workload in the Metro Region.

FPU&M staff have been working cooperatively with other agencies to assure orderly and proper growth of new and expanding wood-using industries in Minnesota. As optimum utilization of Minnesota's tree species approaches, careful analysis of new forest resource data will determine availability and aid in direction of proper use. Economic development activities will emphasize value-added industry rather than primary industries. FPU&M staff will assess new wood processing technologies to better advise producers. Business and silviculture education for the logging community will be a priority.

Interest in wood energy has been low in recent years, but could increase substantially should another fossil fuel shortage arise. Emphasis will be placed on use of wood residue as an industrial fuel and minimizing conflicts between commercial and energy use of the wood resource.

#### **MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995**

- Improve Division of Forestry responsiveness by acting as a liaison between the Division and other clientele.
- Increase public relations benefits to Division of Forestry and DNR from FPU&M activities.
- Promote the economic and environmental importance of Minnesota's wood resources and forest products industry.
- Identify and promote market opportunities for Minnesota forest products.

- Increase the flow of market information within the forest products industry.
- Identify and promote value-added industries that can utilize a Minnesota resource.
- Provide wood products manufacturers with technical and processing assistance.
- Assess the availability of wood for energy and promote the use of wood residue for energy in commercial and industrial applications.

FOREST PRODUCTS  
UTILIZATION AND MARKETING

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Direct the proper use of Minnesota's wood resources; increase the economic benefits derived from the production of forest products within the state; increase the wood-using efficiency of Minnesota's forest products industry; and provide forest resource and forest product information to the forest products community and the general public.

	Unit of Measure	1991	1992	1993	1994	1995
<b>Budget</b>						
1. Projected total	\$(000's)	320	340	345	350	355
<b>Staffing (fte = full-time equivalent)</b>						
	fte	7.5	8.0	8.0	8.0	8.0
<b>Targets</b>						
1. Division of Forestry initiatives (plng., timber management, trng.)	assists	150	155	160	160	165
2. Forest products marketing						
a. Market information publications	issues copies circulated	8 18,000	10 20,000	10 20,000	10 20,000	10 20,000
b. Public media promotional articles and programs	published/presented	10	15	15	15	20
c. Major market research and development	projects	25	25	25	25	25
d. Individual marketing assists	assists	250	250	250	250	250
3. Forest products economic development						
a. Cost accounting/business assists	assists	20	20	20	20	20
b. Major analyses/assists completed	assists	50	50	50	50	50
c. Incidental technical assists	assists	200	200	200	200	200
d. Presentations/workshops	presentation /workshops	20	20	20	20	20
4. Public awareness						
a. Information and Education	articles presentation /workshops tours/field days	20 40 15	20 25 15	20 25 15	20 25 15	20 25 15
5. Wood energy (industrial/commercial)						
a. Wood energy information publications	issues copies circulated	1 100	1 100	1 100	1 100	1 100
b. Public media promotional articles and programs	published/presented	5	5	5	5	5
c. Cooperative promotional or technical projects	projects	10	10	10	10	10
d. Individual energy conversion analyses	analyses	10	10	10	10	10

## FORESTRY INFORMATION SYSTEMS

### ACTIVITY DESCRIPTION

In 1982, with funding provided by the Legislative Commission on Minnesota Resources (LCMR), the Division completed its first plan to guide the development of a management information system (MIS). In 1989, a new Forestry Information System (FIS) plan was completed which took account of the progress made in implementing the earlier plan and the changes in hardware and software technologies. This plan, entitled the Forestry Information Systems Blueprint, addresses equipment, computer applications, Division data needs and MIS staff and support questions. The Division's mission served as the main criterion driving the development of the forestry information system (Blueprint) plan, and will guide the implementation and operation of the Division's information systems. The Blueprint places special emphasis on data as a key component of the Division's information systems, a component that links and integrates Forestry with other division's.

The major activities of the Forestry Information System program are: integrated system design, systems development and maintenance, systems training and information, and hardware and software acquisition and support services. These activities are detailed below:

- A. **Integrated System Design - The Blueprint** calls for the integration of the Division's management information and geographic information systems staffs and projects. Since the integrating factor is the Division's shared data, the development of a standard database design, or global data architecture, is required. This design will address the needs of all the programs carried out in the Division, and will provide a framework for all systems development work in the division. This data architecture will be maintained and modified as new needs are identified and management needs change.
- B. **Systems Development and Maintenance -** The completion of the global data architecture will allow the development of new information systems in support of the Division's programs and business

functions. Program managers will assume major responsibility for the development of new systems in order to obtain management commitment to their systems. Both program-specific systems (e.g., timber sales) and administrative support systems (e.g., word processing, electronic mail) will be provided. Where possible, existing systems or shared resource approaches to systems development will be utilized (e.g., DNR-standard systems).

- C. **Systems Training and Information -** User training and ongoing support are key to the successful development and operation of computer systems. The FIS unit assesses training needs, evaluates training opportunities and recommends computer training for Division personnel. Training can be offered by FIS personnel or by sources outside the Division. A Forestry computer newsletter will communicate system news and training opportunities to the Division.

As part of the implementation of the Blueprint, a FIS liaison network will be established, headed by a User Support Liaison in St. Paul. Each area and region will be represented in this user network.

- D. **Hardware and Software Acquisition and Support Services -** Assessing equipment and commercial software needs, installing and maintaining equipment for statewide systems are essential support functions provided by the FIS program. FIS also offers technical assistance to Division personnel in equipment and software evaluation and operation.

FIS provides assistance to Forestry computer users in diagnosing and servicing malfunctions, installing equipment and software, and providing other needed support services.

### GOAL

To coordinate, develop, and maintain the Division's

information systems.

## STATEWIDE DIRECTION

The Blueprint lays out the future FIS activities for the Division, focusing on the development of the data resource and the need to integrate systems activities. Increased cooperation between Forestry and other DNR units with common interests in the data will be seen. Information system applications have been identified for development, and development of new applications will begin after a global data design has been completed. Geographic information systems planning at the Department and State level will likely result in increased cooperation with Divisions, Bureaus and agencies outside the Division of Forestry.

## MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

### Integrated Systems Design

- Develop a global data architecture that addresses all Division programs.
- Integrate geographic and non-geographic systems through a comprehensive design process.
- Eliminate duplication and redundancy in data collection, storage and maintenance while improving accuracy.

### Systems Development

- Develop and maintain effective information systems.
- Involve program managers in the design and development of their information systems.
- Address administrative as well as resource management needs of the Division.

### Systems Training and Information

- Establish a FIS user network.
- Evaluate training needs and schedule needed training classes.
- Improve communication throughout the Division by publishing a computer user newsletter.

### Equipment Acquisition and Support Services

- Coordinate Division hardware and software acquisitions and upgrades.
- Coordinate Division equipment acquisitions with DNR and other cooperators.
- Provide advise and assistance to computer users.

GOAL: Coordinate, develop, and maintain the Division's information systems.

	Unit of Measure	1991	1992	1993	1994	1995
<b><u>Budget</u></b>						
1. Projected total	\$(000's)	950	950	950	1000	1000
<b><u>Staffing</u></b> (fte = full-time equivalent)	fte	13	13	13	13	13
<b><u>Targets</u></b>						
1. Integrated system design	designs completed	1	1			
2. Systems development and maintenance	application modules	1	3	4	5	5
3. Systems training and information	training sessions	10	12	15	15	15
4. Equipment acquisition and support services	user assists	600	650	700	750	750

## FOREST RESOURCE PLANNING

### ACTIVITY DESCRIPTION

The Forest Resource Planning Program provides essential planning services that allow the Division of Forestry to accomplish its mission. Minnesota Statutes Section 89.011 directs the DNR to prepare and maintain a Statewide Forest Resource Management Plan consisting of an Assessment and Program. Minnesota Statutes Section 89.012 authorizes development of Regional Forest Resource Management Plans to set forth specific goals and objectives for the management, protection, development, and production of forest resources. The Forest Resource Planning Program provides environmental review services for the Division as required by DNR Operational Order 40. The planning program's role in policy development is outlined in Circular Letter 1500-5.

Major planning program responsibilities include:

- Develop and update the Minnesota Forest Resources Plan (MFRP).
- Coordinate development of Regional Forest Resource Management Plans.
- Facilitate the Division's annual work planning and accomplishment reporting efforts.
- Provide environmental review and policy development services.
- Coordinate the Division's plans with those of the Department, other DNR Divisions, and other agencies.
- Special project assignments.

Forest Resource Planning Program accomplishments over the past five years include:

- MFRP Program for 1987 - 1991.
- Area Forest Resource Management Plans for Park Rapids, Orr, Lewiston, Cambridge, and Baudette.
- Development of a Regional Planning Guide and initiation of the planning process in Regions 1 & 2.
- Annual Work Plans and Annual Accomplishment Reports.
- Updating of cooperative agreement and Circular Letter indices.
- Planning staff mobility assignments for Metro Region planning and supervision,

development of the Forestry Information Systems Blueprint, and the Generic Environmental Impact Statement on Timber Harvesting.

The number of full time equivalents spent on planning activities in the Division has fluctuated between 10.5 and 12.6 over the past five years. The most significant trend related to planning program staffing has been the changing proportion of time spent on planning by St. Paul and field personnel. In fiscal year 1985, St. Paul staff accounted for 81 percent of the time spent on planning. By fiscal year 1989, St. Paul staff constituted only 47 percent of FTEs spent on planning. This trend toward increasing field involvement in planning activities reflects increasing emphasis on area and regional planning and the decrease in the size of the St. Paul planning staff.

### GOAL

Provide strategic and land management planning services for the Division of Forestry.

### PROGRAM DIRECTION

In fiscal year 1991 the priority for statewide planning will be to complete the 1991 - 1995 MFRP Program update. In 1992 and 1993 the Lake States Assessment and MFRP Assessment will be prepared. There will probably be significant changes in the annual work planning and accomplishment reporting procedures as a result of the current project to improve the Division's management control systems. In 1994 and 1995 there will be a major revision of the MFRP Program to respond to the findings of the Assessment.

The current effort to decentralize unit planning will continue. Regional Planners will be assigned to Region 3 and Region 5-6. Regional Foresters will assume responsibility for regional plan development and implementation. St. Paul staff will play a coordination role to maintain consistency between regions. The desire to further integrate natural resource management activities and to maintain biodiversity are likely to have a major impact on

how DNR land management plans are developed. Land management planning will increasingly use Geographic Information Systems (GIS) technology.

Environmental review and policy development will require increasing attention as the Division's operations come under more intense public scrutiny. Management policies and guidelines will have to be thoroughly reviewed and rigorously applied.

#### **MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995**

- Maintain the MFRP Assessment and Program so that they are up-to-date and provide clear direction for Minnesota forestry programs.
- Prepare Regional Forest Resource Management Plans that are consistent with the MFRP and that provide clear program and land management direction. Add Regional Planners in Region 3 and Region 5-6. Shift St. Paul staff role in regional planning to one of coordination and monitoring.
- Expand efforts toward developing a landscape based integrated resource management initiative.
- Train staff in the use of GIS technology in land management planning.
- Improve the Division's management control systems. Modify the annual work planning and accomplishment reporting processes. Develop more effective budgeting and expenditure monitoring procedures.
- Develop and revise Division of Forestry policies and manuals in cooperation with program staff and managers.
- Provide general planning services and support for the Division of Forestry. Provide meeting planning, facilitation, and mapping services. Provide staff support for the Director in his role as a member of the Lake States Forestry Alliance. Represent the Division on departmental committees.
- Coordinate Division review of internal and external plans, policies, and administrative documents. Facilitate Department and public review of Division documents.
- Adopt or develop resource based (as opposed to program based) monitoring criteria to detect changes in biodiversity and assess the need for plan revision.
- Conduct a thorough review of the Forest Resource Planning Program including an

analysis of the services provided, staff organization, and possible reclassification of positions.

- Coordinate DNR involvement in the Generic Environmental Impact Statement on Timber Harvesting.

FOREST RESOURCE PLANNING FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS .

GOAL: Provide strategic and land management planning services for the Division of Forestry.

	Unit of Measure	1991	1992	1993	1994	1995
<b><u>Budget</u></b>						
1. Projected total	\$(000's)	565.0	600.0	600.0	530.0	530.0
<b><u>Staffing</u><sup>(a)</sup></b> (fte = full-time equivalent)	fte	15	16	16	14	14
<b><u>Targets</u></b>						
1. Statewide Planning documents	documents	3	2	3	2	3
2. Regional Forest Resource Plans <sup>(b)</sup>	plans	0	0	1	1	1
3. Environmental Review	documents	25	30	30	35	35

(a) Includes staff time for GEIS on Timber Harvesting and regional planning mobility assignments in F.Y. 91. Includes additional regional planning staff positions beginning in F.Y. 92. Decrease in staffing in F.Y. 94 due to completion of Region 2 plan.

(b) Region 2 plan completed in F.Y. 93, Region 1 in F.Y. 94, and Regions 3 & 4-5-6 in F.Y. 95.

## PUBLIC AFFAIRS

### ACTIVITY DESCRIPTION

The Division of Forestry's Public Affairs efforts are intended to inform and advise various publics and clientele of the Division's programs and services. Information efforts supplement those of the DNR's Bureau of Information and Education, and serve to cultivate public appreciation for natural resource management, protection, and development. An effective public affairs program can also provide a feedback mechanism for DNR Forestry to collect input from key clientele, cooperators, and the public.

### GOAL

Achieve increased public awareness and understanding of the Division; its programs, products, and services.

### STATEWIDE DIRECTION

Over the next five years, additional public affairs staff will be sought to supplement time currently dedicated to the program. Dollars for an expanded program to develop more informational material such as brochures, tabloids, posters, and teacher curricula will also be sought. Strong efforts will be made to help people understand timber harvesting and how their "consumer attitudes" directly influence forest management activities. More of the Division's staff will be drawn into information and education efforts to handle the public's increasing environmental concerns.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Focus more staff time on information and education activities.
- Identify regional contact that has public affairs program responsibility
- Strengthen public affairs skills and abilities of Division personnel.
- Allocate financial resources to high priority opportunities.
- Establish and maintain media contacts.
- Develop marketing strategies for the Division

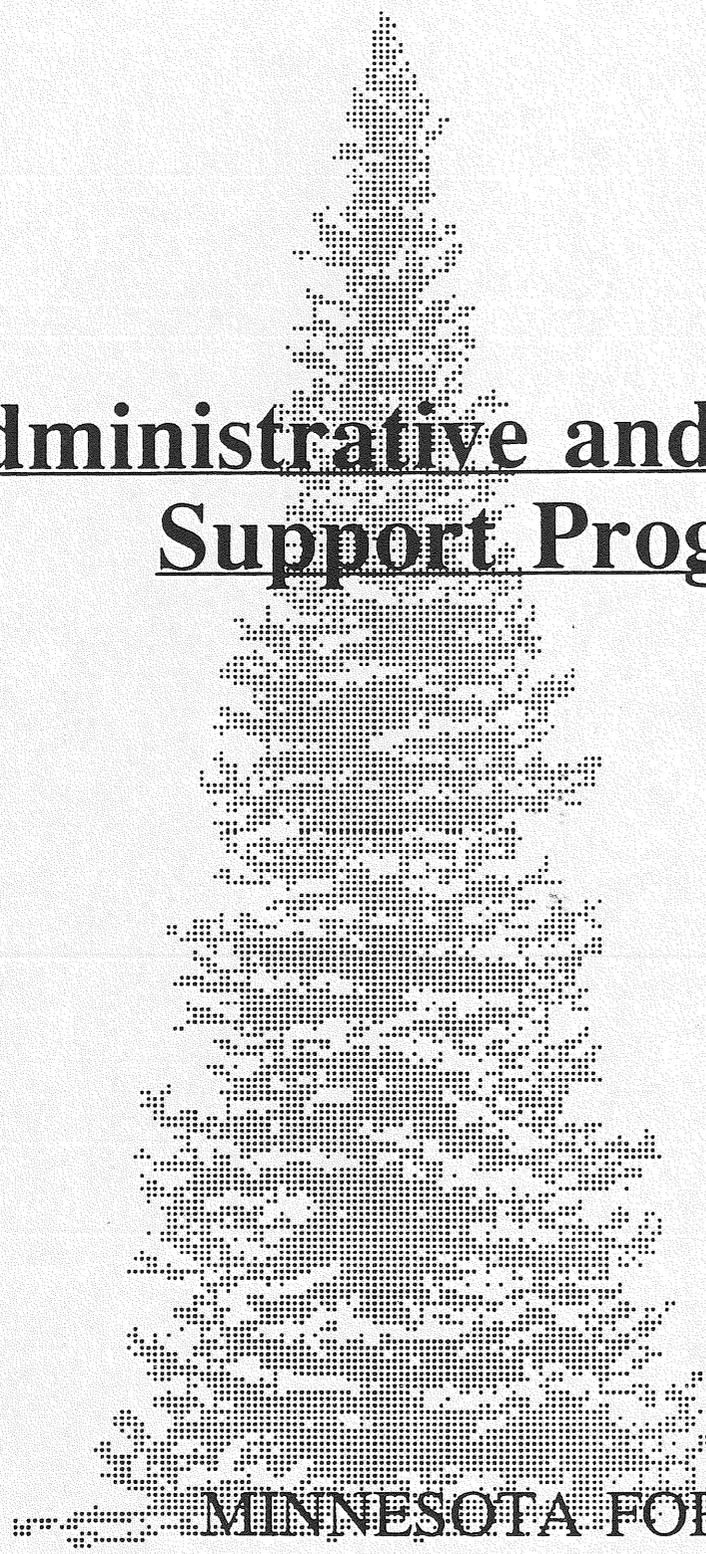
- and incorporate into employee's daily activities.
- Organize a task force that identifies issues and strategies concerning timber harvesting and develop materials that inform department personnel and the public about these issues and strategies.
- Promote the interagency coordinating committee composed of public affairs specialists representing the state's forestry community.
- Include public affairs elements in all ongoing management planning and decision-making.
- Sponsor the Project Learning Tree (PLT) program in cooperation with the Department of Education and organize statewide PLT workshops.
- Determine annually the direction the Division should take to promote its programs, target the audiences it wishes to reach, and assess what types of printed materials it needs (recreation maps, brochures, teacher curricula, etc.).
- Plan/participate in special events like the Minnesota Forestry Fair to help people understand more about forests and the environment.
- Participate annually with the Department of Agriculture and an advisory committee in organizing the state's Arbor Day/Arbor Month program.
- Draft necessary policy directives for clear definition of Division information and education roles and responsibilities.
- Promote forestry facilities and services.
- Cooperate with the DNR Bureau of Information and Education and with region information and education personnel.
- Conduct periodic forest user surveys to assess public needs and expectations.

GOAL: Achieve increased public awareness and understanding of division programs, products, and services.

	Measure	1991	1992	1993	1994	1995
<u>Budget</u>						
1. Projected total	\$(000's)	320	480	480	480	480
<u>Staffing</u> (fte = full-time equivalent)	fte	8.5	10.0	10.0	10.0	10.0
<u>Targets</u> M = 1,000						
<u>Promotion and Publicity</u>						
1. Develop printed materials and displays	projects	8	8	8	8	8
2. Initiate and maintain media contacts (example: working with a TV newscaster to develop a segment on forest management)	contacts	5	5	5	5	5
3. Advertise state forest land and station locations	efforts	20	20	20	20	20
<u>Coordination of Special Events</u>						
4. Participate in community and school Arbor Day celebrations	celebrations	80	85	85	85	85
5. Distribute Arbor Day material to educators and interested individuals statewide	packets	5,000	7,000	7,000	10,000	10,000
6. Promote Arbor Day seedling program for schools and non-profit civic organizations	M seedlings	225	250	250	250	250
7. Recognize Tree City USA recipients	communities	55	60	70	85	100
<u>Training and Public Education</u>						
8. Sponsor Project Learning Tree workshops statewide	workshops	30	30	35	35	40
9. Special projects	projects <sup>(a)</sup>	6	7	6	7	6

(a) Project names: Mn Forestry Fair (92, 94), PLT supplement, Division Marketing Plan, I&E policy directives.





**Administrative and Technical  
Support Program**

**MINNESOTA FOREST  
RESOURCES PLAN**





## HUMAN RESOURCES DEVELOPMENT

### ACTIVITY DESCRIPTION

Managing the human resources of the Division is just as important and as challenging as managing natural resources. The state's human resources management function is conducted within a framework of laws, rules, bargaining unit agreements and generally accepted practices. The Division's Human Resources Development program is regulated by Department of Employee Relations Administrative Procedures 21 A-E, Department Operational Order #13, Department Personnel Memorandum #30, and Statutory Reference 43A.21. Within DNR it is complicated further by the complexity of the Department and the dynamic nature of its activities. In addition, pressures from the "outside" affect the DNR system, such as an aging workforce, baby boom bulge, early retirement options, and so on.

The Division is taking positive steps to adapt to a changing workforce and changing clientele needs/demands through its Human Resources Development Program. By doing so it can establish a climate that enables its employees to be successful. The major elements of the program include recruitment, selection, orientation, training, education and development of all Division personnel.

Through this program the Division seeks to appoint the best available candidates to vacant positions within the guidelines established by statute, policy, and procedure (including Affirmative Action). The program also provides personnel with in-service training to improve knowledge, skills and abilities needed to function effectively in their current position. Education opportunities are also made available to enable personnel to effectively deal with an ever-changing environment. Career development assistance is provided to all employees where it is determined to benefit both the individual employee and the State.

### GOAL

Obtain the best possible productivity from the Division's human resources by implementing human resource planning strategies designed to put the right numbers and kinds of people in the right

places, at the right time, doing the things that result in the Division accomplishing its goals and objectives.

### STATEWIDE DIRECTION

The Division needs to continue to develop and refine its in-service training and continuing education, and development efforts. The strategy includes strengthening in-house course offerings, and taking advantage of course offerings of other academic and continuing education organizations. We will meet the needs of people to accomplish their present tasks, and to prepare them for future needs. Emphasis will be on increased supervisory training and on implementing methods of keeping current employees satisfied and motivated within their present jobs, and on improving the quality of training.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Use effective human resources planning strategies to improve overall productivity of the Division's workforce.
- Develop and strengthen technical skills, management and supervisory skills. Use 4 percent of Division time and budget resources to accomplish this.
- Recruit capable personnel for the Division; adopt a proactive approach.
- Continue Trainee Program
- Maintain the student intern program.
- Actively pursue the Department's affirmative action goals.
- Complete a classification study of all Division technical positions.
- Continue implementation of the Division's Annual Individual Training Plan Development Program. Use training NEEDED information to schedule Division training.
- Include participation of all working classes in the Division Human Resources Development Program.
- Orient and evaluate Entry Level Professional Foresters using 6-12 month field mobility assignments.
- Incorporate human resource planning into the

routine daily planning functions of Division Management.

- Implement a Management Training Program in the Division of Forestry.
- Use training, education, and development opportunities outside state government to complement and diversify the program.
- Use all training, education and development methods (i.e., audio tapes, video tapes, books, periodicals, public and custom design seminars, and local and community colleges) to strengthen and diversify the program and improve cost efficiency.
- Develop and implement Division-wide policy encouraging personnel to use self-help training opportunities.
- Use training, education, and development opportunities outside the areas of traditional professional forestry training to fill the gaps left by traditional academic forestry training.
- Use mobility assignments throughout the Division and Department to strengthen and diversify Division employees knowledge, abilities, skills and experience base.
- Recognize individual accomplishments in the areas of training, education and development.
- Promote cooperative training and continuing education efforts with all natural resource management agencies.
- Recognize employee's accomplishments through an active Rewards and Recognition Program.
- Promote the use of volunteers to help implement Division programs.

HUMAN RESOURCES  
DEVELOPMENT

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Obtain the best possible productivity from the Division's human resources by implementing human resource planning strategies designed to put the right numbers and kinds of people in the right places, at the right time, doing the things that result in the Division accomplishing its goals and objectives.

	Unit of Measure	1991	1992	1993	1994	1995
<u>Budget</u>						
1. Projected total	\$(000's)	650	700	700	700	700
<u>Staffing</u> (fte = full-time equivalent)	fte	18.6	19.7	19.7	19.7	19.7
<u>Targets</u> M = 1,000						
1. Employee training, education and development	M trng. hours	32.6	34.5	34.5	34.5	34.5
2. Recruit professional and technical foresters	visits	12	12	12	12	12
3. Appoint and orient professional foresters	people	5	5	5	5	5
4. Classification studies	positions	-	-	100	-	-

## MAINTENANCE AND ADMINISTRATION

### ACTIVITY DESCRIPTION

Maintenance and Administration covers the overhead costs that cannot be easily allocated to the Division's other programs. The major activities included in the program are building and equipment maintenance, and fiscal and personnel services. The Division maintains some 297 buildings and 852 motorized vehicles and heavy equipment.

The time and expenses of administering worker's compensation and unemployment claims are accounted for through this program, as are capital improvement expenditures. Efforts are underway to improve replacement and maintenance schedules for equipment and facilities, consistent with the development of Division programs and responsibilities.

Major objectives include the need to administer union contracts fairly across work units, assure consistency and timeliness in fiscal matters, and to develop budgets and spending plans, including a long-range capital improvement budget. Equipment and buildings must be well maintained, and the safety of every employee must be ensured.

The maintenance and administration unit is also charged with developing new legislative initiatives and monitoring the ongoing legislative process. The Division's Legislative Committee conducts periodic meetings, assembles and distributes legislative fact sheets, and staffs a rotating legislative liaison officer position during legislative sessions to serve as a key contact and source of information.

### GOAL

Administer fiscal and personal matters to achieve the goals of the Division's programs and to assure compliance with State policies and procedures; to maintain property and equipment to ensure employee safety; and to present a pleasing appearance to Division stations.

### MAJOR STRATEGIES AND OBJECTIVES FOR F.Y. 1991-1995

- Improve personnel and fiscal support services provided to program staff and supervisors.
- Assess capital improvement needs and develop long-range capital improvement budgets.
- Seek economical alternatives to building maintenance and repair while maintaining the safety of the buildings.
- Provide liaison to the Commissioner's Office, Field Services, and Regional Administration on the distribution of equipment and equipment dollars.
- Continue to implement the Division's office consolidation plan resulting in reduced administrative costs and increased efficiency in area operations.
- Pay all bills within 30 days as required by law.
- Promote decentralization of the bill paying process to the region level.
- Administer the cost coding program in a manner consistent with the department wide system while maintaining the integrity of the Division's labor and cost distribution records.
- Assure that the Division operates within Statewide policy and procedures as required by the Department of Finance and the Department of Administration.

MAINTENANCE AND  
ADMINISTRATION

FIVE-YEAR ACTION PLAN - STAFFING, BUDGET, TARGETS

GOAL: Administer fiscal and personal matters to achieve the goals of the Division's programs and to assure compliance with State policies and procedures; to maintain property and equipment to ensure employee safety; and to present a pleasing appearance to Division stations.

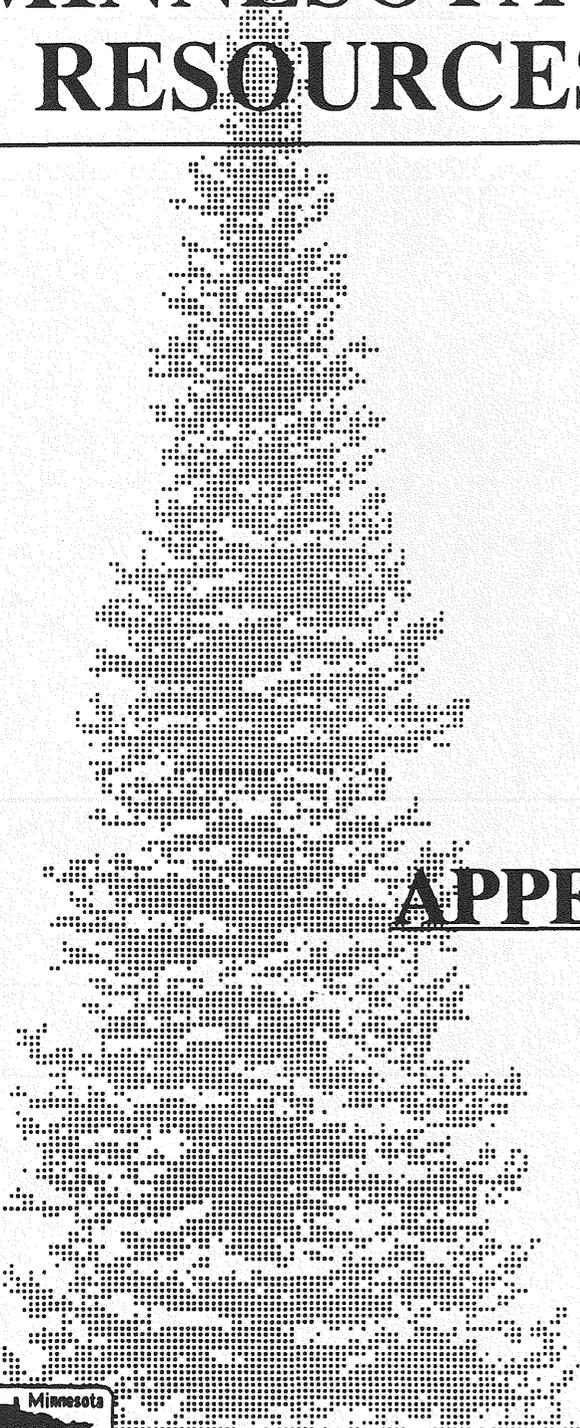
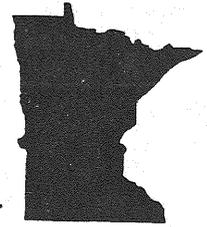
	Unit of Measure	1991	1992	1993	1994	1995
<b><u>Budget</u></b>						
1. Project Funding	\$(000's)	3450	3450	3450	3450	3450
<b><u>Staffing</u></b> (fte = full-time equivalent)	fte	91	88	87	86	85
<b><u>Targets</u></b>						
1. Maintain all Division motorized vehicles, buildings, and equipment	person hours vehicles	42,900 852	42,000 840	41,500 810	39,500 780	38,600 770



---

# MINNESOTA FOREST RESOURCES PLAN ©

---

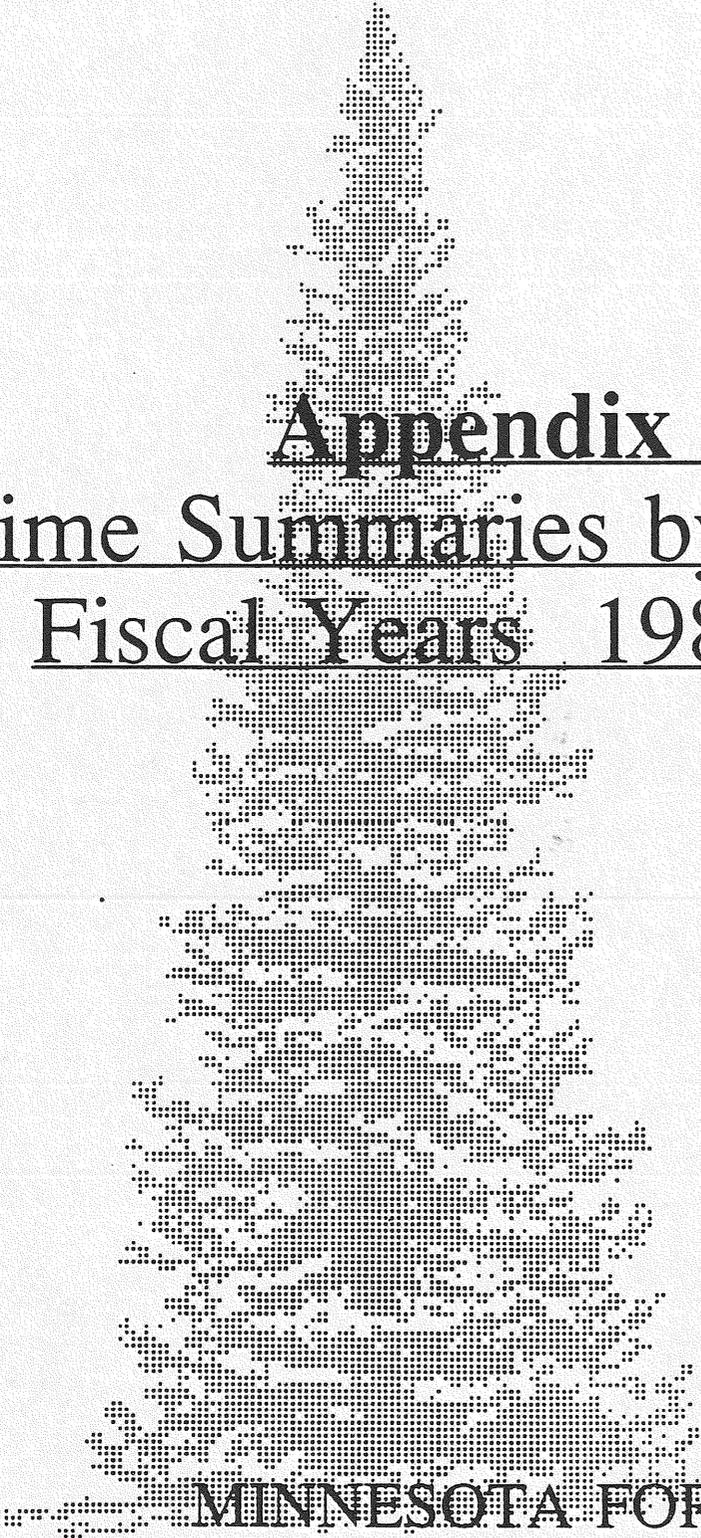


## APPENDIX



Minnesota Department of Natural Resources  
Division of Forestry





Appendix A  
Time Summaries by Program  
Fiscal Years 1981-1990

MINNESOTA FOREST  
RESOURCES PLAN





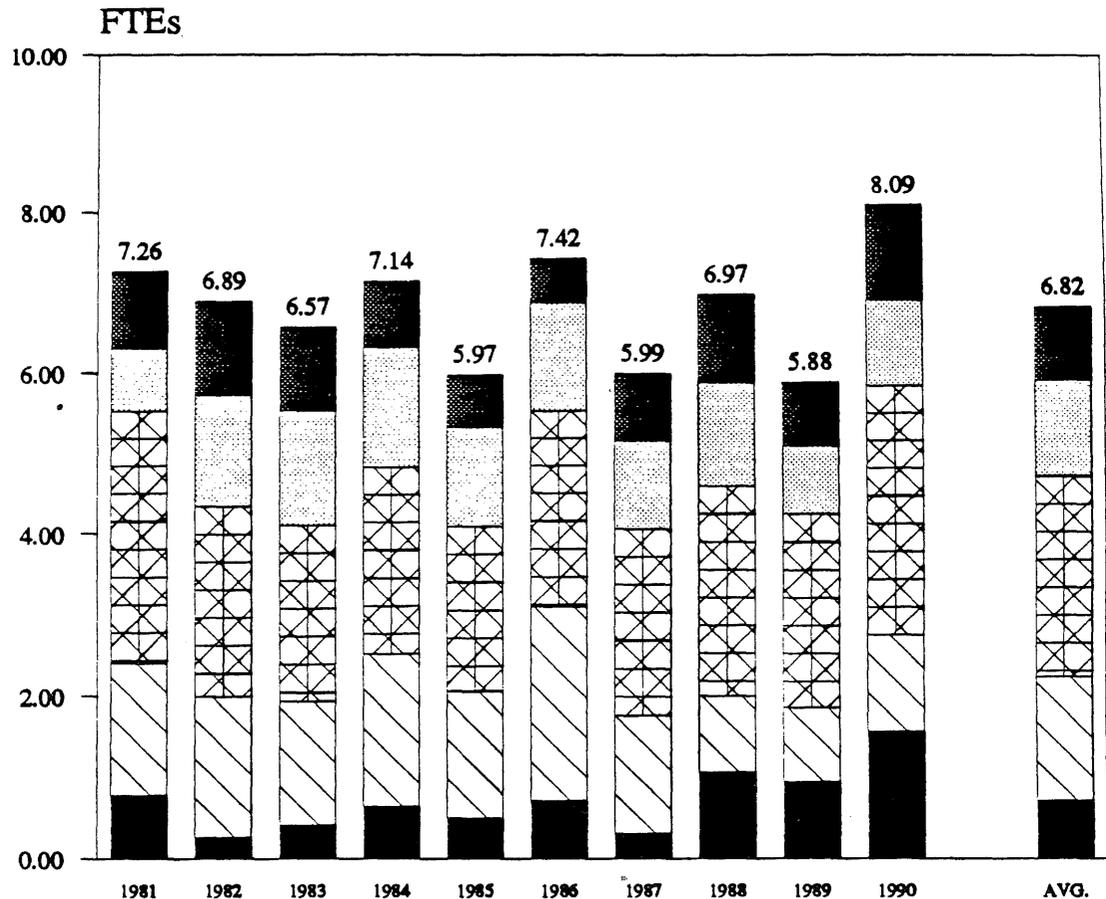
## PROGRAM STAFFING SUMMARY

This appendix contains historical time summary data from FY1981-FY1990 for 20 of the Division's 21 subprograms (staff time for the MIS subprogram is included as part of other subprogram totals).

Please note the following as you review this information:

- Summaries include actual time reported from July 1 through June 30 for each fiscal year, assembled for each program from assigned cost codes. One full-time equivalent (fte) is equal to 1730 hours for FY1981-FY1986, 1750 hours for FY1987-FY1990.
- Fiscal years 1981-1986 do not include time for work performed by twelve administrative personnel.
- Fiscal years 1981-1983 do not include time worked by 90% positions, seasonal or nontenured laborers, and student workers.
- Totals do not include paid leave time.

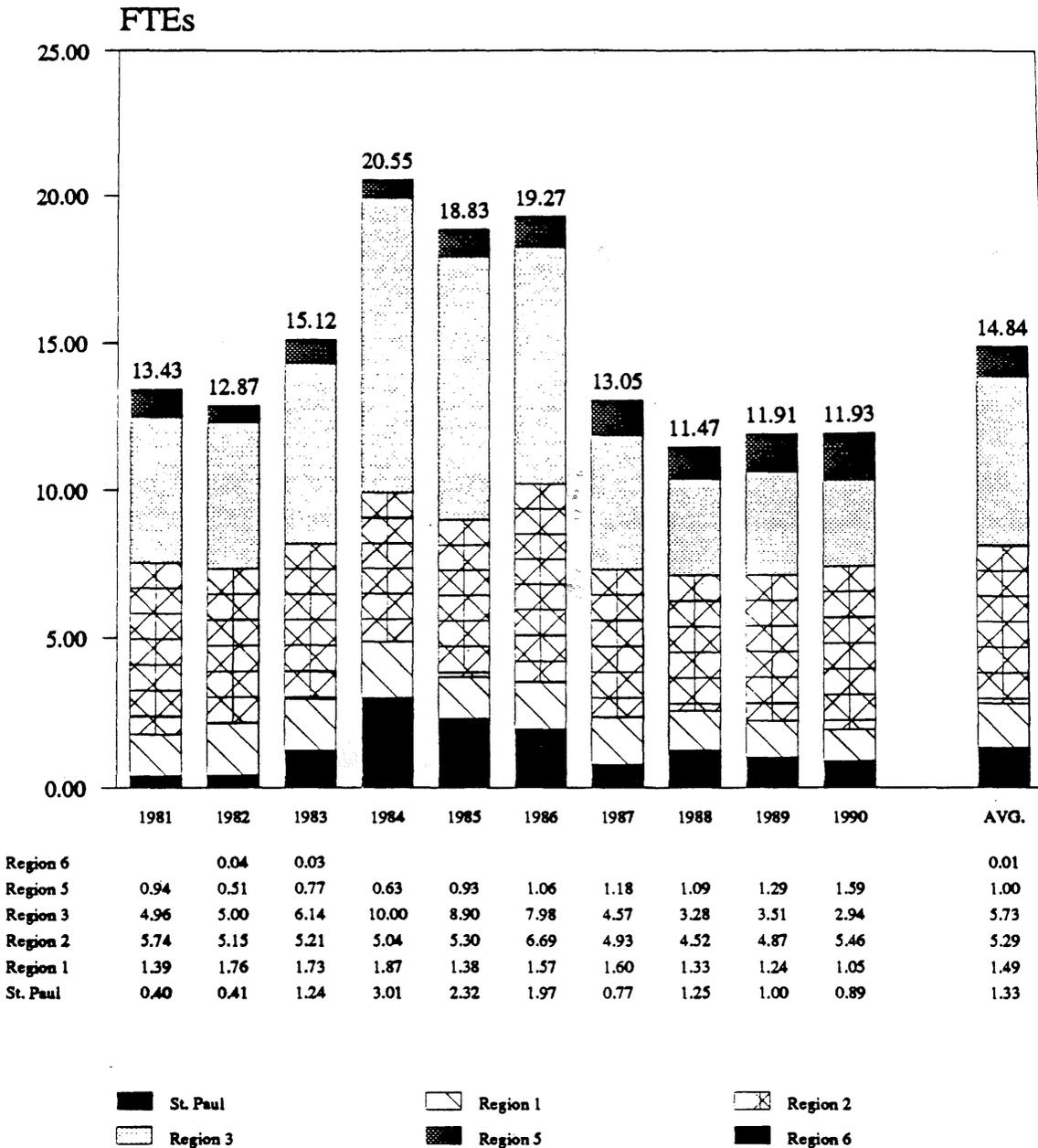
# LAND ADMINISTRATION PROGRAM TIME SUMMARY FY1981 - FY1990



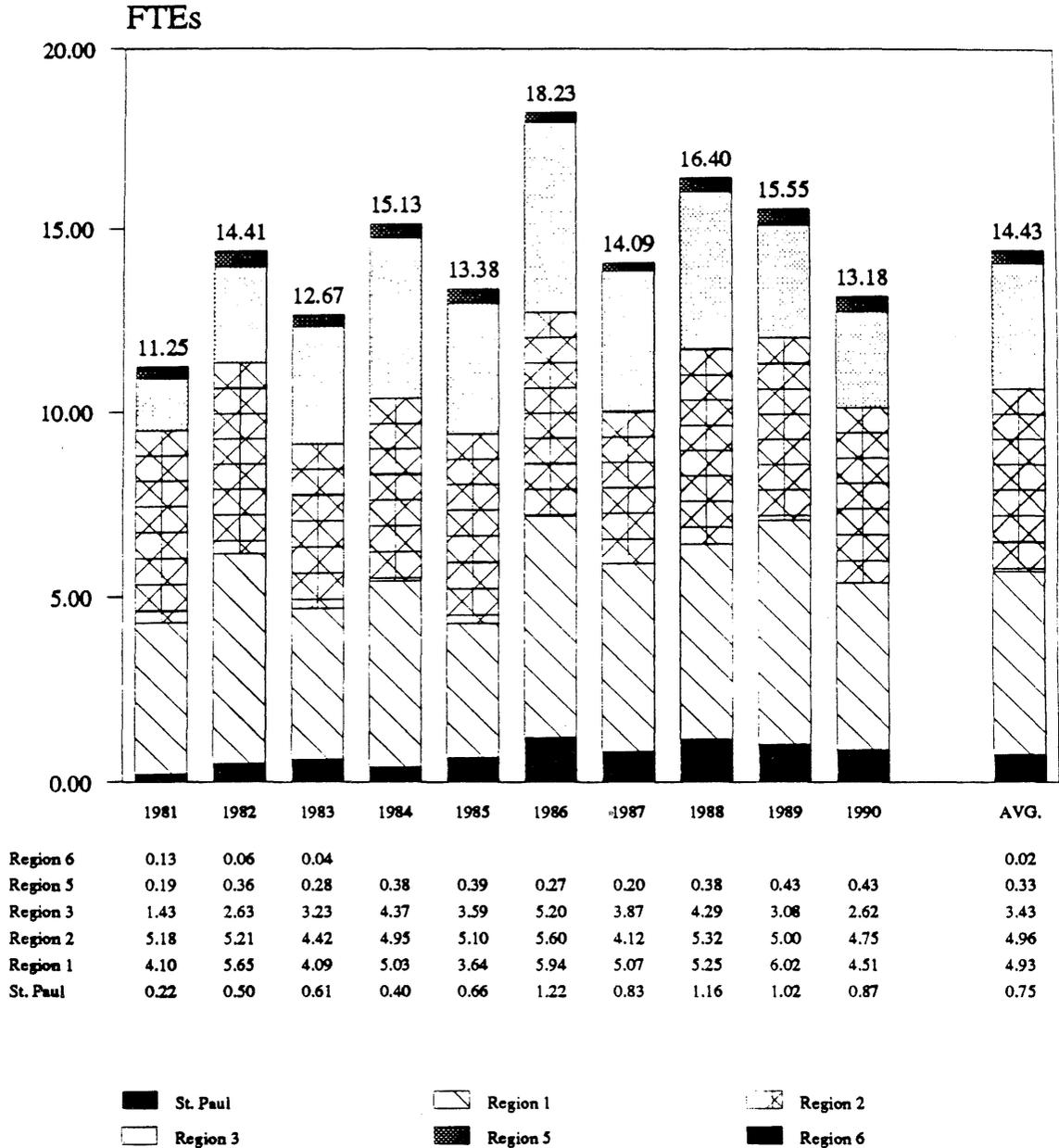
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
Region 6	0.01		0.05								0.01
Region 5	0.94	1.17	0.99	0.82	0.65	0.55	0.84	1.09	0.80	1.19	0.90
Region 3	0.79	1.39	1.43	1.50	1.24	1.35	1.10	1.30	0.85	1.07	1.20
Region 2	3.11	2.34	2.16	2.30	2.02	2.42	2.29	2.58	2.37	3.08	2.47
Region 1	1.63	1.73	1.53	1.88	1.56	2.39	1.45	0.94	0.92	1.19	1.52
St. Paul	0.78	0.26	0.41	0.64	0.50	0.71	0.31	1.06	0.94	1.56	0.72



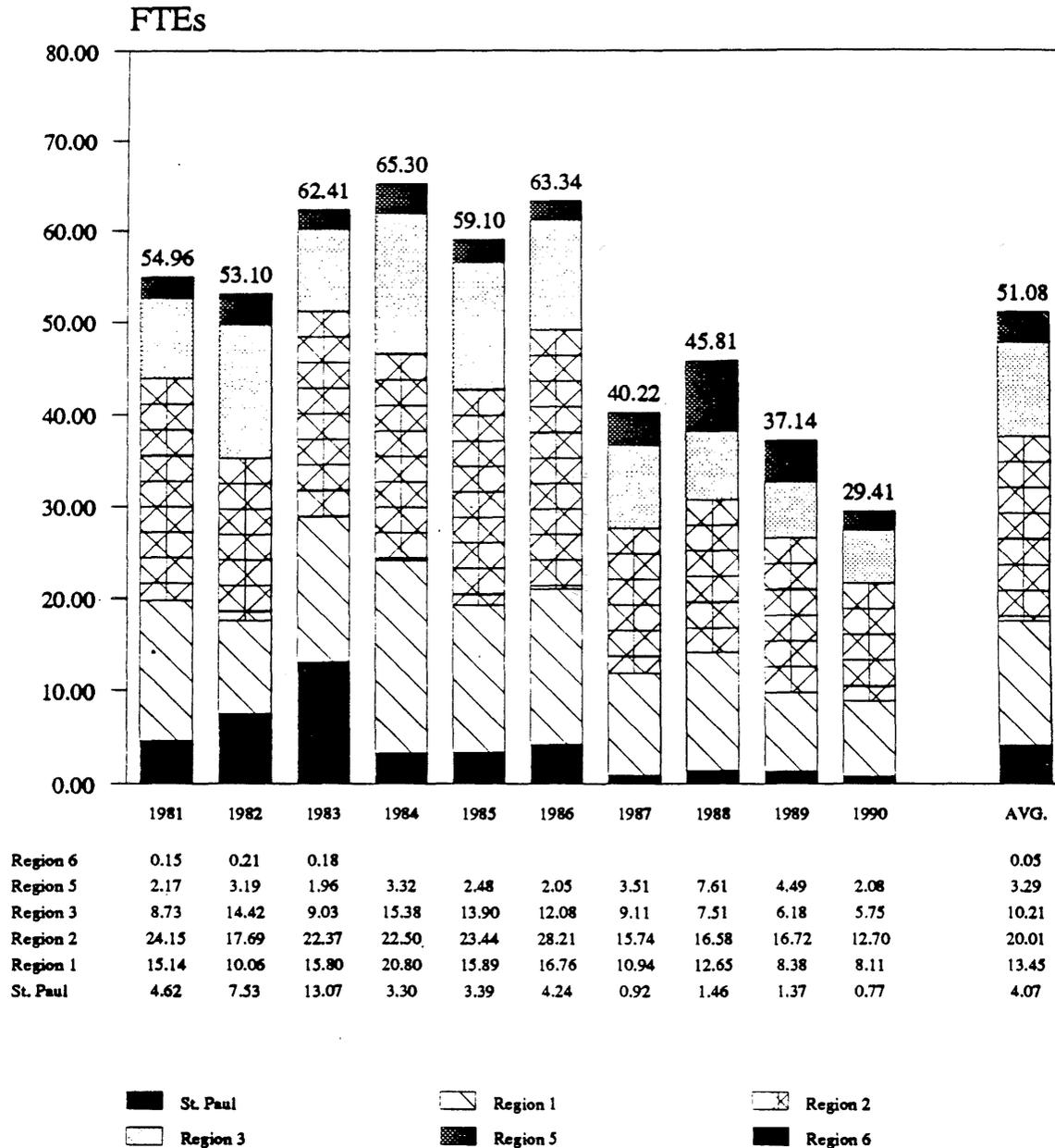
# FOREST RECREATION PROGRAM TIME SUMMARY FY1981 - FY1990



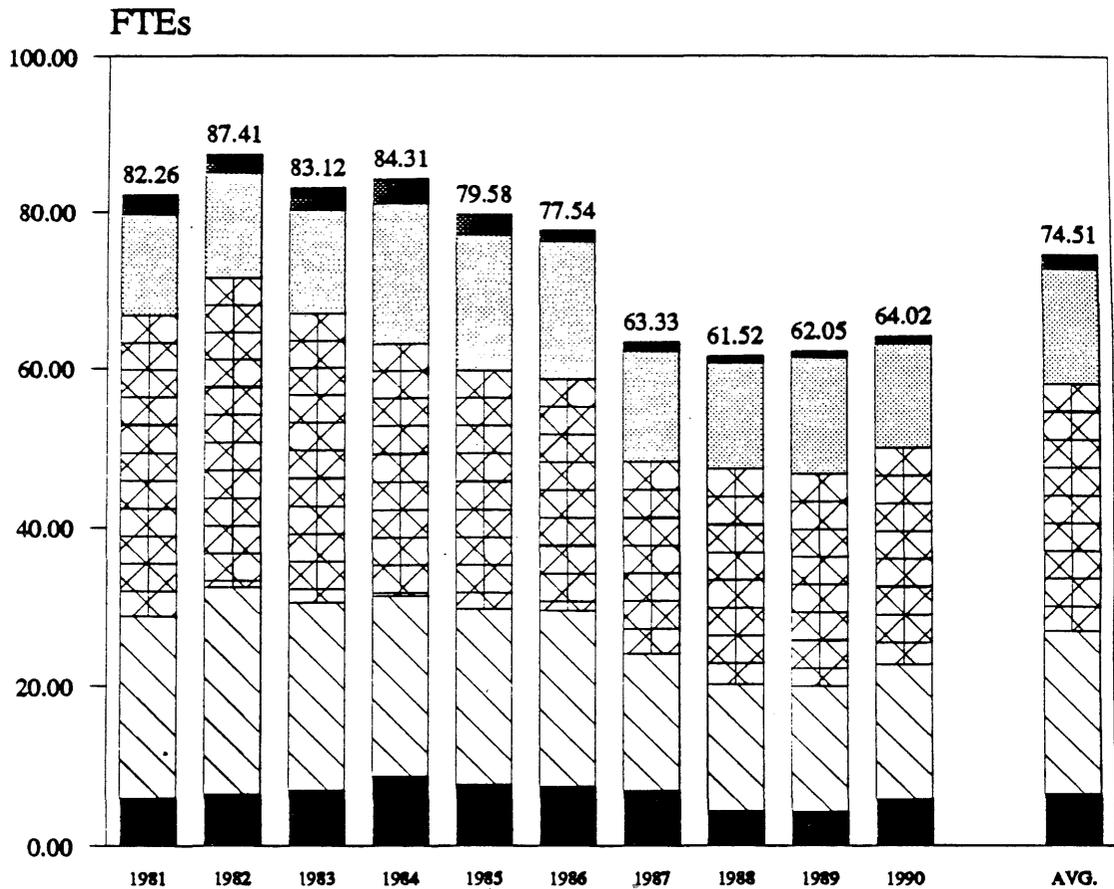
# FOREST ROADS PROGRAM TIME SUMMARY FY1981 - FY1990



# TIMBER MANAGEMENT PROGRAM TIME SUMMARY FY1981 - FY1990



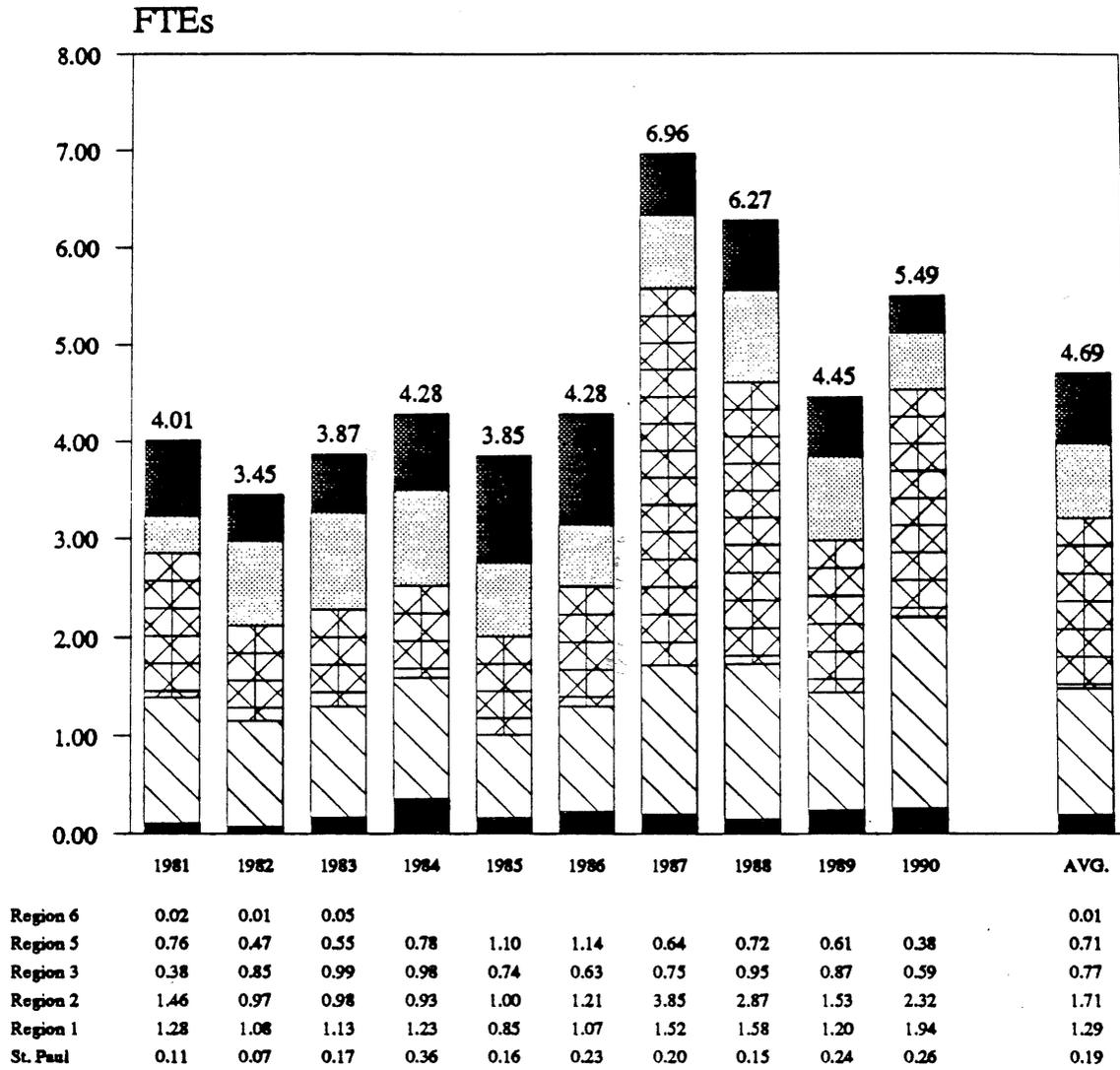
# TIMBER SALES PROGRAM TIME SUMMARY FY1981 - FY1990



	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
Region 6	1.34	1.00	1.28								0.36
Region 5	1.24	1.36	1.56	3.28	2.61	1.42	1.14	0.90	0.78	0.90	1.52
Region 3	12.92	13.53	13.25	17.98	17.39	17.57	14.01	13.33	14.58	13.21	14.78
Region 2	37.93	39.05	36.49	31.75	29.88	28.96	24.00	27.02	26.66	27.15	30.89
Region 1	22.94	26.11	23.65	22.68	22.08	22.19	17.31	15.97	15.78	17.04	20.57
St. Paul	5.89	6.36	6.89	8.62	7.62	7.40	6.87	4.30	4.25	5.72	6.39

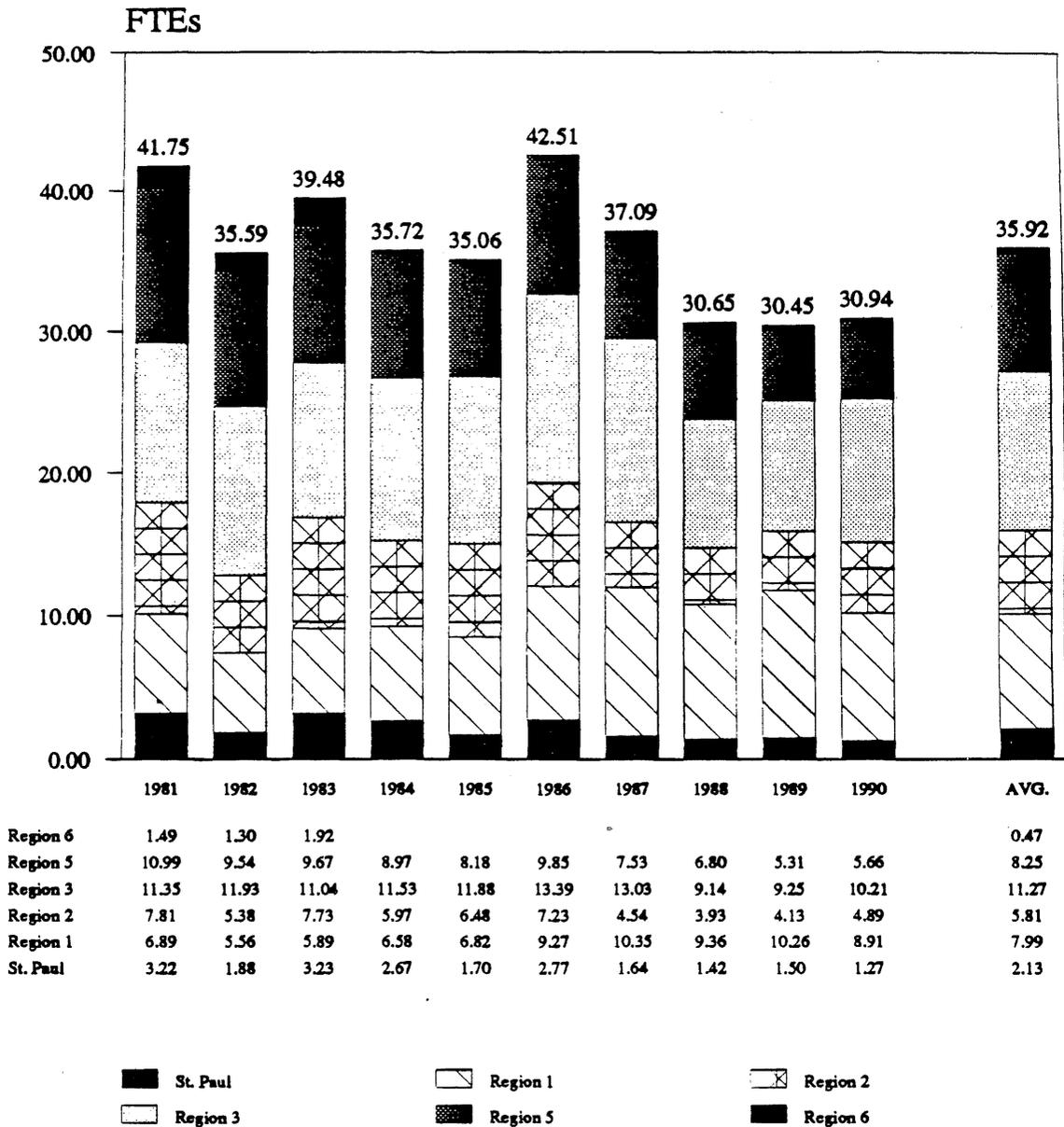


# FISH & WILDLIFE PROGRAM TIME SUMMARY FY1981 - FY1990



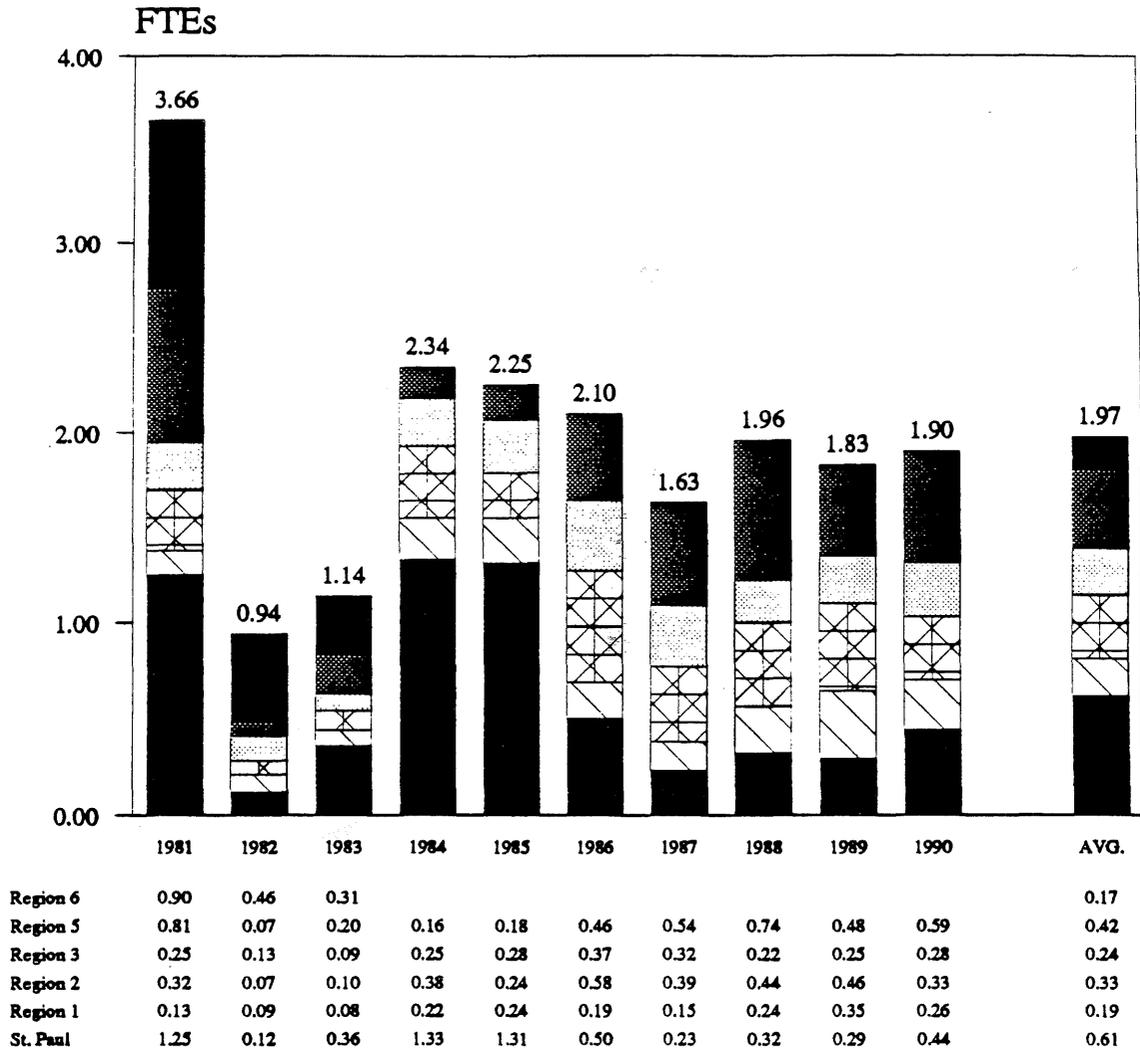
St. Paul	Region 1	Region 2
Region 3	Region 5	Region 6

# PRIVATE FOREST MGMT. PROGRAM TIME SUMMARY FY1981 - FY1990



*Note: Beginning FY1984, admin. time reported under HRD, Public Affairs, and Maintenance and Admin. programs.*

# URBAN FORESTRY PROGRAM TIME SUMMARY FY1981 - FY1990

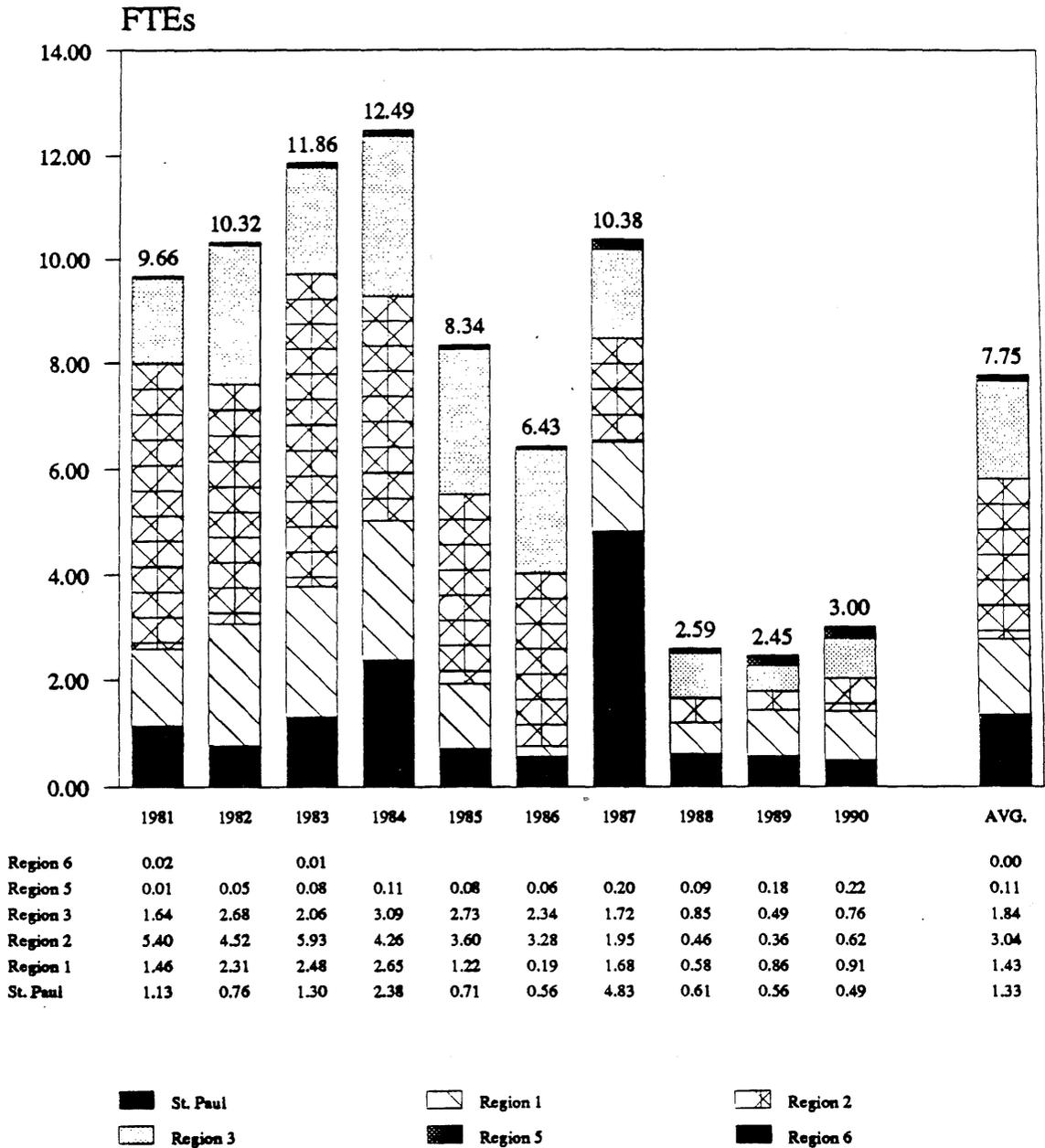


St. Paul
  Region 1
  Region 2

Region 3
  Region 5
  Region 6

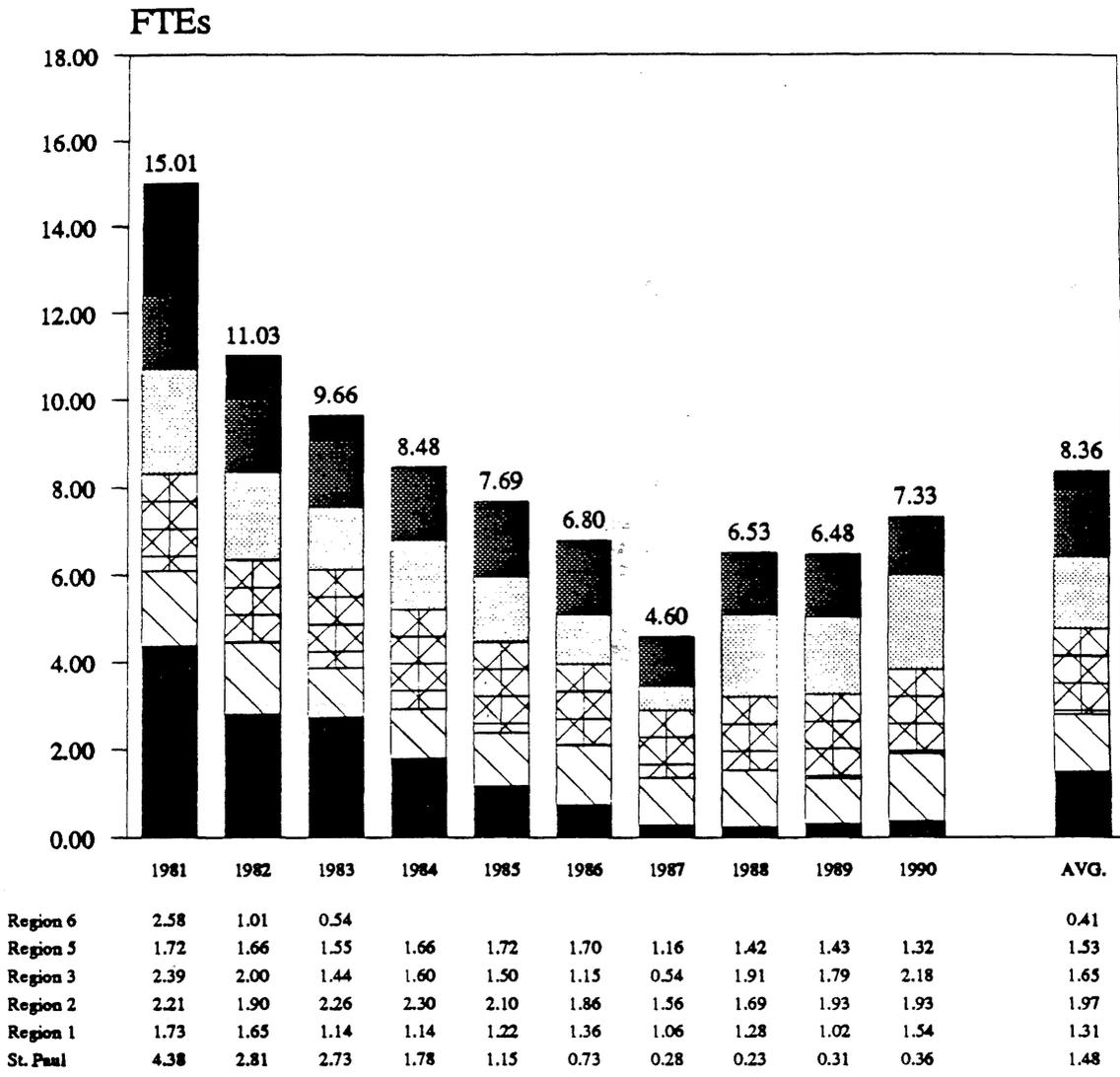
Note: Beginning FY1984, admin. time reported under HRD, Public Affairs, and Maint. and Admin. programs.

# COOP. COUNTY MGMT. PROGRAM TIME SUMMARY FY1981 - FY1990

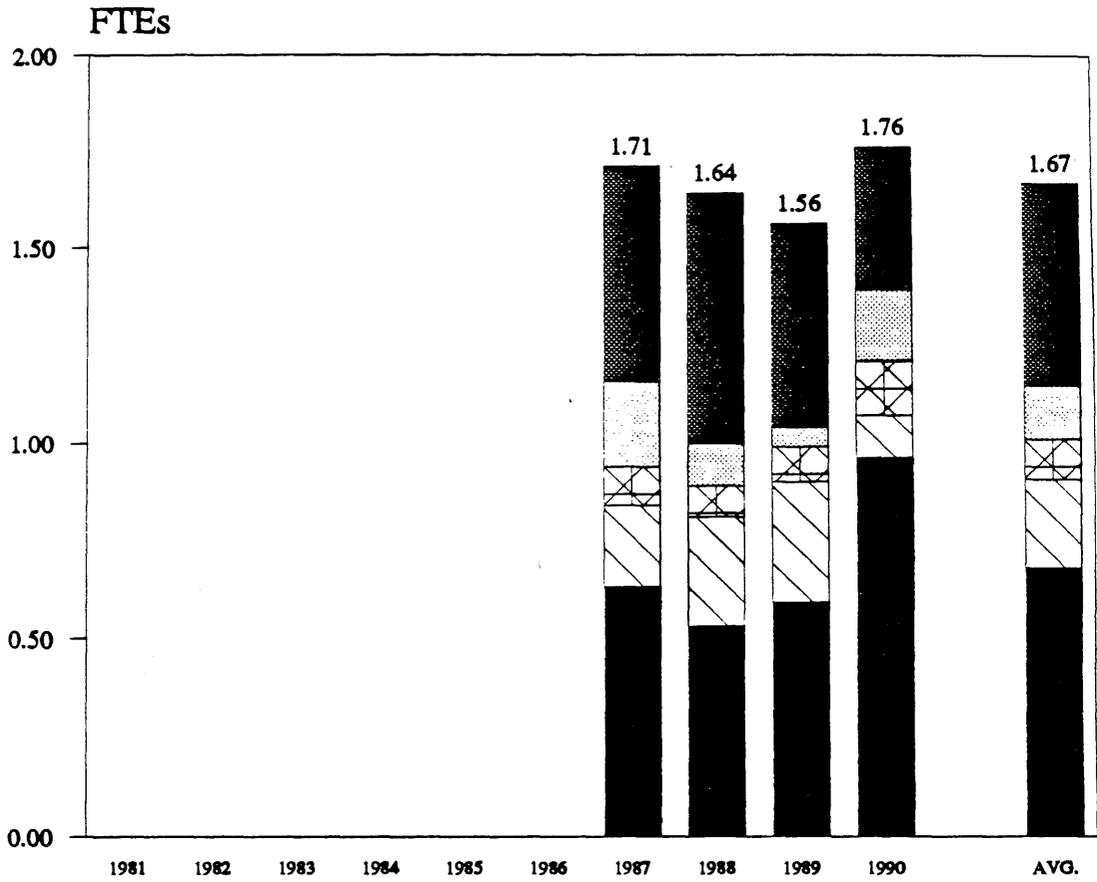


*Note: Beginning FY1984, admin. time reported under HRD, Pub. Affairs, and Maint. and Admin. programs. Large increase in St. Paul for FY1987 due to inventory projects in 3 counties.*

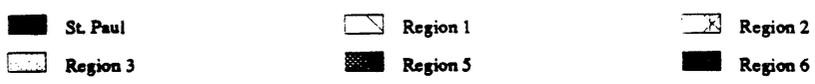
# FOREST PEST MGMT. PROGRAM TIME SUMMARY FY1981 - FY1990



# FOREST SOILS PROGRAM TIME SUMMARY FY1987- FY1990

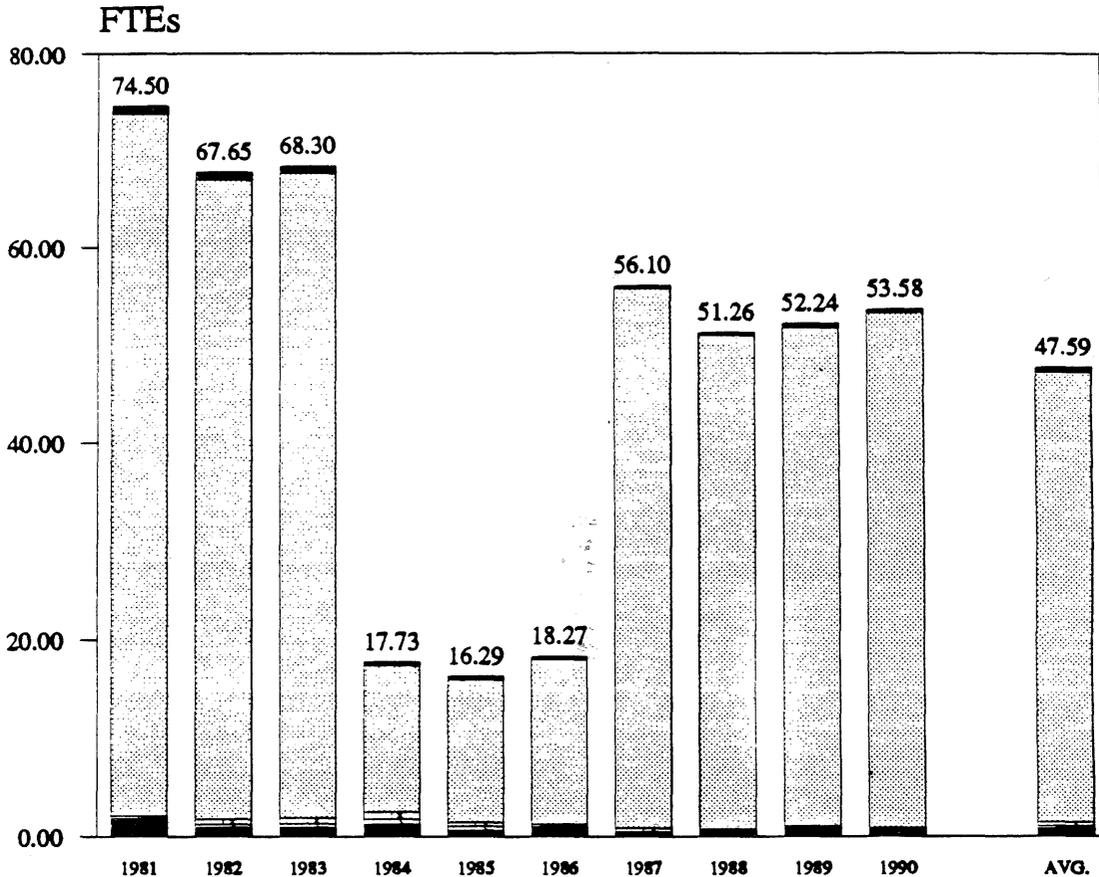


	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
Region 6											0.00
Region 5							0.55	0.64	0.52	0.37	0.52
Region 3							0.22	0.11	0.05	0.18	0.14
Region 2							0.10	0.08	0.09	0.14	0.10
Region 1							0.21	0.28	0.31	0.11	0.23
St. Paul							0.63	0.53	0.59	0.96	0.68



Note: Program time allocated to other programs prior to FY1987.

# NURSERY & TREE IMP. PROGRAM TIME SUMMARY FY1981 - FY1990

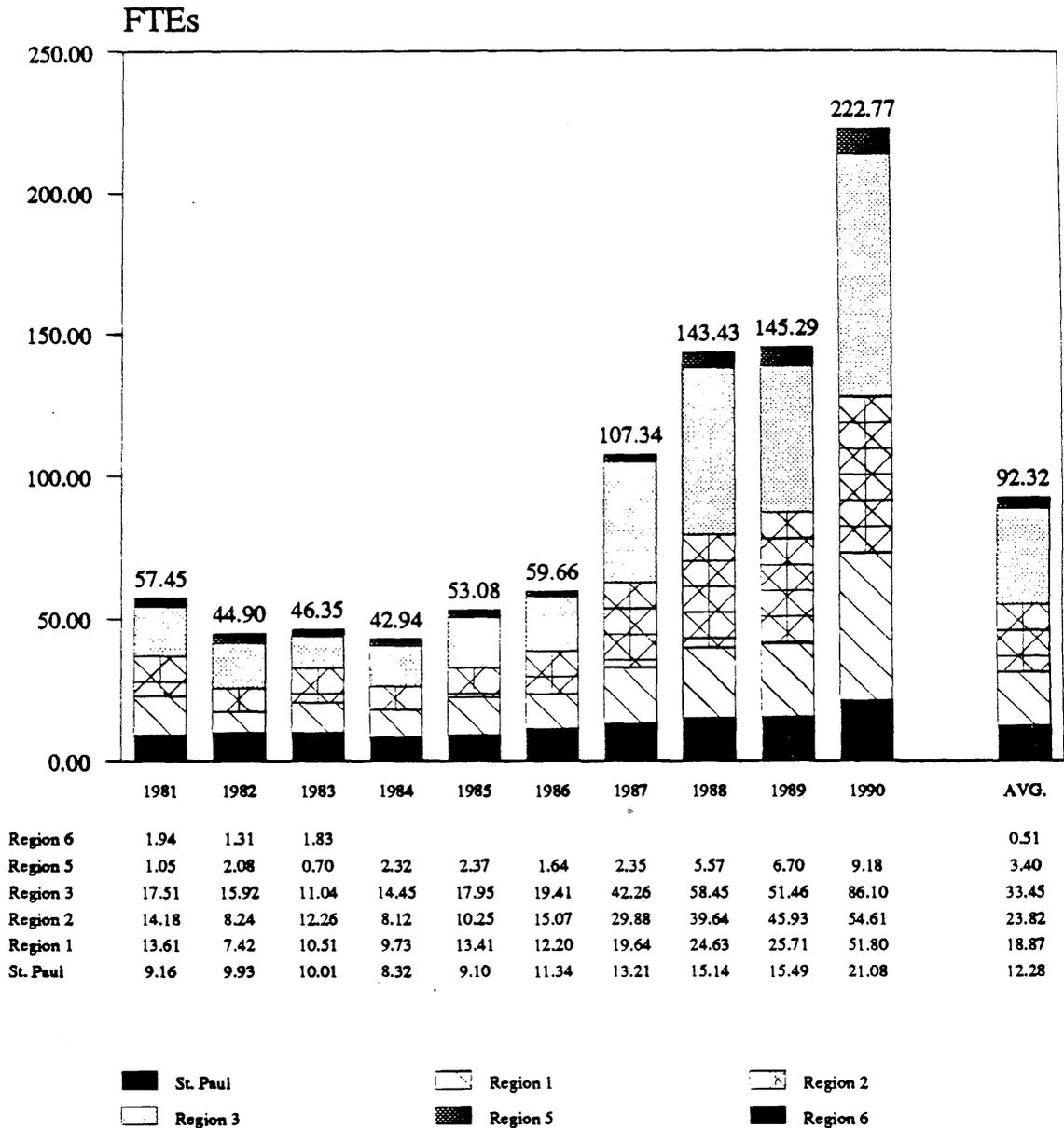


	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
Region 6	0.71	0.24	0.25		0.09						0.13
Region 5	0.09	0.55	0.43	0.28	0.23	0.23	0.27	0.30	0.43	0.33	0.31
Region 3	71.61	65.12	65.77	14.96	14.55	16.81	54.99	50.26	50.79	52.41	45.73
Region 2	0.30	0.54	0.56	0.74	0.37	0.30	0.42	0.25	0.15	0.28	0.39
Region 1	0.19	0.28	0.42	0.52	0.46	0.26	0.24	0.13	0.01	0.05	0.26
St. Paul	1.60	0.92	0.87	1.23	0.59	0.67	0.18	0.32	0.86	0.51	0.77



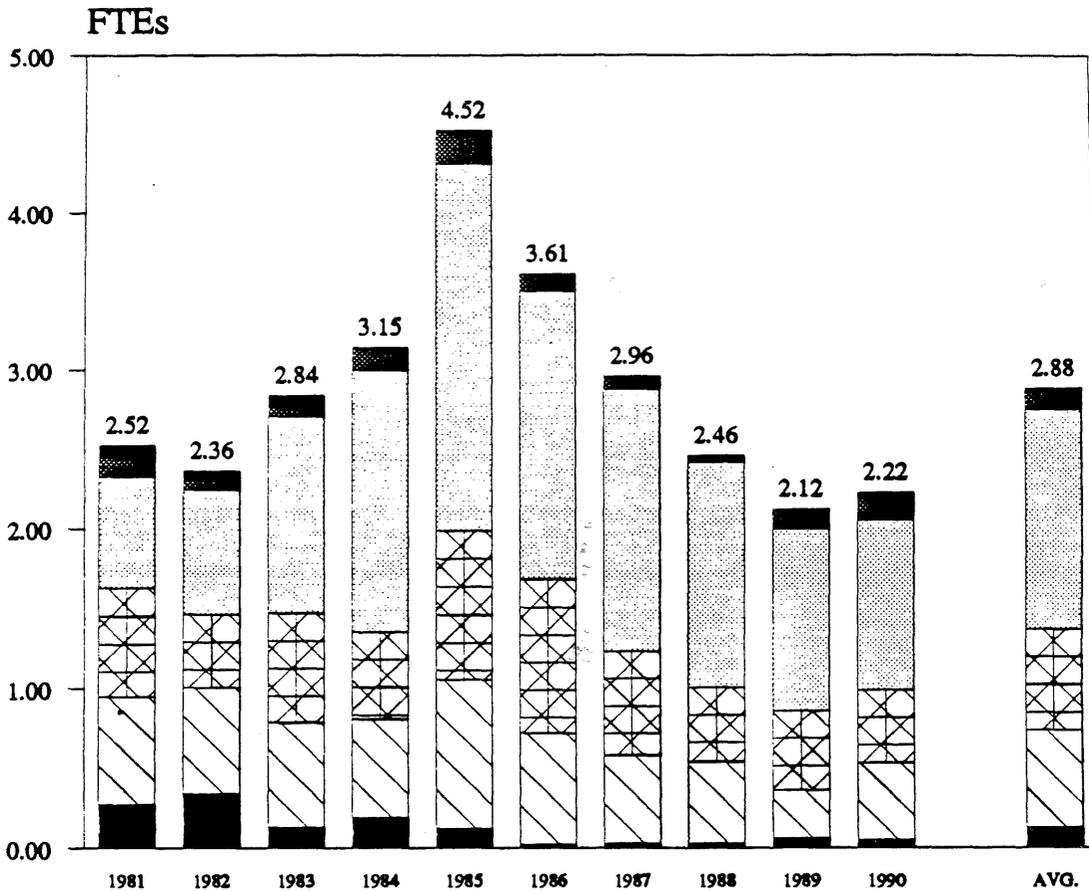
Note: FY's 1984-1986 do not include time spent by laborers.

# FIRE MANAGEMENT PROGRAM TIME SUMMARY FY1981 - FY1990



Note: Beginning FY1990, program total includes time spent by seasonal workers (i.e. smokechasers).

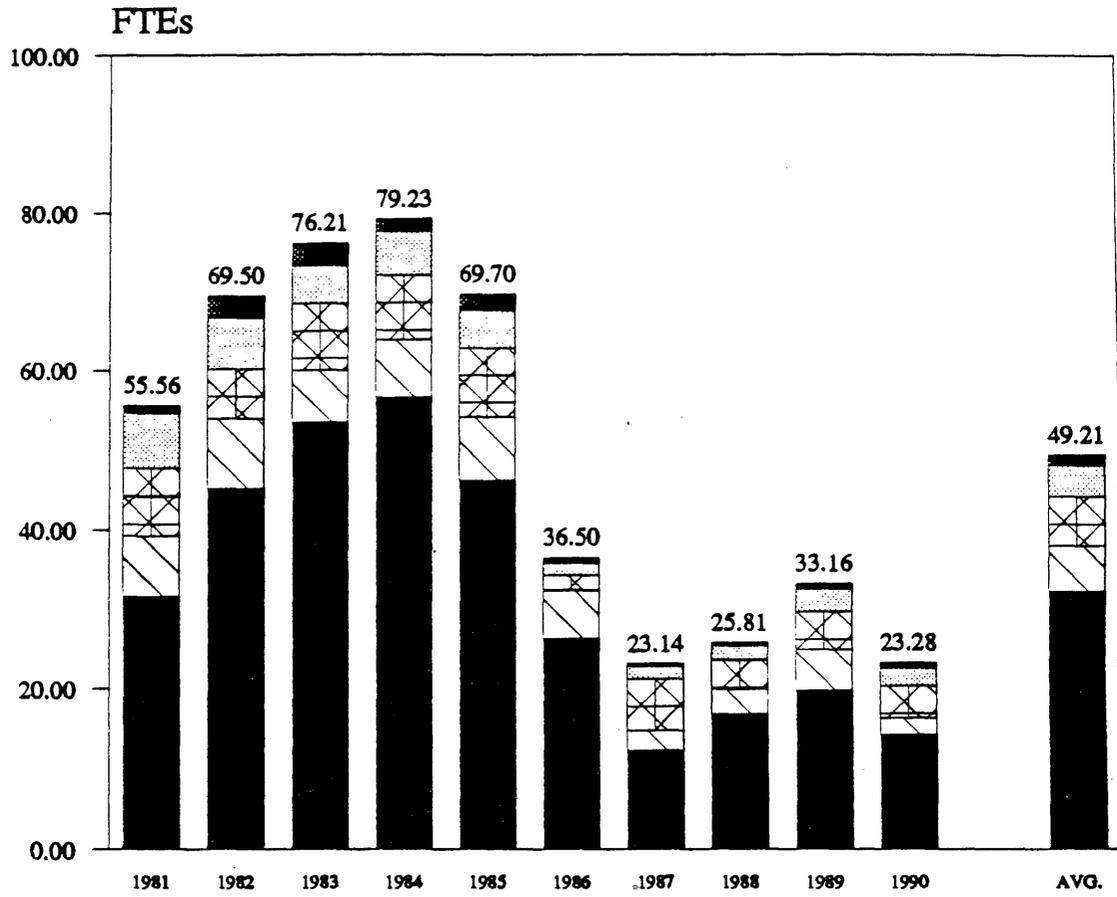
# LAW ENFORCEMENT PROGRAM TIME SUMMARY FY1981 - FY1990



	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
Region 6	0.08	0.06	0.08	0.15	0.21	0.11	0.08	0.04	0.12	0.17	0.02
Region 5	0.12	0.06	0.05	0.15	0.21	0.11	0.08	0.04	0.12	0.17	0.11
Region 3	0.69	0.77	1.23	1.64	2.32	1.81	1.64	1.41	1.14	1.06	1.37
Region 2	0.68	0.46	0.69	0.55	0.93	0.97	0.66	0.47	0.50	0.46	0.64
Region 1	0.68	0.67	0.66	0.62	0.94	0.70	0.55	0.51	0.30	0.48	0.61
St. Paul	0.27	0.34	0.13	0.19	0.12	0.02	0.03	0.03	0.06	0.05	0.12



# FOREST INVENTORY PROGRAM TIME SUMMARY FY1981 - FY1990

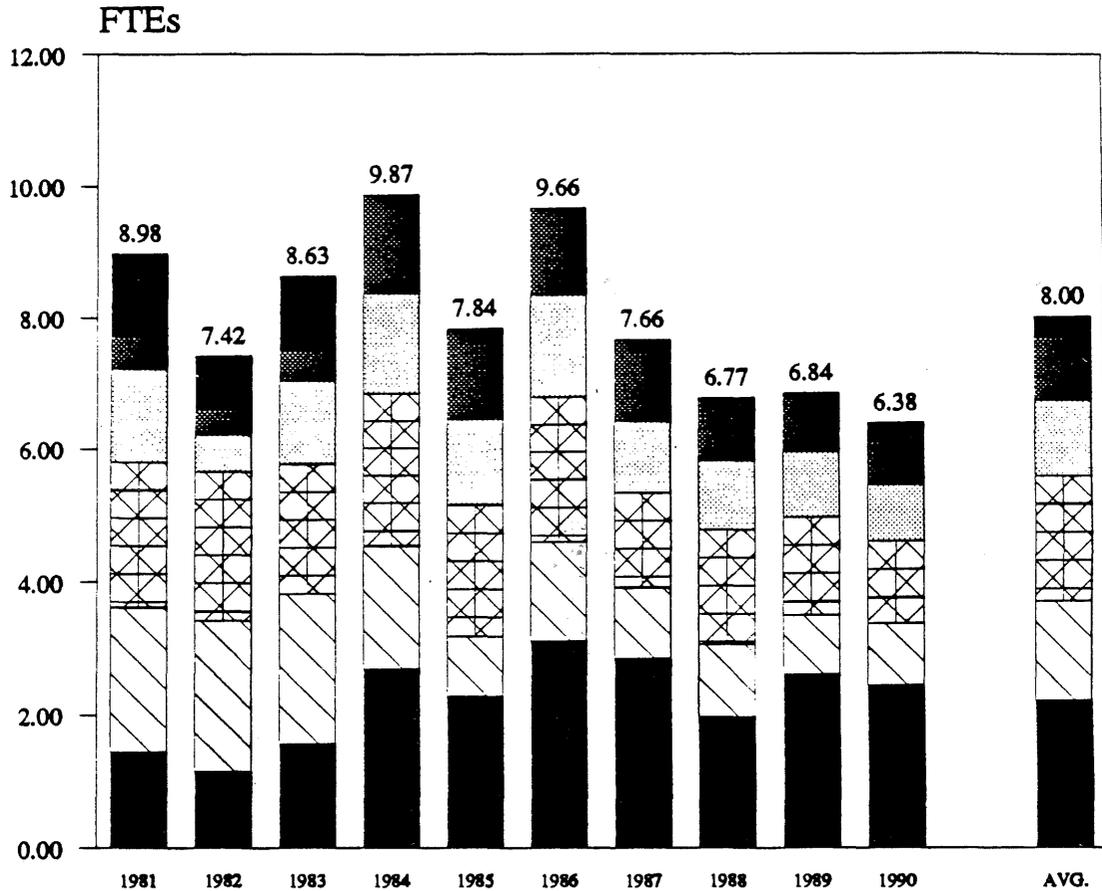


	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
Region 6	0.71	0.15	0.12	1.55	2.03	0.66	0.25	0.39	0.60	0.63	0.10
Region 5	0.31	2.62	2.74	1.55	2.03	0.66	0.25	0.39	0.60	0.63	1.18
Region 3	6.86	6.31	4.79	5.56	4.79	1.54	1.63	1.79	2.83	2.26	3.86
Region 2	8.44	6.31	8.47	8.17	8.77	1.87	6.44	3.70	4.79	4.07	6.10
Region 1	7.60	8.68	6.62	7.36	7.97	6.04	2.51	3.15	5.16	2.13	5.72
St. Paul	31.64	45.23	53.47	56.59	46.14	26.39	12.31	16.78	19.78	14.19	32.25

St. Paul
  Region 1
  Region 2

Region 3
  Region 5
  Region 6

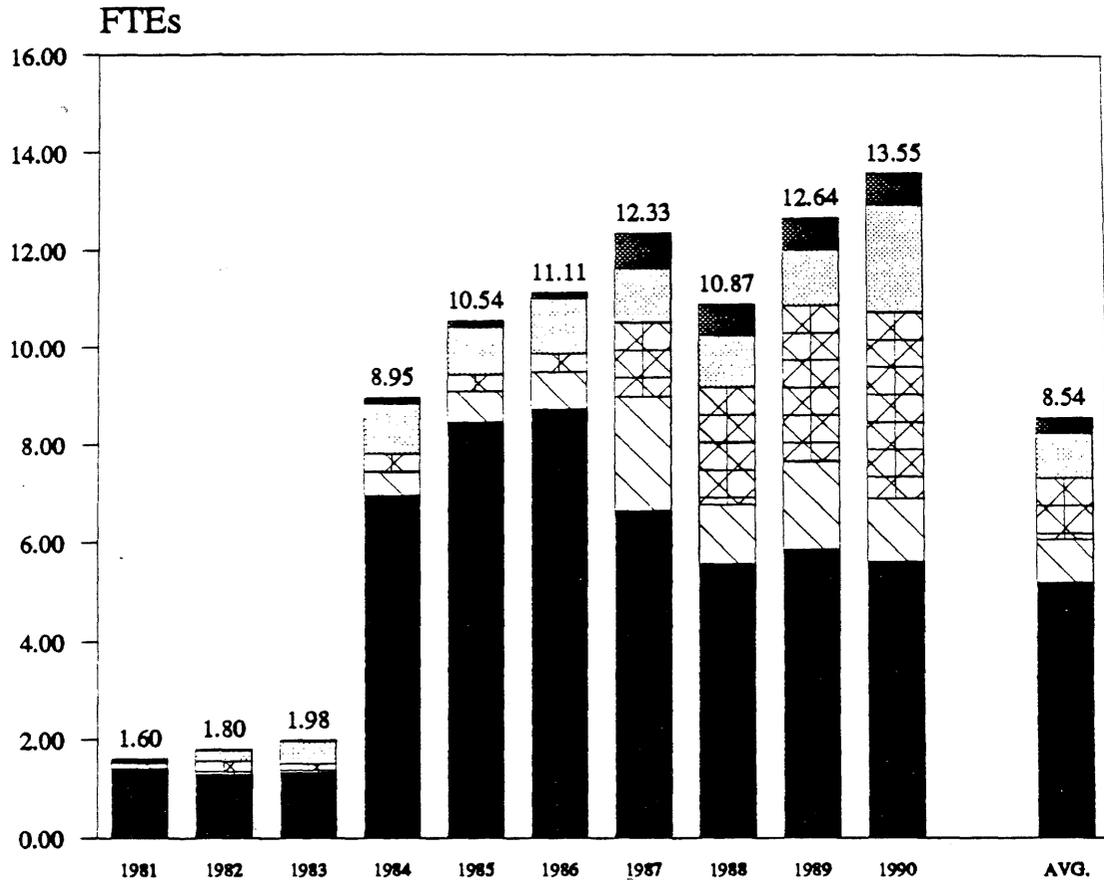
# UTILIZATION & MARKETING PROGRAM TIME SUMMARY FY1981 - FY1990



	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
<b>Region 6</b>	1.26	0.82	1.14	1.49	1.39	1.32	1.25	0.96	0.89	0.93	0.96
<b>Region 5</b>	0.49	0.38	0.46	1.49	1.39	1.32	1.25	0.96	0.89	0.93	0.96
<b>Region 3</b>	1.43	0.56	1.26	1.53	1.30	1.56	1.08	1.03	0.99	0.85	1.16
<b>Region 2</b>	2.17	2.23	1.94	2.31	1.96	2.19	1.41	1.71	1.45	1.22	1.86
<b>Region 1</b>	2.18	2.28	2.26	1.84	0.90	1.47	1.06	1.09	0.89	0.93	1.49
<b>St. Paul</b>	1.45	1.15	1.57	2.70	2.29	3.12	2.86	1.98	2.62	2.45	2.22



# FOREST PLANNING PROGRAM TIME SUMMARY FY1981 - FY1990



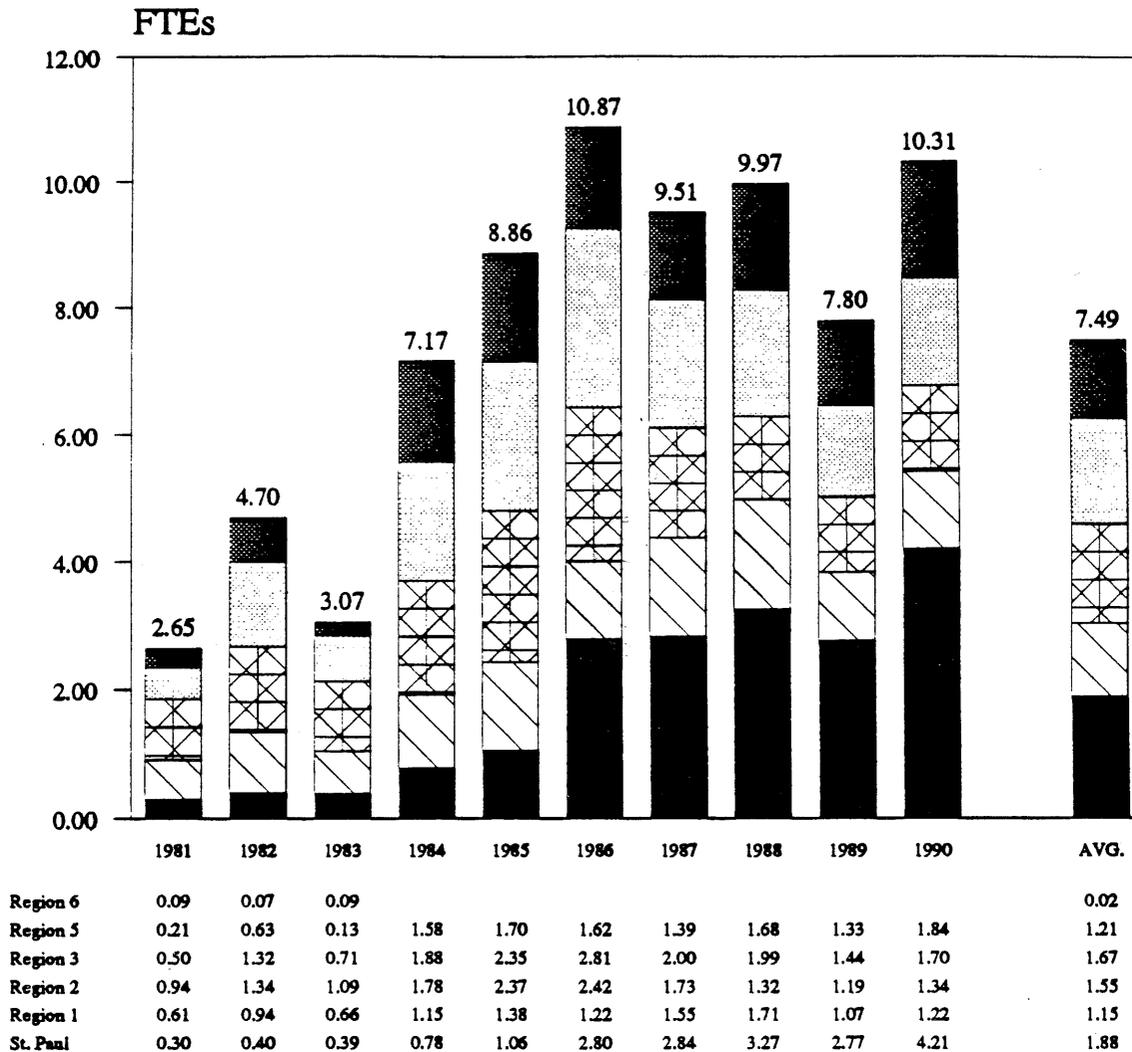
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	AVG.
Region 6	0.00	0.00	0.01								0.00
Region 5	0.03	0.01	0.00	0.11	0.13	0.12	0.74	0.64	0.65	0.65	0.31
Region 3	0.02	0.22	0.46	1.04	0.99	1.13	1.10	1.07	1.15	2.20	0.94
Region 2	0.03	0.21	0.13	0.37	0.34	0.38	1.52	2.40	3.20	3.83	1.24
Region 1	0.11	0.07	0.05	0.49	0.62	0.76	2.34	1.20	1.78	1.26	0.87
St. Paul	1.41	1.29	1.33	6.94	8.46	8.72	6.63	5.56	5.86	5.61	5.18

St. Paul
  Region 1
  Region 2

Region 3
  Region 5
  Region 6

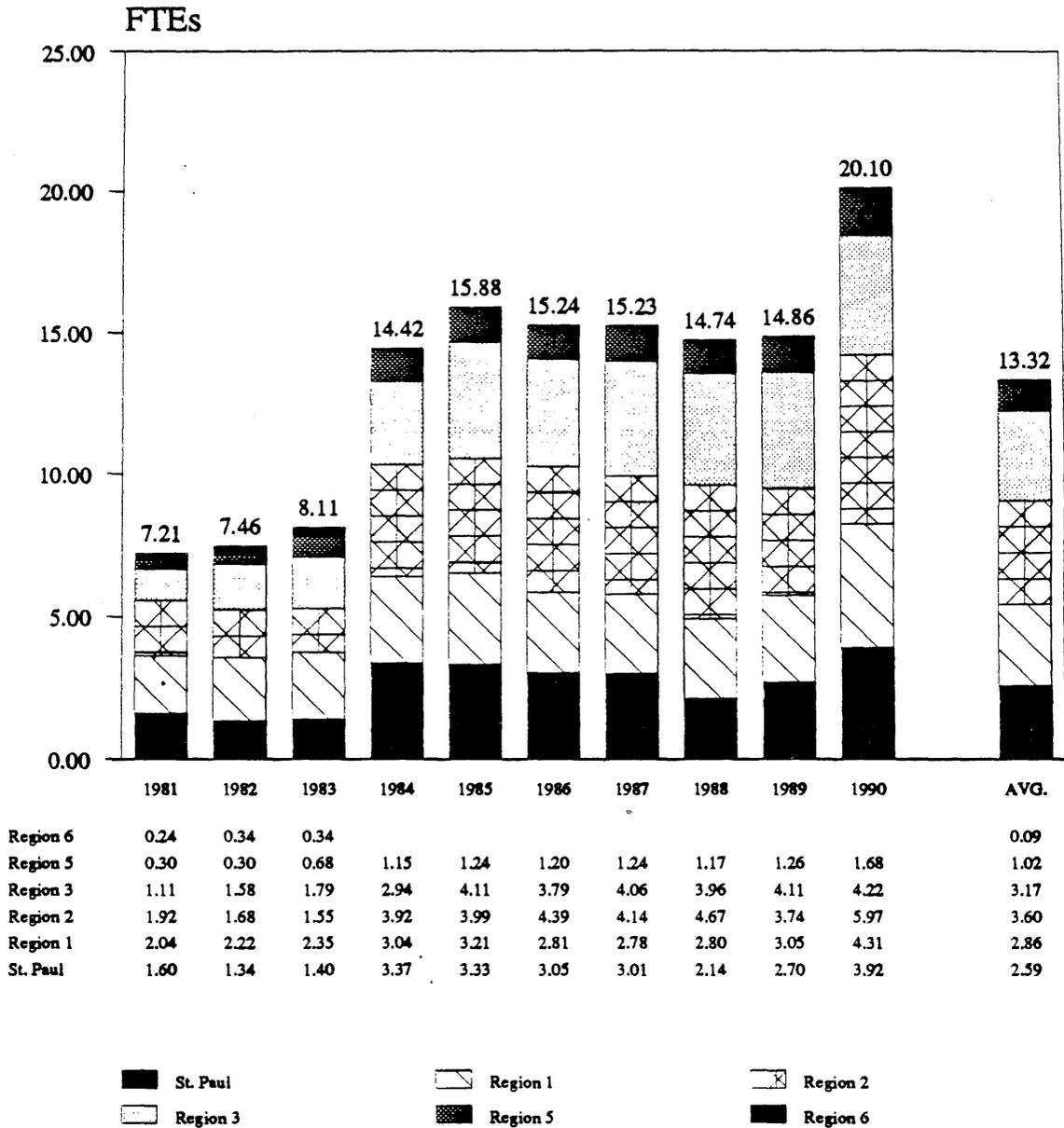
Note: Prior to FY1984, most planning time was coded to other programs.

# PUBLIC AFFAIRS PROGRAM TIME SUMMARY FY1981 - FY1990



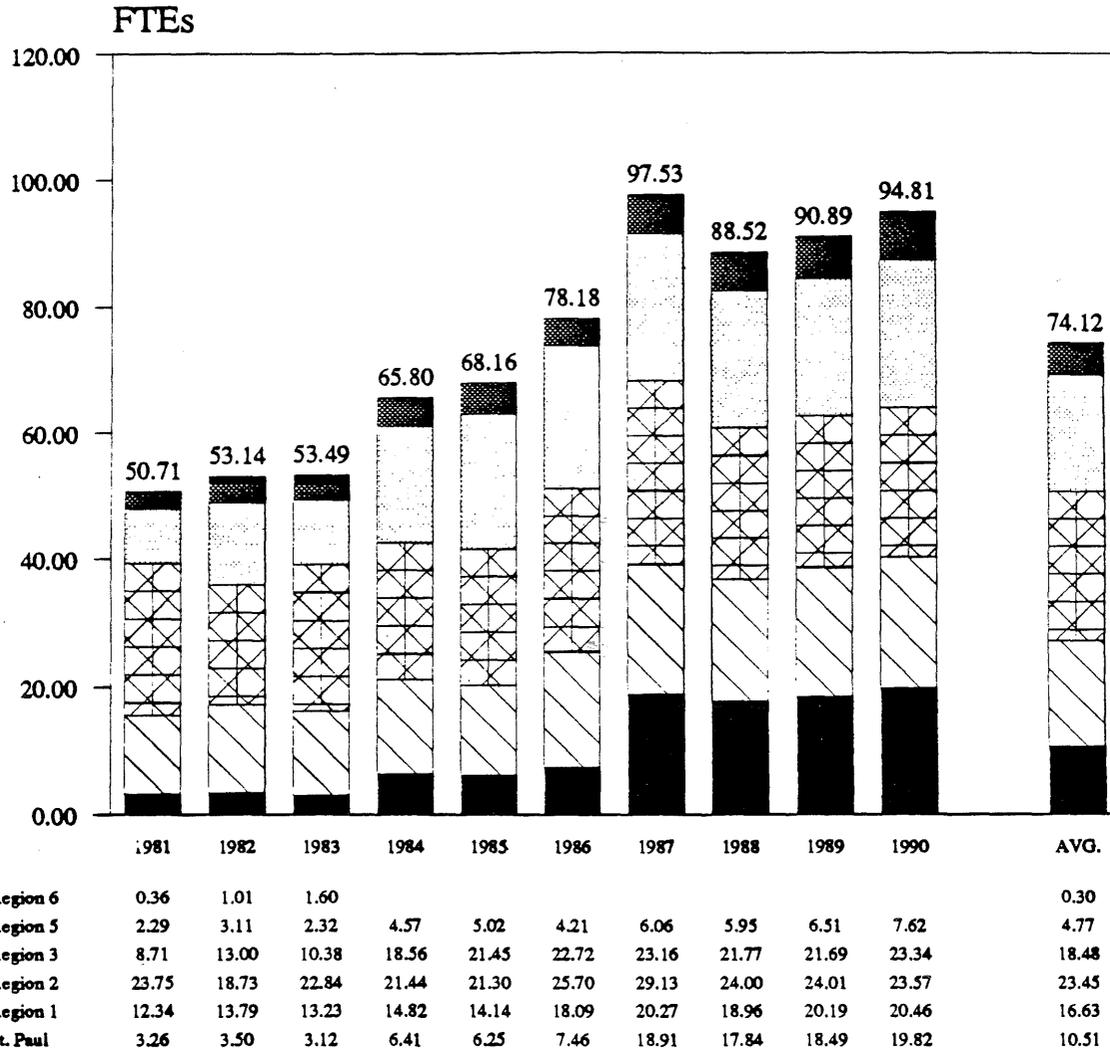
Note: Beginning FY1984, includes admin. time for FPM, Coop. County, and Urban programs.

# HUMAN RESOURCES DEV. PROGRAM TIME SUMMARY FY1981 - FY1990



Notes: Beginning FY1984, includes admin. time for FPM, Coop. County, and Urban programs.

# MAINTENANCE & ADMIN. PROGRAM TIME SUMMARY FY1981 - FY1990

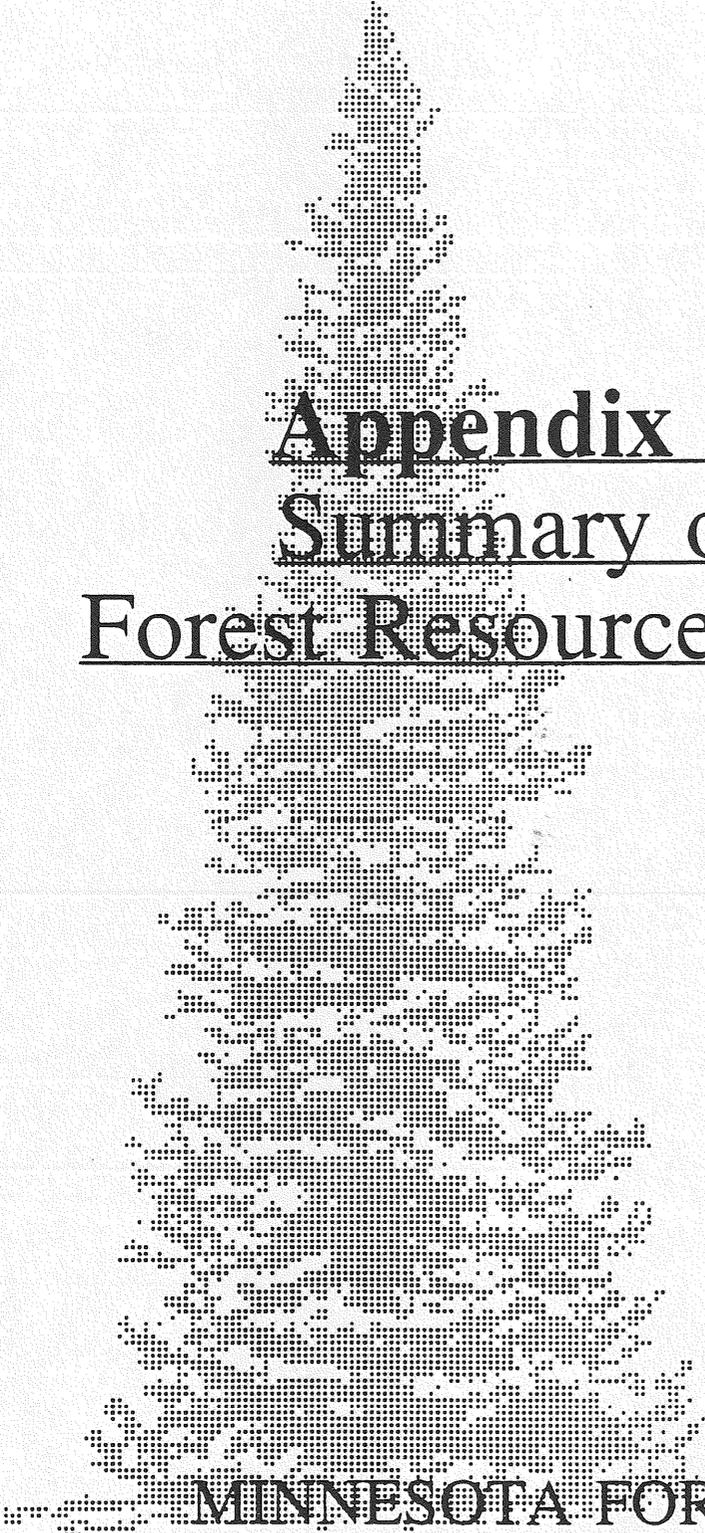


St. Paul
  Region 1
  Region 2

Region 3
  Region 5
  Region 6

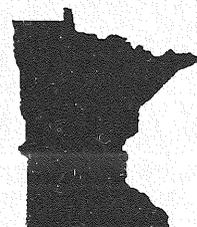
Note: Beginning FY1984, includes admin. time for PFM, Coop. County and Urban programs.





Appendix B  
Summary of  
Forest Resource Laws

MINNESOTA FOREST  
RESOURCES PLAN





## APPENDIX B

### SUMMARY OF FOREST RESOURCE LAWS

The Constitution of the State of Minnesota and the Minnesota Statutes provide the basic authority for all actions taken by the Division of Forestry on forest lands within the state. Each of the policy statements which guides the Division of Forestry is founded, either explicitly or implicitly, upon state law.

Because of the diverse nature of forest resources, a wide range of laws affects them. It would be impractical to attempt to include all of these laws here. Therefore, particular laws have been selected and cited in a topical index for reference purposes. Seven topics were identified by the Division of Forestry for the creation of this index:

- I. Acquisition, Leasing, Exchange, and Sale of Forest Lands
- II. Management and Use of Forest Lands
- III. Tax-Forfeited Lands
- IV. Forest Land Taxation
- V. Wildfire Control
- VI. Timber Sales and Scaling
- VII. Forest Roads

In addition to the index, this appendix includes a brief narrative description of the laws that relate to each given topic. These descriptions are intended to give a general overview of the state's policies with respect to forest lands.

- I. Acquisition, Leasing, Exchange, and Sale of Forest Lands
  - A. Constitution of State of Minnesota
    - Article I, Section 13
    - Article XI, Section 5
    - Article XI, Section 10
    - Article XI, Section 11
    - Article XIII, Section 4
  - B. Minnesota Statutes
    1. Acquisition
      - Concurrent Jurisdiction of State and United States (1.041)
      - State Consent to Acquisition of Lands (1.045)
      - Lands Selected in Lieu of Grants from United States (84.027, subd. 8)
      - Property Grants from United States (88.063)
      - United States Lands (94.47)
      - Condemnation of Real Estate (84.027, subd. 9)
      - Procedures for Acquiring Land (84.0272)
      - Landowner's Rights (84.0274, subd. 6)
      - Acquisition for Trails (84.029, subd. 2)

Outdoor Recreation System (86A.07)  
Tax-Forfeited Land for Reforestation Projects (84A.20,  
84A.31---see Topic III)  
State Reforestation Projects; Gifts (84A.28) and (84A.38)  
State Reforestation Projects; Eminent Domain (84A.29) and  
(84A.39)  
Land Suitable for Fire Protection (88.09)  
Suitable Timber Lands (89.01, subd. 6)  
Lands Within State Forests (89.032)  
Lands Within State Forests (89.033)  
Tax-Forfeited Lands; Inclusion in State Forests (89.034---see  
Topic III)

2. Leasing

Conservation Purposes (84.153)  
Suitable Uses (89.17)  
Cultivation of Stagnant Swamp Trees (90.50)  
Permits for Utility Companies (84.415)  
Leases for Cottages and Camps (92.46)  
Unsold Lands May be Leased (92.50)

3. Exchange

Executive Council (92.31)  
Conditions for Land Exchange (94.341 - 94.349)  
Minnesota Land Exchange Board (94.341)  
Classes of Land for Exchange (94.342)  
Class A Exchanges (92.343)  
Class B Exchanges (94.344)  
Transfers of Title Between State and Local Units of Government  
(94.349)  
Tax-Forfeited Lands; Classification, Use, and Exchange (282.01,  
subd. 1)

4. Sale

Richard J. Dorer Memorial Hardwood Forest (89.022)  
Lands Suitable for Agriculture (89.01, subd. 5)  
Procedures for Sale of State Lands (92.01 - 92.29)  
Lands Within National Forests (92.30)  
Lands Suitable for Private Forest Management (92.321)  
Discretion of Commissioner (94.50)  
Tax-Forfeited Land Sales (Chapter 282---see Topic III)  
Lands Near Water-Powers (89.26)  
Lands Suitable for Forestry (89.27)  
Lands Bordering on Public Waters (92.45)  
Lands Valuable for Peat Deposits (92.461)

II. Management and Use of Forest Lands Within the State

A. Constitution of State of Minnesota

Article XI, Section 5  
Article XI, Section 11

B. Minnesota Statutes

1. State Forest Policy and Planning  
State Reforestation Projects (84A.21) and (84A.32)  
Forest Resource Management Policy (89.002, subd. 1)  
Reforestation Policy (89.002, subd. 2)  
Forest Road Policy (89.002, subd. 3)  
Commissioner's Duties (89.01, subd. 1)  
Cooperative Planning (89.01, subd. 4)  
Forest Resource Management Plan (89.012)  
Unit Forest Resource Plans (89.013)  
Realignment of State Forests (89.015, subd. 1)  
Realignment of Administrative Units (89.015, subd. 2)  
State Forests (89.021)  
Forest Management Fund (89.04)  
Commissioner's Regulatory Power (89.19)  
Forestry Education (89.65)  
Tax-Forfeited Lands, Inclusion in State Forests (89.034---see  
Topic III)  
Funds Apportioned to County (89.036)  
Tax-Forfeited Lands; Classification (Chapter 282---see  
Topic III)
2. Municipal, Memorial, and School Forests  
Municipal and Memorial Forests for Timber Production  
(459.06, subd. 1)  
Tax-Forfeited Lands for Memorial Forests (459.06, subd. 2)  
Withdrawal of Tax-Forfeited Lands from Memorial Forests  
(459.06, subd. 3)  
Cities May Establish Municipal Forests (459.07)  
Educational Units May Establish Forests (89.41)
3. Private Forests  
Private Forest Policy; Tree Growth Tax Law (270.32)  
Auxiliary Forests; Taxation (88.47 - 88.53)  
Auxiliary Forests; Restrictions (88.491)  
State Forest Service to Private Forest Owners (88.79)
4. Recreation  
Purpose of Omnibus Natural Resources and Recreation Act (86.02)  
Policy Statement of Outdoor Recreation Act (86A.02, subd. 3)  
Composition of Outdoor Recreation System (86A.04)  
State Forest Sub-Areas Established by Outdoor Recreation Act  
(86A.05, subd. 7)  
Policy Statement of the Minnesota Wild and Scenic Rivers Act  
(104.32)
5. Soil and Water  
Policy Statement on Soil and Water Conservation (40.02)  
Cooperation of State Agencies with Soil and Water Conservation  
Districts (40.13)

Policy Statement of Floodplain Management Act (104.01, subd. 3)  
Policy Statement on Water Resource Conservation (105.38)  
Drainage: Powers of County Boards and District Courts (106.22)  
Policy Statement of the Minnesota Watershed Act (112.34)  
Water Resources Board Authority over Watershed Districts  
(112.36)

III. Tax-Forfeited Lands

A. Constitution of State of Minnesota

Article XI, Section 5  
Article XI, Section 10  
Article XI, Section 11

B. Minnesota Statutes

1. Classification of Tax-Forfeited Lands

Classification; Use; Exchange (282.01, subd. 1)  
Conservation Lands Under the Supervision of County Board  
(282.01, subd. 2)  
Duties of Commissioner of Revenue; Issuance of Conveyance  
(282.01, subd. 6)  
Sales, When Commenced, How Land is Offered for Sale (282.01,  
subd. 7)  
Non-Agricultural Lands, Classification; Sale, Conditions  
(282.011)  
Prior Owner May Purchase; Conditions (282.012)  
Placed in Auxiliary Forest by Purchaser (282.013)  
Completion of Sale and Conveyance (282.014)  
Proceeds of Sale (282.15)  
Prohibited Purchasers (282.16)  
Conveyance of Interests in Tax-Forfeited Lands to State and  
Federal Governments (282.017)  
Tax-Forfeited Land; Meandered Lakes; Sale Exception (282.018)

2. Non-Conservation Area Lands

Sale of Non-Conservation Lands (282.01, subd. 3)  
List of Lands Offered for Sale (282.02)  
Limitation in Use of Lands (282.03)  
Veteran's Credit for Land in Agricultural Use (282.038)  
Timber Sale; Tax-Forfeited Lands, Lease, Partition, Easements  
(282.04--see Topic VI)  
Exemption of Certain Lands (282.06)  
Auditor to Cancel Taxes (282.07)  
Apportionment of Proceeds (282.08)  
Forfeited Tax Sale Fund (282.09)  
All Minerals Reserved (282.12)  
Land Commissioner; Duties; Compensation; Land Exchanges  
(282.13)  
Certain Powers and Duties May be Delegated (282.131)  
Timber Defined (282.132)

3. Conservation Area Lands
  - Classification of Forfeited Lands (282.14)
  - Sales of Forfeited Lands (282.15)
  - County Auditor to Lease Lands (282.18)
  - Conveyance (282.21)
  - Forfeited Lands; Classified and Sold (282.221, subd. 1)
  - Forfeited Lands; Appraisal (282.221, subd. 2)
  - Sale Procedures (282.222)
  - Taxes Canceled (282.223)
  - Conveyance (282.224)
  - Mineral Rights Reserved (282.225)
  - Lands Bordering Lakes and Streams, Easements to State (282.37)
  - Timber Development Funds (282.38)
  - Annual Appropriations; Lands Eligible; Certificates of Acreage (477A.12)
  - Time of Payment, Deductions (477A.13)
  - Use of Funds (477A.14)
  - Taxes Canceled in Certain Cases (84.361)
  - Structures May be Removed (84.362)
  - May Sell Dead and Down Timber (84.363)
  - Red Lake Game Preserve (84A.01)
  - Red Lake Game Preserve; Management (84A.02)
  - List of Lands Within Red Lake Game Preserve (84A.04)
  - Title to Land in State (84A.07)
  - Lands Classified (84A.08)
  - Gifts Received (84A.09)
  - Eminent Domain (84A.10)
  - Reforestation Areas to be Set Off (84A.20)
  - State Reforestation Projects (84A.31)
  - Consolidated Conservation Areas Fund (84A.51)
  - Certain Game Preserves, Areas, Projects; Control (84A.55)
  - Tax-Forfeited Lands, Inclusion in State Forests (89.034)
  - Timber Trespass on State Lands; Unlawful Possession and Sale; Rewards; Records (90.301)
  - Structures, Standing Timber, or Minerals not to be Removed (272.38)
  - Structures, Timber, or Minerals May be Seized (272.39)
  - Removal (272.40)
  - Tax-Forfeited Lands for Memorial Forests (459.06, subd. 2)
  - Withdrawal of Tax-Forfeited Lands from Memorial Forests (459.06, subd. 3)

#### IV. Forest Land Taxation

A. Constitution of State of Minnesota  
Article X, Section 2

B. Minnesota Statutes

1. Minnesota Tree Growth Tax Law  
Policy Statement of the Tree Growth Tax Law (270.32)

Growth Rate Determination (270.34)  
Stumpage Value Determination (270.35)  
Computation of Tax (270.36, subd. 1)  
Tax Rates (270.34, subd. 2)  
Tax Credit (270.37)  
Application under Tree Growth Tax Law (270.38)

2. Auxiliary Forest Taxation  
Tax Rate on Land (88.51, subd. 1)  
Yield Tax (88.51, subd. 2)  
Payment of Yield Tax (88.52, subd. 1)  
Cutting Procedure (88.52, subd. 2)  
Assessment of Yield Tax (88.52, subd. 3)  
Yield Tax Constitutes a Lien (88.52, subd. 5)  
Exemption from Yield Tax (88.52, subd. 6)  
Auxiliary Forest Restrictions (88.491---see Topic II)
3. Class 3 Property; Agricultural-Nonhomestead Land and Seasonal Recreational-Residential Land (273.13, subd. 4)
4. Class 3e Property; Timberland (273.13, subd. 8a)
5. Class 4b Property; Vacant Land (273.13, subd. 9)
6. General Tax Provisions  
Structures, Standing Timber, or Minerals not be be Removed (272.38---see Topic III)  
Structures, Timber, or Minerals May be Seized (272.39---see Topic III)  
Removal (272.40---see Topic III)  
Taxes Unpaid; Persons Cutting Standing Timber Must Give Notice (272.41)  
Liability for Violations (272.42)
7. Payments-in-Lieu  
Annual Appropriations; Lands Eligible; Certificates of Acreage (477A.12)  
Time of Payment, Deductions (477A.13)  
Use of Funds (477A.14)
8. State Forest and Fifty-Fifty Lands  
Funds Apportioned to County (89.036)

V. Wildfire Control

A. Constitution of State of Minnesota  
Article XI, Section 5

B. Minnesota Statutes

1. Commissioner's Authorities and Responsibilities

- Firebreaks Along Highways (88.04, subd. 1)
- Firebreaks (88.05)
- State and Federal Relief Agencies (88.06)
- Purchase for State Subdivisions (88.065)
- Training of Volunteer Fire Departments (88.067)
- Forest Fire Protection Districts (88.08)
- Acceptance of Lands Necessary for Fire Protection (88.09, subd. 1)
- Acquisition of Lands Necessary for Fire Protection (88.09, subd. 2)
- Duties of Forest Officers (88.10)
- Employing Fire-Fighters (88.11, subd. 1)
- Commandeering Property (88.11, subd. 2)
- Compensation of Employees (88.12, subd. 1)
- Contracting Services (88.12, subd. 2)
- Authority to Order Disposals (88.14, subd. 1)
- Authority to Enter Private Property (88.14, subd. 3)
- Permission to Set Fires (88.17, subd. 1)
- Fire Wardens (88.18)
- Measures for Railroads (88.20)
- Road or Trail Closures (88.22)
- Fishing Restrictions (88.27)
- Commissioner's Duties (89.01, subd. 2)
- Damages (89.01, subd. 3)
- Inquiries into Fires (90.041, subd. 1)

2. Authorities and Responsibilities of Counties, Towns, and Cities

- Notice of Cutting (88.13, subd. 4)
- Disposal of Slashings (88.14, subd. 7)
- Various Authorities of County Boards (88.29 - 88.41)
- Authorization of Debt (88.42)
- Firebreaks (88.43)
- Authorization of Debt (88.44)
- Cooperation of County and Municipal Officials (88.46)
- Cooperation of Municipal Officials (88.04, subd. 4)

3. Private Rights and Responsibilities

- Notice of Cutting (88.13, subd. 1)
- Failure to Comply (88.14, subd. 2)
- Disposal of Slashings (88.14, subd. 4)
- Control of Burning (88.14, subd. 5)
- Disposal of Slashings (88.14, subd. 6)
- Preparation of Slashings for Burning (88.14, subd. 8)
- Preparation of Debris for Burning (88.14, subd. 9)
- Control of Fire (88.15, subd. 2)
- Fire Restrictions (88.16, subd. 1)
- Permissible Fires (88.16, subd. 2)
- Reporting of Fires (88.16, subd. 3)
- Control of Fire (88.19)
- Responsibilities of Railroad Companies (88.21)
- Violations and Penalties (88.75)

Rewards (88.76)  
Disposal of Fines and Penalties (88.77)  
Appeals (88.78)

VI. Timber Sales and Scaling

A. Constitution of State of Minnesota  
No sections relate to this topical area

B. Minnesota Statutes

1. Policy Statement  
Statement of Policy for the State Timber Act (90.02)
2. Authorities of the Executive Council and the Commissioner of Natural Resources  
Settlement of Trespass Claims (90.031, subd. 3)  
Establishment of Rules and Regulations (90.031, subd. 4)  
Investigative Agents (90.031, subd. 5)  
Commissioner's Duties (90.041, subd. 1)  
Annual Reports (90.041, subd. 3)  
Annual Public Meetings (90.041, subd. 4)
3. Appraisals  
Timber Appraisal Standards (90.045)  
Bonding of Timber Sale Supervisor (90.051)  
Authorities and Duties of a State Appraiser (90.061)  
Value Estimates (90.061, subd. 4)  
Duties of State Appraiser (90.061, subd. 5)  
Supervisory Powers of State Appraiser (90.061, subd. 8)
4. Public Auction Sales  
Regular Auction Sales (90.101)  
Intermediate Auction Sales (90.121)  
Auction Sale Procedure (90.14)  
Permits to Cut and Remove Timber (90.151)  
Permits (90.151, subd. 1)  
Permit Specifications (90.151, subd. 2)  
Security of Permit Compliance (90.151, subd. 3)  
Suspension of Permits (90.151, subd. 8)  
Extensions of Permits (90.151, subd. 13)  
Bonding of Purchaser (90.161, subd. 1)  
Assignment of Permit (90.171)  
Annual Sales Report (90.172)  
Cash Deposits in Lieu of Bond (90.173)  
Billing Statements (90.181, subd. 1)  
Deferred Payments (90.181, subd. 2)
5. Informal Sales  
Informal Sales (90.191)  
Permits (90.191, subd. 2)

Scaling Requirement (90.191, subd. 3)  
Special Use Permit (90.195)  
Void Sales (90.201)  
Permit Requirements (90.211)  
Timber Sale Records (90.221)  
Boundaries of Timber Sale Tract (90.231)

6. Scaling  
Conditions for Scaling and Reporting (90.251)  
Timber Scaling Specialist (90.251, subd. 1)  
Scaling Reports (90.251, subd. 2)  
Final Examination of Lands After Cutting (90.251, subd. 2)  
Authority of the Scale (90.251, subd. 4)  
Consumer Scaling (90.252)  
Rescale (90.281)
7. Violations and Penalties  
Conditions for Trespass (90.301)  
Timber Trespass (90.301, subd. 1)  
Taking Unlawfully Cut Timber (90.301, subd. 2)  
Unlawful Possession of Land (90.311)  
Violations by Scaler (90.41)
8. Timber Sales on Tax-Forfeited Lands; County Timber Sales  
Timber Sold for Cash (282.04, subd. 1)

VII. Forest Roads

- A. Constitution of State of Minnesota  
Article I, Section 13  
Article XIII, Section 4  
Article XIV, Section 1
- B. Minnesota Statutes  
Roads Within Reserved Areas (84A.55, subd. 10)  
Road Closures (88.22, subd. 1)  
Forest Road Policy (89.002, subd. 3)  
Road Inventory (89.012, subd. 2d)  
Prioritization for Road Policy (89.012, subd. 3e)  
Forest Management Fund (89.04, subd. 2b)  
Public Highways Through State Forests (89.18)  
Statutory Dedication of Roads (160.05, subd. 1)  
Recovery of Real Estate, 15 Years (541.02)



# Appendix C Glossary of Terms

MINNESOTA FOREST  
RESOURCES PLAN





## APPENDIX C

### GLOSSARY

AREA. A Division of Forestry administrative unit determined on the basis of workload, geography, resource characteristics and socio-political boundaries. There are currently 18 Forestry Areas statewide.

ASPEN RECYCLING PROJECT. One provision of the Reinvest in Minnesota (RIM) bill passed by the 1986 legislature authorizing funds for aspen recycling. In this process, overmature aspen trees are sheared to encourage regrowth of younger, healthy aspen stands capable of supporting increased wildlife populations.

ATV. All Terrain Vehicle (See ORV).

CLONE. Collection of genetically identical trees.

COMMERCIAL FOREST LAND. Forest land that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation (Jakes 1980a).

CONSERVATION RESERVE PROGRAM (CRP). A provision of the 1985 Farm Bill which is designed to protect highly erodible and other marginal farmlands by removing them from cultivation; placing them instead into grass or trees.

CONSOLIDATED CONSERVATION (CON-CON) LANDS. Refers to approximately 1.6 million acres of lands (all but 67,000 acres are administered by DNR Forestry) which were forfeited due to tax-delinquency as a result of drainage projects in Beltrami, Lake of the Woods and Koochiching counties. The state holds title to the lands, and has assumed responsibility for paying off the drainage bonds.

CORD. A pile of stacked wood with standard dimensions of 4 by 4 by 8 feet. A stacked cord contains 128 cubic feet of wood (including air space), which is equivalent to approximately 79 cubic feet of solid wood.

COUNTY TAX-FORFEITED LAND. Lands forfeited to the state for non-payment of taxes, to which the state holds title impressed with a trust in favor of counties and local taxing districts. These lands are administered by the counties with certain oversight functions assigned to the state.

DEVELOPED (or Concentrated) RECREATION. Outdoor recreation requiring significant capital investment in facilities to handle a concentration of visitors on a relatively small area (see Dispersed Recreation).

DISPERSED RECREATION. Outdoor recreation in which visitors are diffused over relatively large areas. Where facilities or developments are provided, they are more for access and protection of the environment than for the comfort or convenience of the people.

ENDANGERED SPECIES. Any species of animal or plant which is in danger of extinction throughout all or a significant portion of its range.

EVEN-AGED MANAGEMENT. The actions that will result in a forest, crop or stand composed of trees having

no or relatively small differences in age (Ford-Robertson 1971).

EXOTIC SPECIES. All non-native species -- those species introduced or potentially introduced after European settlement (unless experts have determined a natural range expansion has occurred from an adjacent state or country) including unnaturally occurring hybrids, cultivars, genetically selected strains, and genetically altered species.

FEATURED SPECIES. Preeminent wildlife species/community that management activities focus on (i.e., furbearers, owls).

FLAKEBOARD. A general term usually referring to waferboard or oriented strand board.

FOREST LAND. Land at least 16.7 percent stocked by forest trees of any size, or formerly having such tree cover, and not currently developed for nonforest use. Includes afforested areas. The minimum forest area classified was 1 acre. Roadside, streamside and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams and clearings in forest areas were classed as forest if less than 120 feet wide.

FOREST ROAD. Any permanent roadway constructed and maintained for the purpose of accessing forest lands. Forest roads may be administered by the state, by counties, by townships or local units of government, by private industry, by federal agencies, or by private landowners (Minnesota DNR, Forestry 1982d).

FOREST SITE PRODUCTIVITY CLASS. A classification of forest land in terms of potential volume growth per acre in fully stocked natural stands.

FUELWOOD. Wood or wood energy products used to generate heat energy for commercial or residential purposes.

GOAL. A concise statement expressed in terms of a desired state or process that operating programs are designed to achieve. A goal is normally expressed as a broad, general statement; is usually not quantifiable; and is timeless in that it usually has no specific date by which it is to be completed. Often, it would not be expected that a goal could ever be completely achieved. The goal is the principal statement from which objectives must be developed (USDA Forest Service 1980c).

GROWING STOCK TREES. All live trees of commercial species except rough and rotten trees (Jakes 1980a).

GROWING STOCK VOLUME. Net volume in cubic feet of live sawtimber and poletimber trees from stump to a minimum 4-inch top (of central stem) outside bark or to the point where the central stem breaks into limbs.

HARDBOARD. A generic term for a panel product manufactured from wood fibers and resins under heat and pressure.

HARDWOODS. Dicotyledonous trees, usually broad-leaved and deciduous.

HARVESTING. A loose term for the removal of produce (i.e., a merchantable material) from the forest for utilization; comprising therefore cutting, sometimes further initial processing (e.g., with trees, topping and trimming) and extraction (removal from the forest). When "harvesting" timber, "harvesting" is a rough or quasi-synonym with logging (Ford-Robertson 1971).

INDUSTRIAL WOOD. All commercial roundwood products except fuelwood.

INTENSIFIED FOREST MANAGEMENT. A forest management regime under which wood fiber production and other forest outputs (i.e., water, wildlife, fish, recreation) are maximized through the application of scientific forest

management techniques.

LAND UTILIZATION PROJECT (LUP) LANDS. Refers to approximately 218,000 acres of marginal farmland purchased in the 1930's by the Federal government and leased to the State of Minnesota under a 50-year lease agreement that expired in 1990. The LUP lease agreement has a provision for two 15 year extensions, and it was extended for the first 15 year period. The state holds title to 21,000 of these acres.

MDF. Medium Density Fiberboard.

MIXED STANDS. Forest stands composed of more than one commercial or non-commercial tree species.

MORTALITY. The volume of sound wood in growing stock trees dying annually (Spencer 1982).

MULTIPLE-USE. The principle of forest management by which forest resources are utilized in the combinations that will best meet the needs of the people of the state; including the harmonious and coordinated management of the forest resources, each with the other, without impairment of the productivity of the land and with consideration of the relative values of the resources, and not necessarily the combination of uses resulting in the greatest economic return or unit output (Forest Resource Management Act of 1982; Minn. Laws 1982, Chapter 511).

NATIONAL FOREST SYSTEM LAND. Federal lands which have been designated by Executive Order of statute as National Forests or purchase units, and other lands under the administration of the Forest Service including experimental areas and Bankhead-Jones Title III lands.

NET ANNUAL GROWTH. The net increase in the volume of trees during a specified year. Components of net annual growth include the increment in net volume of trees at the beginning of the specific year surviving to its end, plus the net volume of trees reaching the minimum size class during the year, minus the volume of trees that die during the year, and minus the net volume of trees that become rough or rotten trees during the year.

NET VOLUME IN BOARD FEET. The gross board-foot volume of trees less deductions for rot or other defect affecting use for lumber (see Sawtimber Volume).

NET VOLUME IN CORDS. Gross volume in cords less deductions for rot, roughness and poor form. Volume is computed for the central stem from a 1-foot stump to a minimum 4.0-inch top diameter outside bark, or to the point where the central stem breaks into limbs.

NONCOMMERCIAL SPECIES. Tree species of typical small size, poor form or inferior quality which normally do not develop into trees suitable for industrial wood products.

NONFOREST LAND. Land that has never supported forests and lands formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1 to 40-acre areas of water classified by the Bureau of Census as nonforest land. If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide, and clearings, etc. more than 1 acre in size, to qualify as nonforest land.

NONPOINT POLLUTION SOURCES. Those sources of pollution that are diffuse in both origin and in time and points of discharge, and depend heavily on weather conditions such as rainstorms or snowmelt. Pollutants can originate on natural source areas as well as areas affected by man's activities.

NONSTOCKED FOREST LAND. Commercial forest land on which stocking of trees is less than 16.7 percent.

OBJECTIVE or Target. A clear and specific statement of planned results to be achieved within a stated time period. The results indicated in the statement of objectives are those which are designed to achieve the desired state or process represented by the goal. An objective is measurable and implies time-phased steps to be taken and resources to be used which together represent the basis for defining and controlling the work to be done (USDA Forest Service 1980c).

OFF-ROAD VEHICLES (ORV's). Vehicles such as motorcycles, all-terrain vehicles, four-wheel drives and snowmobiles.

OLD GROWTH FOREST. Old-growth forest stands have developed over a long period of time essentially free from catastrophic disturbances. Old-growth stands contain large, old trees of long-lived species that are well past economic rotation ages. Typical old-growth forests experience frequent ongoing mortality, with some canopy trees dying. Such stands contain a relatively high frequency of large snags and a relatively large number of large-diameter downed logs in various states of decay.

ORIENTED STRAND BOARD (OSB). A panel product made from wood flakes or wafers aligned in layers and bonded with resins under heat and pressure. The linear alignment of the wafers in layers of opposing direction increases the strength of the product.

OUTDOOR RECREATION ACT (ORA). Minnesota Statutes, Chapter 86A defines the Outdoor Recreation System.

OUTDOOR RECREATION SYSTEM. The outdoor recreation system consists of all natural state parks; recreational state parks; state trails; state scientific and natural areas; state wilderness areas; state forests; state wildlife management areas; state water access sites, which include all lands and facilities established by the commissioner of natural resources or the commissioner of highways to provide public access to water; state wild, scenic, and recreational rivers; state historic sites; and state rest areas, which include all facilities established by the commissioner of highways for the safety, rest, comfort and use of the highway traveler, and shall include all existing facilities designated as rest areas and waysides by the commissioner of highways. Each individual natural state park, recreational state park, and so forth is called a "unit." (Minn. Statutes, Chapter 86A)

OVERSTORY. That portion of the trees in a forest, with more than one roughly horizontal layer of foliage, which forms the upper or uppermost layer (after Ford-Robertson 1971).

PARTICLEBOARD. A generic term for a panel product made from discrete particles of wood rather than from fibers. The wood particles are mixed with resins and formed into a solid board under heat and pressure.

PASTURE. Land which is currently improved for grazing by cultivation, seeding, fertilization or irrigation.

PHENOTYPICALLY SUPERIOR. A forest tree exhibiting superior growth form and desirable growth characteristics (i.e., wood quality, straightness).

POINT POLLUTION SOURCES. Any discernible, confined and discrete conveyance from which pollutants are or may be discharged, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft.

POLETIMBER TREES. Live trees of commercial species at least 5.0 inches in diameter at breast height but smaller than sawtimber size, and of good form and vigor.

PRIMARY MANUFACTURING PLANTS. Plants using roundwood products such as sawlogs, pulpwood bolts, veneer logs, etc.

PRODUCTIVE-RESERVED FOREST LAND. Productive public forest land withdrawn from timber utilization through statute or administrative regulations.

PROGENY TEST. Means of determining the genetic worth of parent trees by measuring the performance of their offspring.

RMV. Recreational Moter Vehicle (See OFF-ROAD VEHICLE).

REGENERATION. The rejuvenation of forest trees by natural (i.e., seeded by nearby mature trees) or artificial (i.e., planting of tree seedlings) means.

REINVEST IN MINNESOTA (RIM). A program designed to promote fish and wildlife habitat improvements in Minnesota.

REMOVALS. The net volume of growing stock or sawtimber trees removed from the inventory by harvesting; cultural operations, such as timber stand improvement; land clearing; or changes in land use.

RESOURCE MANAGEMENT UNIT (RMU). A geographical sub-division based upon significant differences in natural resources or resource characteristics. Factors considered include: surficial geology, land use and ownership patterns, physical and biological factors, and political and administrative boundaries.

ROAD. A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way.

ROTTEN CULL TREES. Live trees of commercial species that do not contain a saw log now or prospectively, primarily because of rot (e.g., when rot accounts for more than 50 percent of the total cull volume).

ROUGH TREES. (a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

ROUNDWOOD. Logs, bolts, pulpwood or other round sections cut from trees.

ROUNDWOOD EQUIVALENT. The volume of logs or other round products required to produce the lumber, plywood, woodpulp, paper or other similar products.

SALVABLE DEAD TREES. Standing or down trees that are considered currently or potentially merchantable by regional standards.

SAPLINGS. Live trees of commercial species 1.0 inch to 5.0 inches in diameter at breast height and of good form and vigor.

SAWTIMBER TREES. Live trees of commercial species containing at least one 12-foot saw log or two unctiguous 8-foot logs, and meeting regional specifications for freedom from defect. Softwood trees must be at least 9 inches in diameter and hardwood trees 11 inches in diameter at breast height.

SAWTIMBER VOLUME. Net volume of the saw log portion of live sawtimber trees in board feet.

SCIENTIFIC AND NATURAL AREAS (SNA). An administrative designation applied to preserve and protect Minnesota's rare and unique natural resources for nature observation, education and research.

**SEED COLLECTION ZONES.** Specific geographic zones from which forest tree seed is collected, and where seedlings grown from this seed are planted, that tend to show favorable tree form, vigor, growth, insect and disease resistance, etc. Zones are variable by species.

**SEEDLINGS.** 1) Containerized seedlings - forest tree seedlings grown in a greenhouse for 1-2 years in small containers ready for planting. 2) Bareroot stock - forest tree seedlings grown in an outdoor seedbed, sometimes in a transplant bed as well, and lifted for planting.

**SEED ORCHARD.** Plantation of genetically superior trees isolated to reduce pollination from genetically inferior outside sources, and intensively managed to produce frequent, abundant, easily harvested seed crops.

**Clonal Seed Orchard.** Seed orchard established using clones through the use of grafting or rooted cuttings.

**SELECTION CUTTING.** Removal of mature timber, usually the oldest or largest trees, either as single scattered trees or small groups at relatively short intervals, commonly 5 to 20 years, repeated indefinitely, by means of which the continuous establishment of natural reproduction is encouraged and an uneven- aged stand is maintained (Ford-Robertson 1971).

**SHEATHINGBOARD.** A generic term for lumber or panel products used to cover the exterior frame of a building. Siding or finish material is then applied over the sheathing.

**SILVICULTURAL PRESCRIPTION.** Forest management methods and techniques to be applied to a forest stand in order to achieve a specified result (see Silviculture).

**SILVICULTURE.** The theory and practice of controlling the establishment, composition, constitution and growth of forests.

**SITE INDEX.** An expression of forest site quality based on the height of a free- growing dominant or co-dominant tree of a representative species in the forest type at age 50.

**SITE PREPARATION.** Any means used to prepare a forest site for natural or artificial regeneration (i.e., fire, mechanical, chemical). Usually involves the exposure of mineral soil and the elimination or reduction of competing vegetation.

**SOFTWOODS.** Coniferous trees, usually evergreen, having needles or scalelike leaves.

**STAND-SIZE CLASSES.** A classification of forest land based on the predominant size of timber present, that is: sawtimber, poletimber or seedlings and saplings.

**STATE FORESTS.** State forests are legislatively established units managed by the Division of Forestry on a multiple-use, sustained-yield basis. There are 55 state forests. (Minn. Statutes, Chapter 89).

**STATE FOREST ROAD.** Any permanent road constructed, maintained, or administered by the Department of Natural Resources (DNR) for the purposes of accessing or traversing state forest lands.

**STOCKING.** The degree of occupancy of land by trees, measured by basal area and/or number of trees by size and spacing, compared to a stocking standard, i.e., the basal area and/or number of trees required to fully utilize the growth potential of the land.

**SUSTAINED YIELD.** The principle of forest management for the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of forest resources without impairment of the productivity of the land;

allowing for periods of intensification of management to enhance the current or anticipated output of one or more of the resources (Forest Resource Management Act of 1982; Minn. Laws 1982, Chapter 511).

SWAMP LANDS. Lands received from the federal government (1.6 million acres remain) to encourage drainage and improvement. Receipts from these lands are deposited in a permanent trust fund and the interest allocated to public educational institutions on a per-pupil basis. About 1.1 million acres are within state forests.

THREATENED SPECIES. Any species of animal or plant which is likely to become an endangered species within the foreseeable future throughout all or a portion of its range.

TIMBER SCALING. The practice of measuring quantities of timber stumpage to determine its volume, grade and value for forest products.

TIMBER STAND IMPROVEMENT (TSI). Timber stand cultural practices designed to produce improved forest crops, including thinning, pruning and the release of crop trees from competing (non-commercial) vegetation.

TMPIS. Timber Management Planning Information System.

TRAINING BOARD. Division of Forestry employee representatives who provide input into Division training and personnel development decisions. Each of the Division's four administrative regions, and all personnel classifications, are represented on the board.

TRUST FUND LANDS. State-administered public lands received from the federal government upon statehood with the condition that receipts from them be permanently used for specified purposes.

UNDERSTORY. The trees and other woody species growing under a more or less continuous cover of branches and foliage formed collectively by the upper portions of adjacent trees and other woody growth (after Ford-Robertson 1971).

UNEVEN-AGED MANAGEMENT. The course of actions involved in maintaining a forest or stand, composed of intermingling trees that differ markedly in age (after Ford-Robertson 1971).

UNMERCHANTABLE TIMBER. Timber species of no commercial value due to low quality, insufficient quantity, inaccessibility, lack of markets or other reasons.

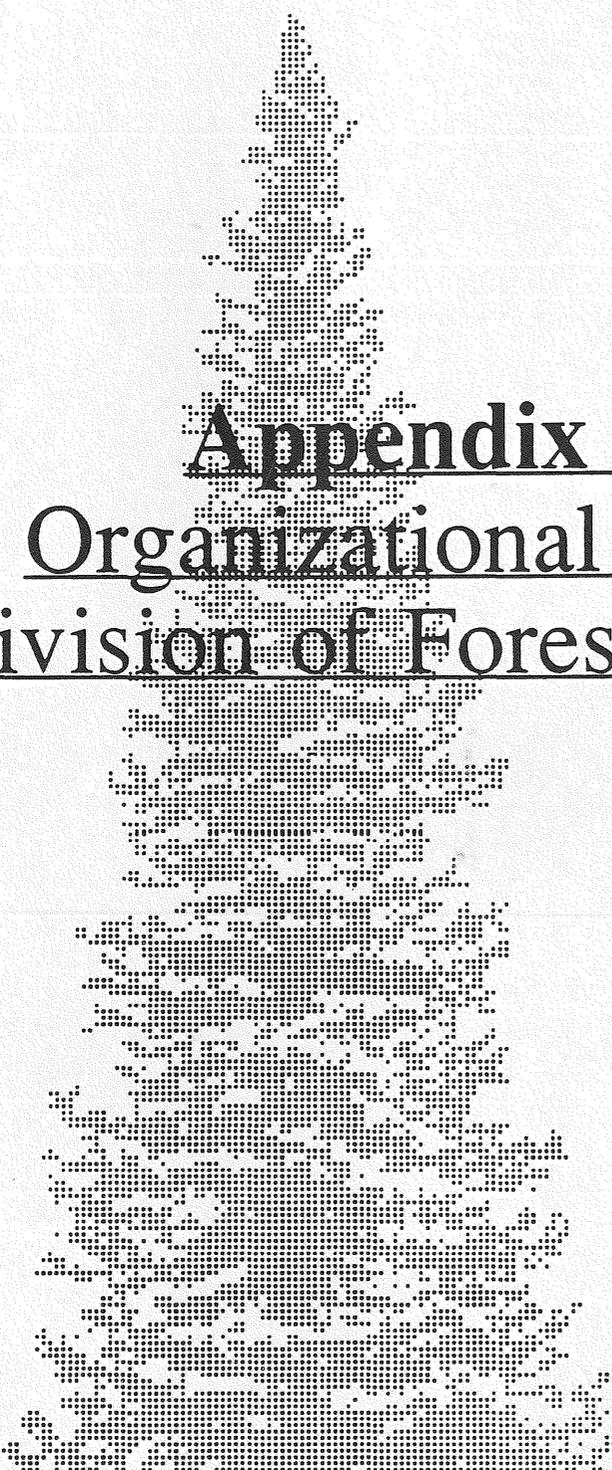
UNPRODUCTIVE FOREST LAND. Forest land stocked by stagnant spruce, stagnant tamarack, stagnant cedar, offsite aspen or offsite oak.

VISITOR DAY. The use of an area for a total of 12 person-hours by one or more people, either continuously or spread over several visits (Schwarz 1976).

WAFERBOARD. A panel product made from randomly aligned wood flakes bonded by resins under heat and pressure.

WILDERNESS (Federal). An area of undeveloped land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value (Wilderness Act 1964).

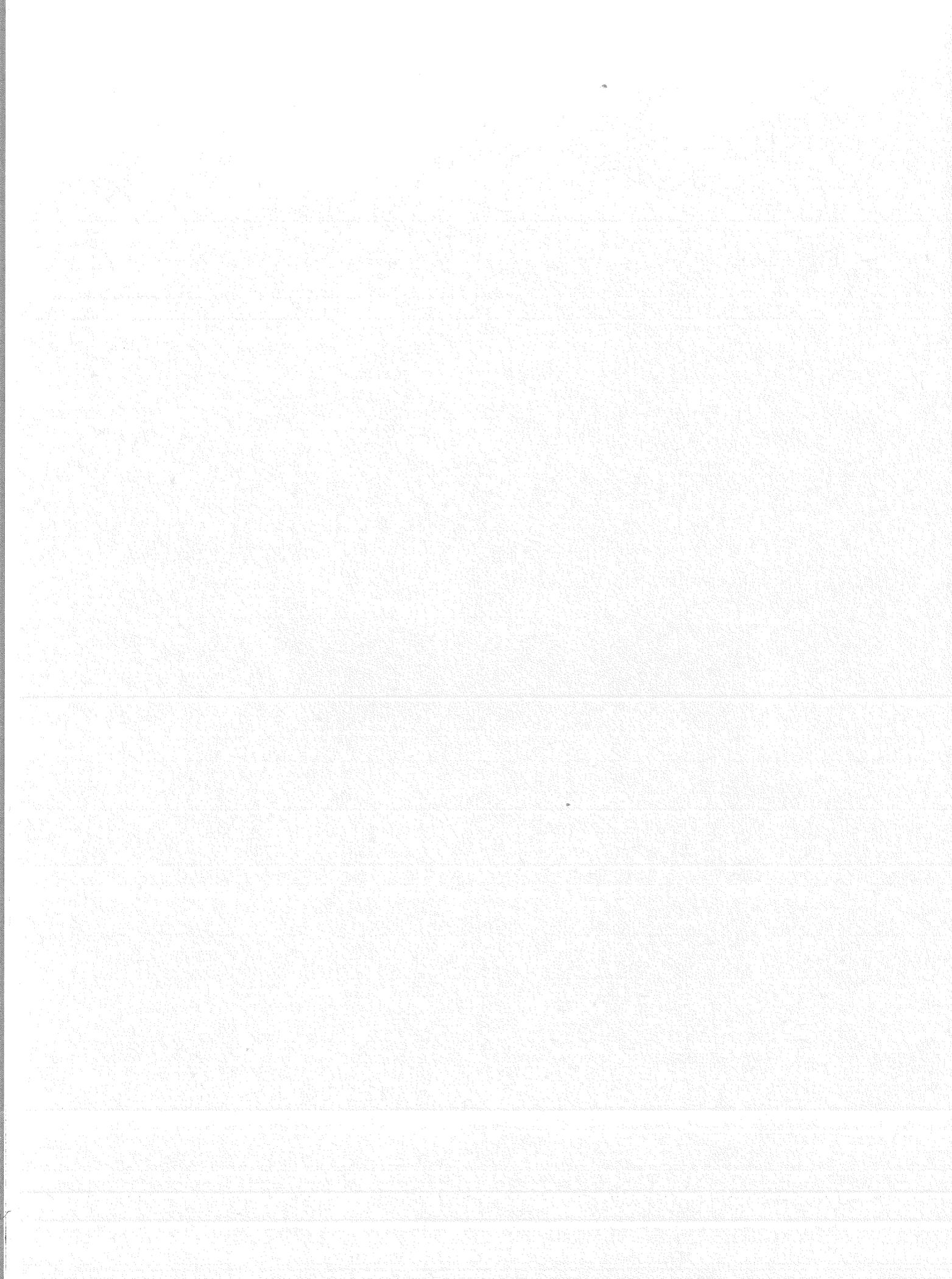
WILDFIRE. Any fire other than a controlled burn (prescribed burn) (Ford-Robertson 1971).



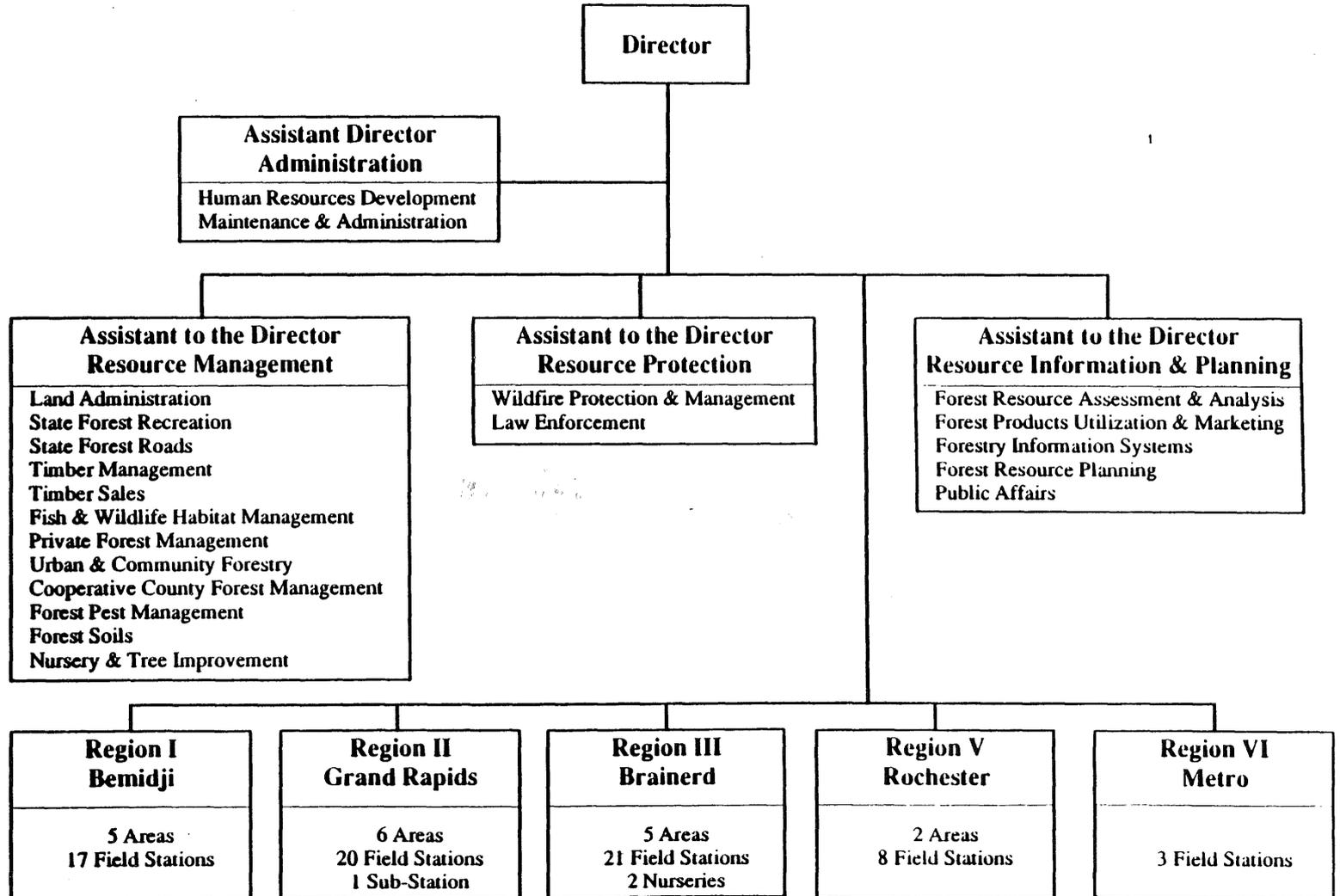
Appendix D  
Organizational Chart  
Division of Forestry 1991

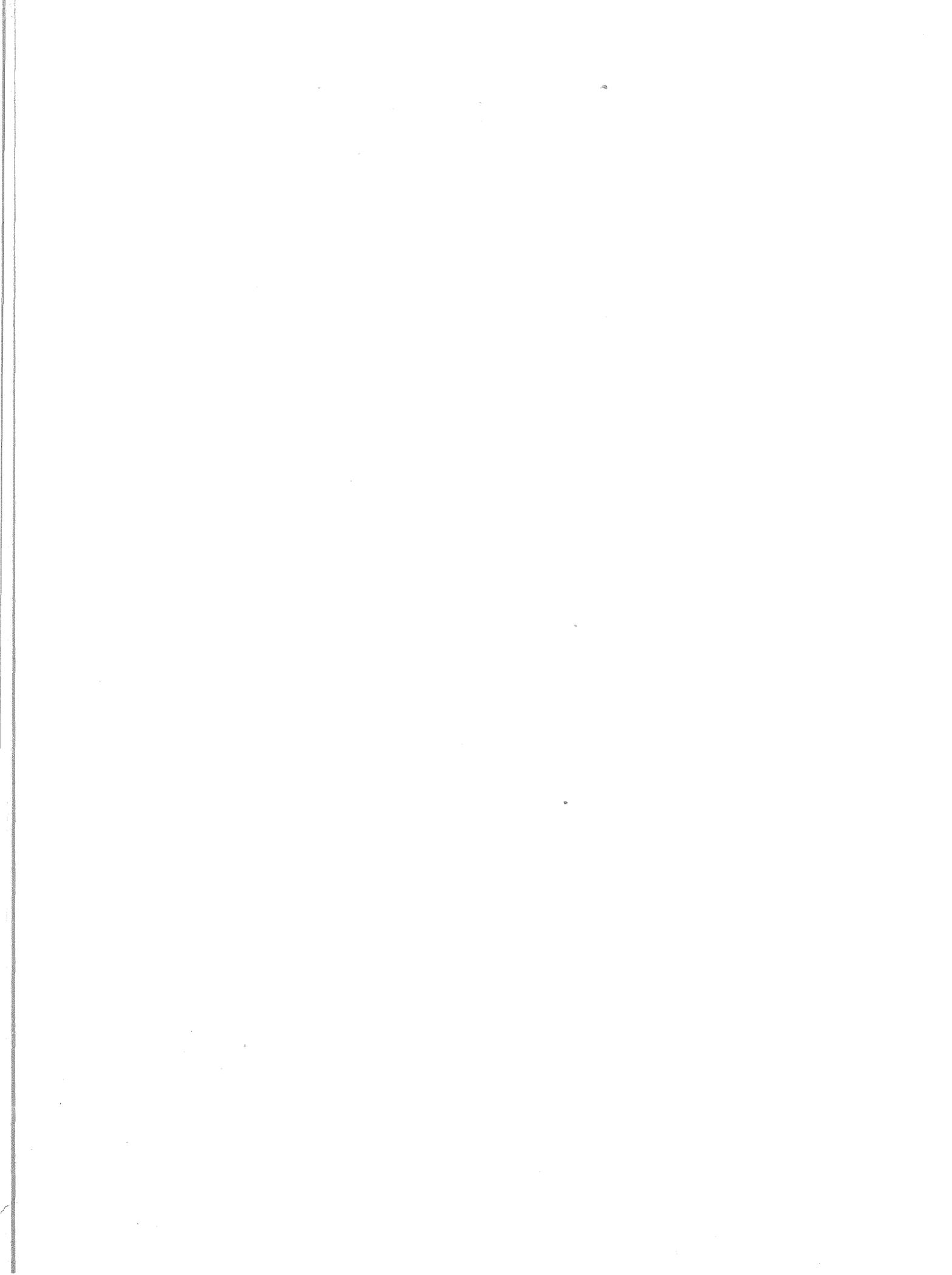
MINNESOTA FOREST  
RESOURCES PLAN

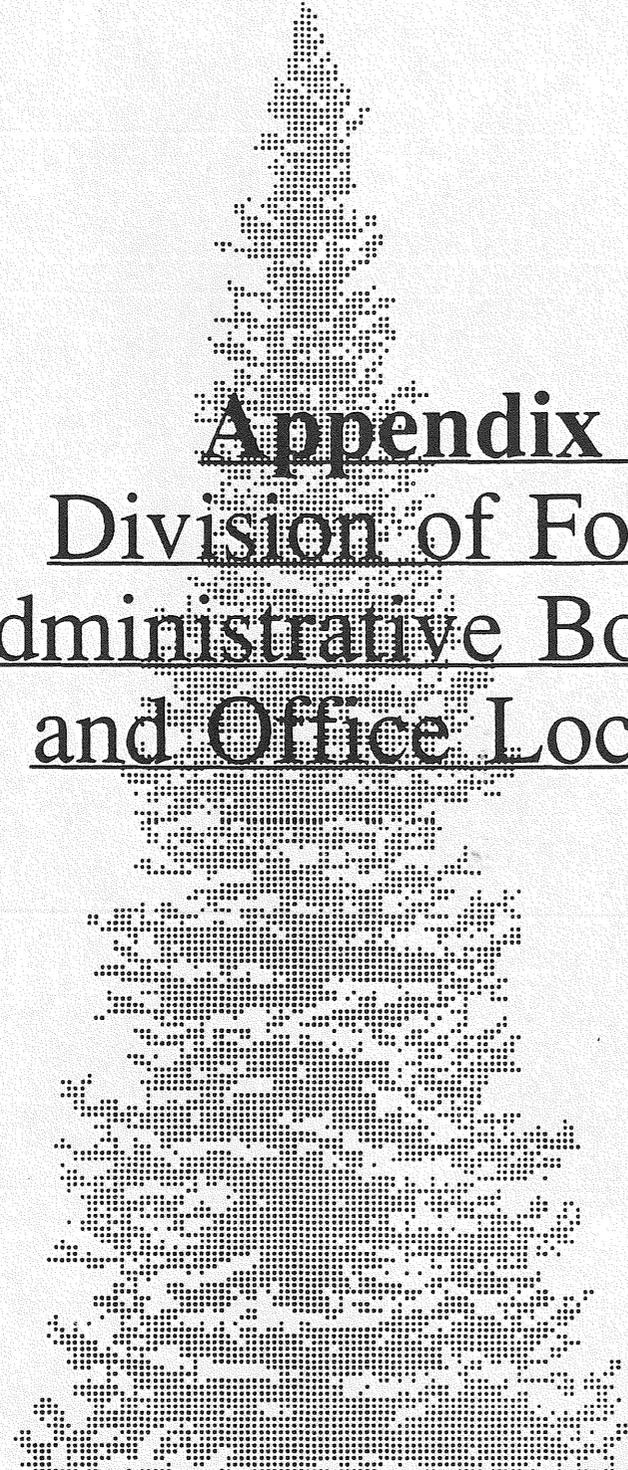




## Division of Forestry - 1991



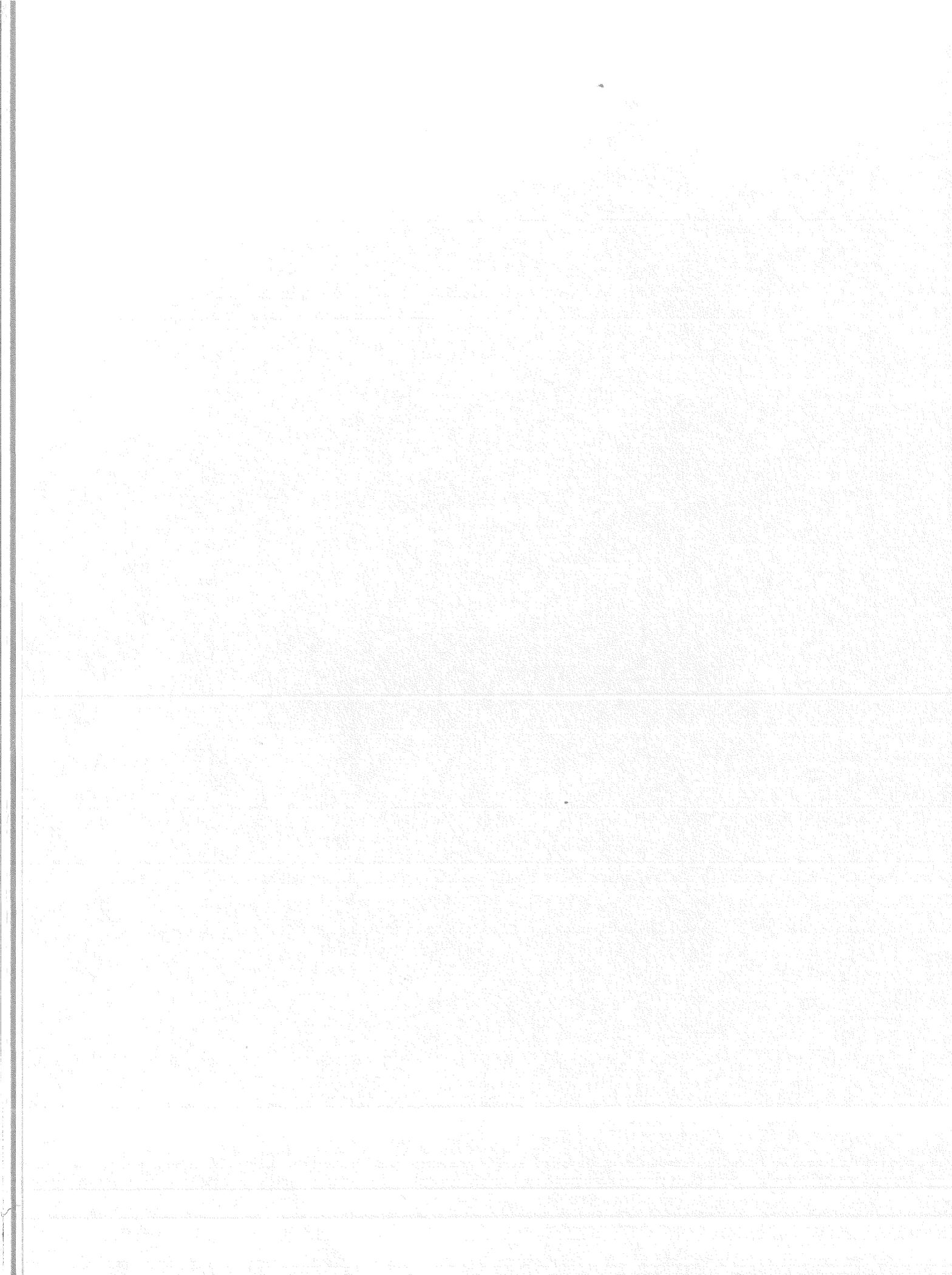




Appendix E  
Division of Forestry  
Administrative Boundaries  
and Office Locations

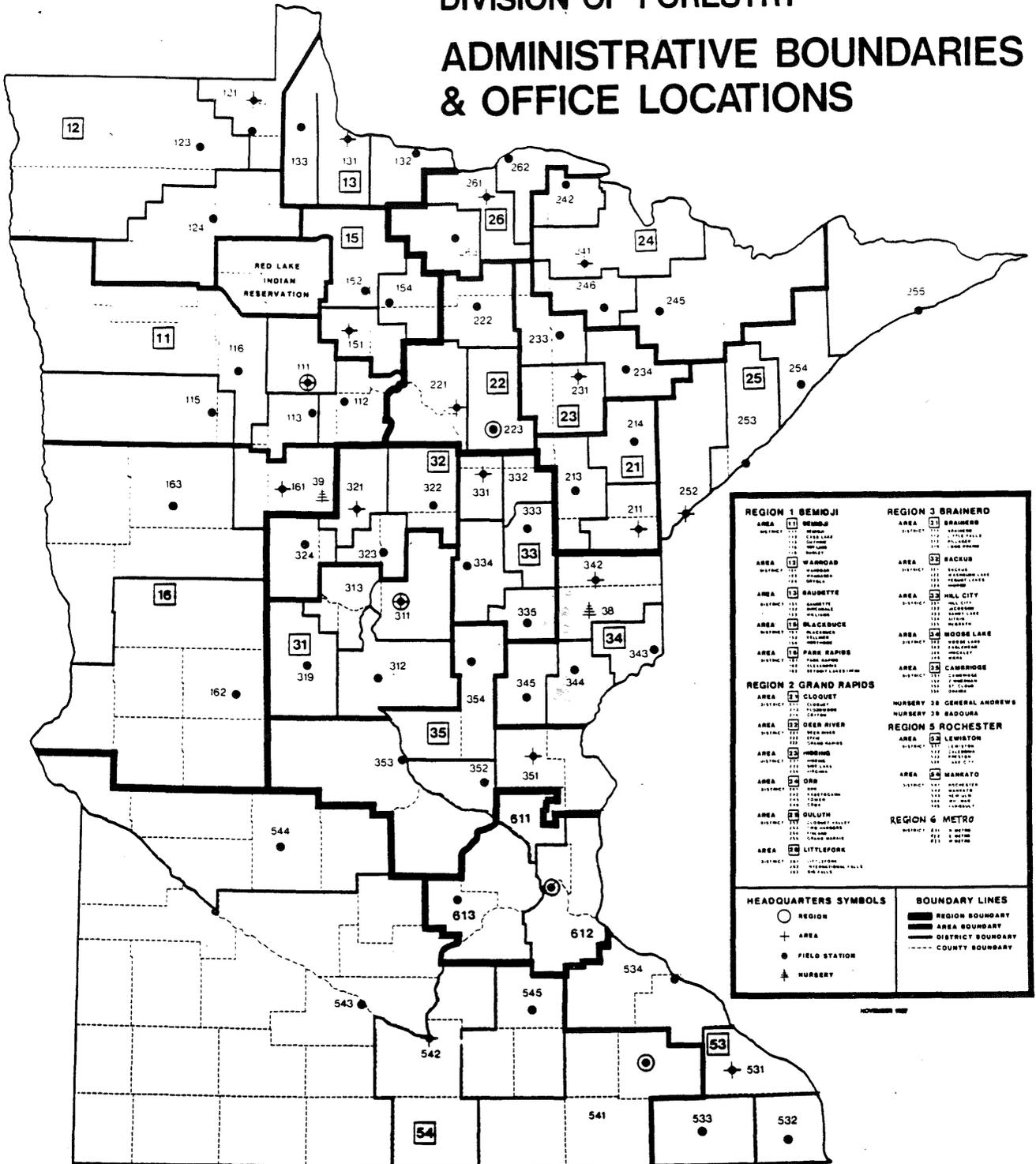
MINNESOTA FOREST  
RESOURCES PLAN





# DIVISION OF FORESTRY

## ADMINISTRATIVE BOUNDARIES & OFFICE LOCATIONS





Equal opportunity to participate in and benefit from programs of the Minnesota Department of Natural Resources is available to all individuals regardless of race, color, national origin, sex, age or disability. Discrimination inquires should be sent to MN-DNR, 500 Lafayette Road, St. Paul, MN 55155-4031 or the Equal Opportunity Office, Department of the Interior, Washington, D.C. 20240