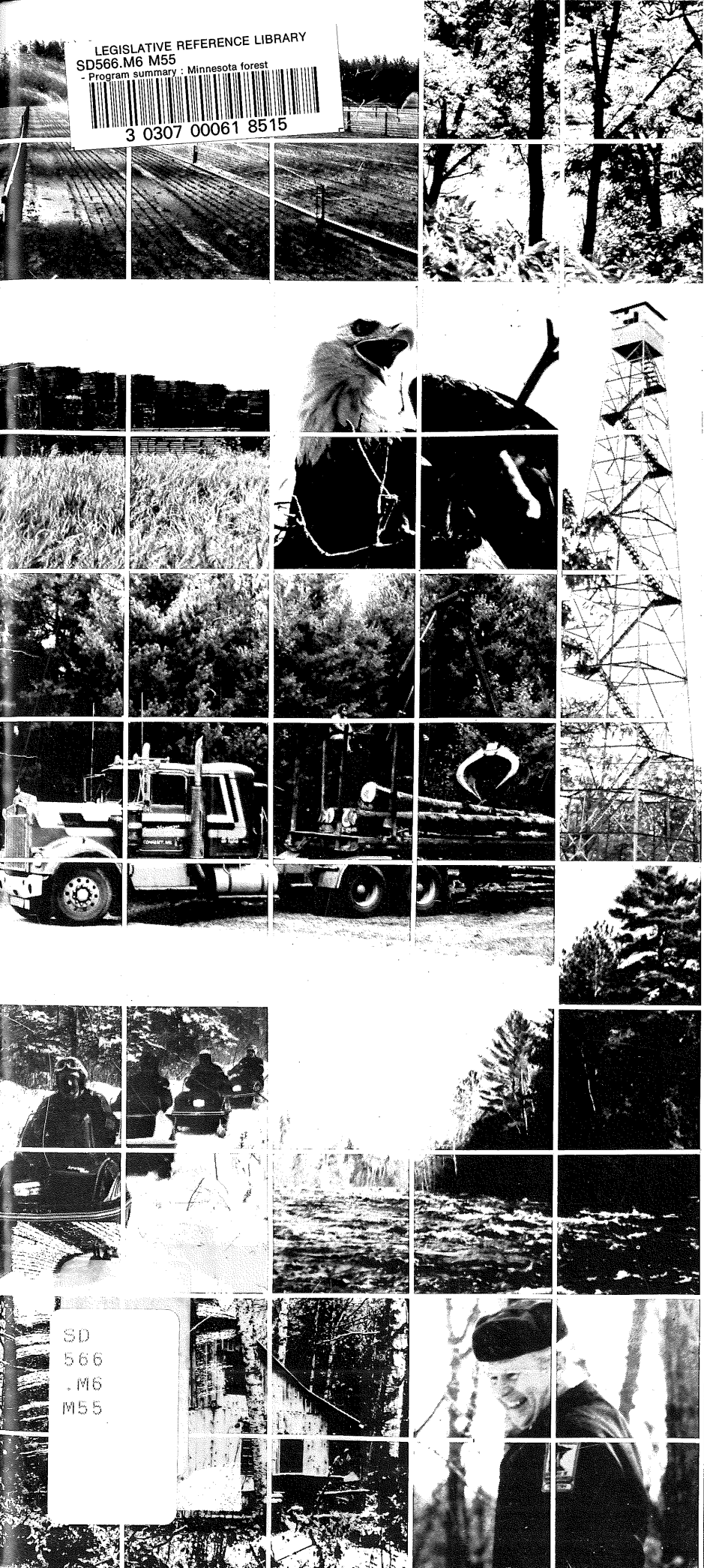


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Program Summary

Minnesota Forest Resources Plan

Funding Provided by the Legislative
Commission on Minnesota Resources
and the U.S. Forest Service

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PROGRAM SUMMARY

MINNESOTA FOREST RESOURCES PLAN

*Prepared Pursuant to
1982 Minnesota Laws
Chapter 511, Section 5*

*Funding provided by the Legislative Commission on
Minnesota Resources and the U.S. Forest Service*

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INTRODUCTION

This document summarizes volumes 4 through 6 of the Minnesota Forest Resources Plan (MFRP). Collectively, these volumes comprise the program portion of the comprehensive forest resource management plan required by the Forest Resource Management Act of 1982 and are based on the three preceding volumes: Volume 1 — **Planning Concept Document**, Volume 2 — **Issues Document**, and Volume 3 — **Assessment**.

MFRP Goals and Strategies (Volume 4) sets long-term goals for the 10 major issues addressed in the MFRP. It also describes general strategies for resolving the issues. The goals and strategies address all forest lands in the state regardless of ownership.

MFRP Objectives and Recommendations (Volume 5) lists specific actions designed to implement the strategies in Volume 4. The actions are presented as objectives for the Division of Forestry and as recommendations to other DNR divisions, agencies, and organizations.

MFRP Program and Budget (Volume 6) combines the objectives from Volume 5 with ongoing responsibilities to provide a complete description of the Division of Forestry's recommended program for the next six years. Volume 6 also includes estimates of the budget and staff required to implement the recommended program.

This Program Summary consists of two major sections. The first section summarizes volumes 4 and 5. It describes some of the actions to be taken to resolve major resource issues and to respond to the findings of the forest resource assessment. The second section summarizes Volume 6. It includes the Division of Forestry's program priorities and an estimate of budget and staffing needs for the next six years.

Not all recommended actions are included in this summary. Also, the recommended actions that are listed were chosen not because they are higher priority than others but because they give a representative cross-section of types of actions to be taken both by the DNR, Division of Forestry and by other agencies and organizations to implement the preferred strategy. For a complete list of recommendations, see volumes 4 and 5 of the MFRP. For a list of recommended actions by agency, refer to Volume 5.

Section 1

Forest Resource Issues Summary

ECONOMIC CONTRIBUTION OF TIMBER RESOURCES

Issue Statement

Minnesota's timber resources are contributing less than their potential to the state's economic growth and development.

Goal

To manage Minnesota's renewable timber resources to encourage expansion of the forest products sector of the state economy.

Strategy

Practice multiple-use management on an extensive, stable forest land base through interdisciplinary planning and a multiple-use emphasis on all ownerships of commercial forest land.

Intensify management on the most suitable timberland to increase productivity and quality of the forest resource. Improve timber management and utilization efficiency while continuing to produce substantial outputs of other forest resources.

Encourage expansion of the forest products sector of the state economy by providing a better business climate.

Increase the annual timber harvest on all commercial forest land from the 1980 level of 2.4 million cords to approximately 3.8 million cords by 1990 to meet projected demands for timber (Figure 1 shows the recommended harvest level by ownership). Assure forest products manufacturers that timber supplies will continue to be available to meet anticipated needs.

Representative Recommendations

- Identify forest lands that are most suitable for intensified timber management based on productivity, accessibility, and proximity to markets. This should be done when land management plans are developed for public forests and when county or local comprehensive plans and zoning regulations are adopted.
- Integrate insect and disease management techniques into silvicultural programs to reduce losses and improve yields and timber quality.

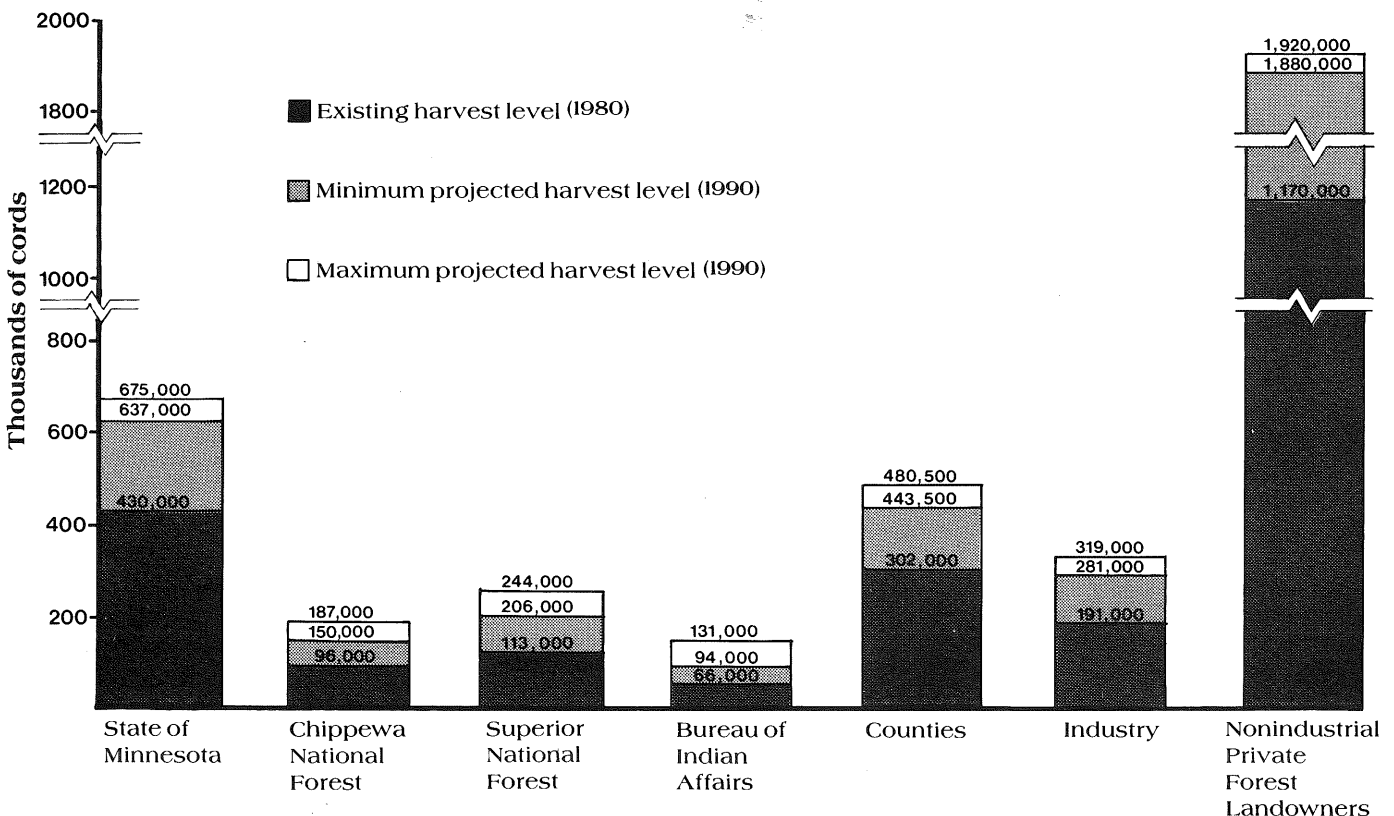


Figure 1
Existing and Projected Timber Harvest Levels by Ownership Type

- Expand the tree improvement program supported by the Minnesota Tree Improvement Cooperative. Produce approximately 30 million seedlings each year at state tree nurseries to carry out the proposed regeneration program.

- Reforest unstocked or understocked forest lands that are most suitable for timber management.

- Increase efforts to develop markets for Minnesota forest products and promote development of wood-using industries in Minnesota.

- Encourage public and private sector research to develop technologies to improve utilization of Minnesota's timber resources and to develop methods to increase timber yields.

- Use tax incentives or other public policy mechanisms to encourage management of non-industrial private forest lands and to promote expansion of the forest products sector of the state economy.

- Maintain forest resource inventories to provide adequate, up-to-date information on which to base forest management decisions.

- Ensure regeneration of a variety of timber types which meet timber production needs.

ENERGY PRODUCTION FROM FOREST RESOURCES

Issue Statement

Minnesota's forest resources can help meet increasing energy demands, but a program to manage the use of the resource will be needed to maintain both environmental and forest resource quality.

Goal

To help meet Minnesota's changing energy demands through increased use of forest resources for energy production.

Strategy

Monitor and anticipate changes in market forces and advances in technology that determine the demand for energy resources from forest lands. Encourage industry and public institutions to use more wood residues for fuel.

Expand existing fuelwood management efforts, which make domestic fuelwood available from residues and low value timber, if demand increases. Do this by: 1) initiating a managed fuelwood harvest program that assures protection of timber, wildlife, and other forest resources on both public and private lands; 2) increasing information and education programs; and 3) increasing marketing and utilization assistance.

Cooperate with the DNR, Division of Minerals and the Interagency Peat Task Force to insure coordinated development of peat, biomass, and other nontimber energy resources.

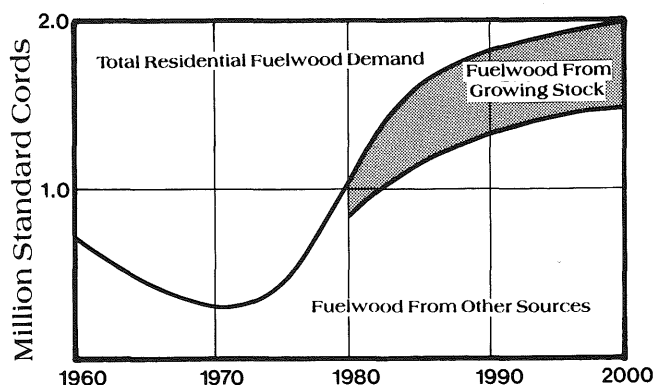


Figure 2: Current and projected residential fuelwood demand in Minnesota from commercial and non-commercial forest land, 1960-2000.

Fuelwood from growing stock includes:

- 1) Live, standing trees.
- 2) Rural and agricultural land clearing.
- 3) 80% of purchased fuelwood.
- 4) 50% of tops and trees remaining, following harvest.

Fuelwood from other sources includes:

- 1) Residues from primary and secondary processors.
- 2) 50% of tops and trees remaining following harvest.
- 3) Dead trees, standing or down.
- 4) Residential and urban land clearing and tree removal.
- 5) 20% of purchased fuelwood.
- 6) Imports from Wisconsin.

Source: Krantz 1981.

Representative Recommendations

- Use proper fuelwood harvesting techniques to provide fuel for domestic heating while improving future timber crops, wildlife habitat, and other forest resources.
- Develop compatible fuelwood harvesting policies for federal, state, and county forest lands.
- Develop information and education programs that encourage the use of forest resources for energy in an environmentally sound, cost-effective manner. Provide technical assistance and other support, as needed, to develop forest-related energy resources.
- Designate areas of state-administered land that could be managed for energy production as part of the DNR, forestry unit planning process.
- Monitor changes in demand for energy from forest resources.
- Assess the potential contribution of fuelwood, peat, and biomass in reducing Minnesota's dependence on imported energy sources and determine which forest lands are most suitable for producing energy crops.
- Provide tax or other economic incentives for industrial, commercial, and institutional facilities using wood for fuel.
- Determine the feasibility of peat mining and reclamation as a means of improving forest productivity.
- Increase utilization of industrially-generated wood residues for energy and promote production of processed or densified wood fuels.

FOREST PROTECTION PROGRAM EFFECTIVENESS

Issue Statement

Cyclical funding of the wildfire protection program and increased development of permanent and seasonal homes in rural areas diminish the program's effectiveness in reducing forest resource, life, and property losses. The effectiveness of forest insect and disease and other forest protection programs in reducing resource losses is restricted because of insufficient

integration of the programs into land use, silvicultural, and other forest management decisions.

Goal

To provide efficient forest resource protection.

Strategy

Increase efforts in fire prevention, hazard reduction, and fuels management. Public agencies will maintain their responsibility and capability to provide initial attack on wildfires in the intensive protection zone. Increase coordination between the DNR and rural fire departments to reduce hazards to rural property and to provide efficient wildfire protection in the extensive protection zone.

Continue efforts to develop and incorporate integrated pest management techniques into forest management programs. Increase efforts of public agencies on nursery, Christmas tree, and urban pest management. Revise the DNR's policy on pesticide use to clarify the role of pesticides in natural resource management and to require stricter pesticide use reporting and monitoring. Improve the management capability and flexibility of the DNR, Division of Forestry pesticide program, within legal and safety constraints.

Continue efforts to use forest soils information to improve forest management decisions. Design management practices to mitigate the impact of forest management activities on water quality.

Representative Recommendations

- Encourage the safe and effective use of prescribed fire as a resource management tool. Identify large contiguous land types which represent high hazards and develop fuel management guidelines for them.
- Increase wildfire prevention and law enforcement efforts of wildfire protection programs. Use the results of recent fire planning and economic efficiency studies to select an efficient mix of prevention, presuppression, and suppression efforts for different areas of the state.
- Develop hazard reduction programs that would alert rural property owners of the risk to life and property from wildfires; offer voluntary inspections to property owners in fire-prone areas; provide information on

site design and structural improvements that would reduce risk; and pursue insurance rate reductions for compliance with suggestions.

- Modify building codes or local zoning laws to reduce potential damage to rural developments in fire prone areas.
- Organize and train local wildfire “strike teams” to increase coordination and to effectively utilize all wildfire protection resources. Update cooperative fire protection agreements.
- Encourage greater age class and species diversity between adjacent stands to reduce risk of losses due to fire, insects, and disease.
- Develop and implement pest management guidelines and control

strategies for each major timber type in Minnesota; train foresters to integrate pest management practices into ongoing forest management activities; and establish a forest insect and disease working group to increase cooperation among forest landowners and reduce duplicate efforts.

- Increase monitoring of the amount, effectiveness, and environmental impacts of pesticides used in natural resource management; train foresters to use pesticides properly.
- Train foresters, landowners, and loggers in using forest management practices that mitigate impacts on water quality.
- Develop forest soils expertise and disseminate soils information to forest managers to improve forest management.

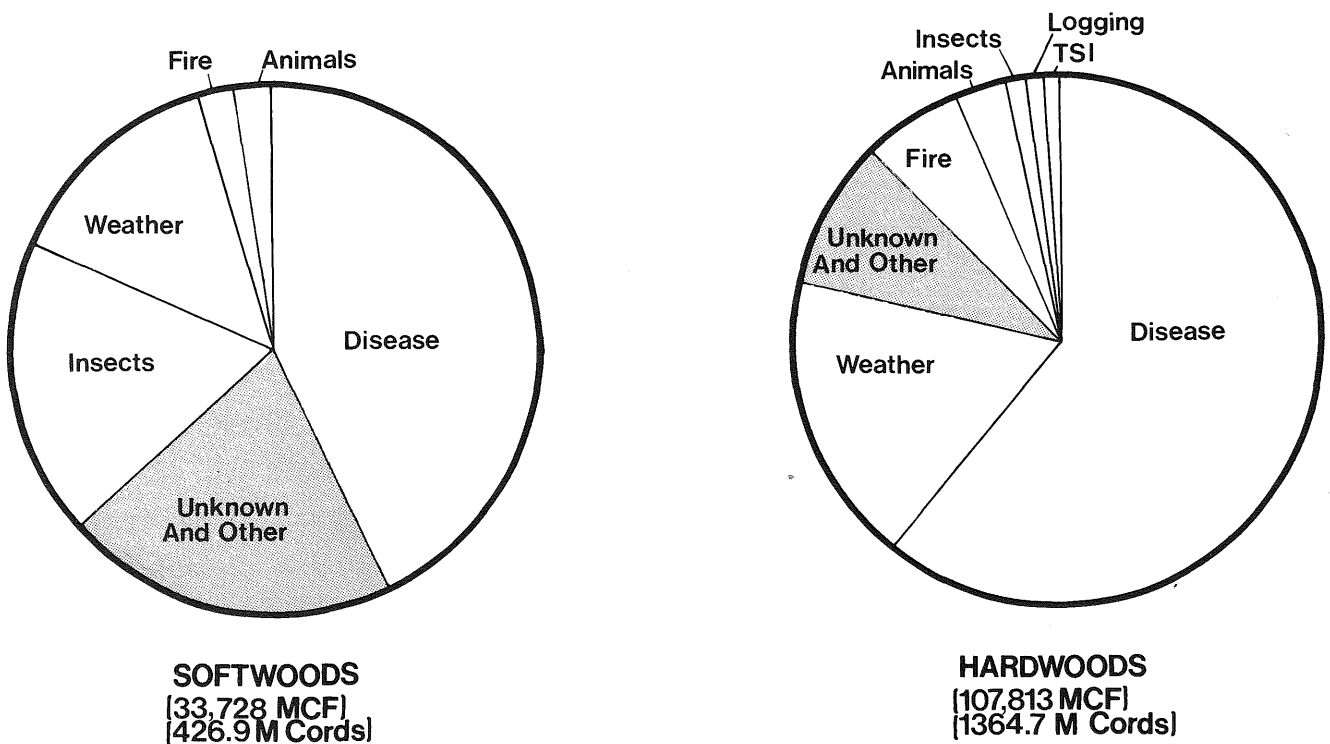


Figure 3: Annual mortality of growing stock on commercial forest land by softwoods and hardwoods and cause, Minnesota 1976.
 Source: Spencer 1982

FOREST RESOURCE MANAGEMENT ON PRIVATE LAND

Issue Statement

Production of forest resources on non-industrial private forest land is below the level needed to meet expected statewide demand.

Goal

To improve multiple-use management on non-industrial private forest (NIPF) lands and provide urban forestry assistance to benefit the landowners, economy, and environment of Minnesota.

Strategy

Provide more effective public forestry assistance programs to landowners and communities. Encourage greater participation in these programs by consulting, industrial, and urban foresters. Target assistance to landowners who make a commitment to manage their land.

Increase retention and improve management of NIPF lands by promoting incentive programs and encouraging revisions in property and income tax laws. Emphasize multiple-use and environmental protection aspects of NIPF programs. Improve urban forest management and assistance programs.

Representative Recommendations

- Study mechanisms such as permanent timber easements, deed restrictions, protective covenants, and cost-sharing payback clauses to ensure needed follow-up treatments and timber harvest on lands that receive cost-share payments.
- Expand the role of consulting and industrial foresters in providing technical assistance to landowners participating in cost-sharing programs.
- Revise property and income tax laws, and encourage purchase of timber easements to encourage private forest land retention and multiple-use management.
- Develop model cooperative management and marketing agreements for NIPF landowners.
- Maintain an urban forestry program within the DNR.

- Encourage expansion of the Tree Farm Program.
- Encourage the development of private forest landowner associations.
- Support local land use and other measures that discourage converting highly productive forest land to non-forest uses.
- Expand NIPF landowner and urban forestry educational programs.
- Promote harvest systems that meet regeneration requirements for desired species on NIPF lands.
- Ensure that fish, wildlife and unique features, such as endangered species habitat, are adequately considered in the Private Forest Management Program.
- Support research and development projects directed at forestry management on NIPF lands and urban forestry.
- Complete a forest resource inventory on NIPF lands.



COUNTY FOREST MANAGEMENT

Issue Statement

To meet the increasing demand for forest resources from county lands, a stable county land base, more intensive management, and improved coordination between counties and the DNR, Division of Forestry will be needed.

Goal

To encourage and support efforts to intensify the multiple-use, sustained-yield management of county forest lands.

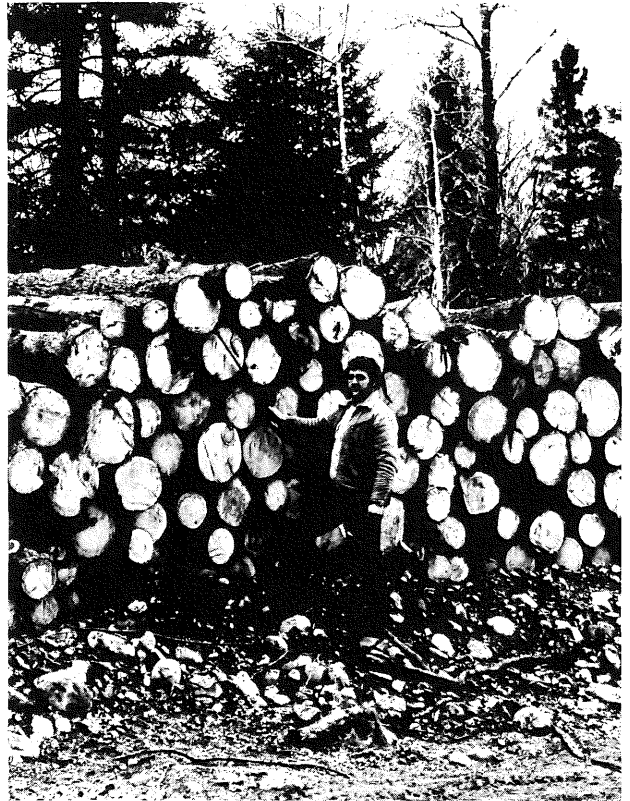
Strategy

Support the continuing improvement of county land management programs. Tailor DNR management assistance to meet individual county needs and potentials, providing a gradual transition from general assistance to advisory and technical support in specialized areas.

Encourage stable tax-forfeited land ownership and greater cooperation between the state and counties in the multiple-use management of public forest lands.

Representative Recommendations

- Retain, in public ownership, tax-forfeited lands which are primarily suitable for forest management. Designate appropriate management units as county memorial forests.
- Pursue land exchanges or cooperative management agreements to increase efficiency of public forest land management.
- Provide counties with advice and technical assistance through the County Assistance Program in various areas of resource management, with emphasis on improving the efficiency of county forest management programs; encouraging counties to adopt multiple-use, sustained-yield management principles; developing comprehensive forest management plans; and increasing cooperation and coordination between the state and counties in all phases of forest resource management.
- Encourage county foresters to participate in training sessions and continuing education programs.



- Complete and maintain county forest inventories.
- Provide assistance from DNR specialists in the areas of wildlife, fisheries, water, mineral, and recreation management upon request by county land managers.
- Provide additional training opportunities and technical assistance in specialized areas of resource management to improve productivity of county lands.
- Assist counties through cooperative research projects on county-administered tax-forfeited lands. Increase research into various aspects of county forest management.

DIVISION OF FORESTRY OUTDOOR RECREATION MANAGEMENT

Issue Statement

New outdoor recreation program initiatives and effective implementation of existing outdoor recreation policies on lands administered by the DNR, Division of Forestry will be needed to meet increasing demands for outdoor recreation opportunities from these lands.

Goal

To fulfill the outdoor recreation potential of Minnesota forest lands by providing developed recreation areas and opportunities for dispersed recreational activities.

Strategy

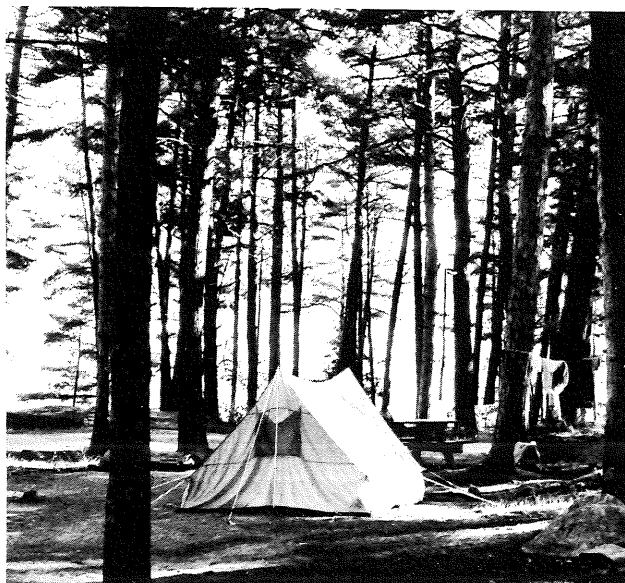
Provide increased opportunities for forest-related outdoor recreation through increased emphasis on the DNR, Division of Forestry's outdoor recreation management program and increased efforts to develop interdisciplinary programs, projects, and planning with other DNR divisions, other agencies, and the private sector. The Division of Forestry will retain overall responsibility for administration of outdoor recreation opportunities on state forest lands while working with other units of government, other DNR divisions, and private and industrial landowners in fulfilling statewide objectives on other lands. Pursue opportunities for sharing expertise and cooperative funding. Emphasis will be placed on continuing the role of the Division of Forestry in providing dispersed outdoor recreation opportunities.

Representative Recommendations

- Develop a DNR policy on the use of off-road vehicles on state lands.
- Establish a DNR Outdoor Recreation Coordinating Committee with representatives from all departmental units with outdoor recreation responsibilities.
- Include specific, detailed outdoor recreation objectives in all Division of Forestry unit plans.
- Establish a priority ranking system to allocate state forest sub-area development

and rehabilitation funds.

- Secure adequate funds for development, operation, and maintenance of forest recreation facilities.
- Develop new state forest user maps.
- Develop appropriate interpretive programs on the forest environment and forest management.
- Prepare and distribute a state forest recreation management manual.
- Encourage development of private recreational facilities that would benefit from proximity to DNR lands and minimize competition between public forest recreation facilities and private tourism developments.
- Provide adequate enforcement of forest recreation regulations.
- Study options for revising the recreation user fee system.
- Coordinate outdoor recreation efforts among the DNR, other state agencies, federal agencies, local units of government, and the private sector to meet recreation demand.
- Develop an evaluation procedure for the forest recreation program and user satisfaction.
- Assess the demand for outdoor recreation facilities on state forest land and update the inventory of existing facilities.



FOREST LAND USE AND OWNERSHIP

Issue Statement

To meet the increasing demand for forest resources from a shrinking forest land base, more efficient management of the most productive lands will be required and problems caused by interspersed ownerships must be resolved.

Goal

To achieve the optimum pattern of forest land ownership for multiple-use management of forest resources.

Strategy

Facilitate consolidation and exchange of lands on a case-by-case basis, when necessary to meet management goals. Consolidation will be based upon a determination of needs or goals of the agency and the particular region of the state; the impact on adjacent ownerships; the specific characteristics and potentials of the area; compatibility with other departmental or other agency goals; the ease with which such consolidation might take place; cost effectiveness; and environmental, social, and economic impacts.

Continue to administer an extensive and largely intermixed land base through federal, state, and local governments. The state will administer its forest lands under the multiple-use, sustained-yield policy established by the Forest Resource Management Act of 1982. Some lands will be identified for intensive forest management. Public forest land management agencies will follow a policy of retaining existing lands in public ownership. Private forest landowners will continue to make decisions on forest land use, retention, and ownership based on their personal or corporate goals.

Representative Recommendations

- Develop unit management plans that include land ownership adjustment priorities for state forest lands. Propose land exchanges or cooperative management agreements to consolidate scattered land ownerships and create larger management units when overall natural resource management benefits outweigh the costs.



- Implement appropriate policy and administrative changes to facilitate land exchange.
- Identify prime forest lands and develop mechanisms to discourage conversion of prime lands to non-forest uses.
- Prepare a report on land use and ownership options for lands currently administered by the DNR and the counties, analyzing the potential for cooperative agreements, transfers of title, and land exchanges.
- Develop reciprocity agreements for road rights-of-way and gravel leases between the DNR and the U.S. Forest Service.
- Update the DNR lakeshore leasing policy.

FOREST ROAD SYSTEM

Issue Statement

Protection, management, and use of forest resources is constrained by an inadequate, deteriorating state forest road system.

Goal

To develop and maintain a forest road system that provides access for the protection, management, and use of Minnesota's forest resources.

Strategy

Design, develop, and administer a forest road system that increases management, protection, and utilization of forest resources on all ownerships. Construct and maintain cost-effective forest roads to meet appropriate safety and transportation requirements, and also to comply with accepted environmental quality standards and multiple-use management principles.

Coordinate road development activities on all ownerships to reduce duplication and unnecessary road development. Promote cooperative transportation planning, funding, construction, and maintenance programs, involving all major road users, agencies, and landowners.

Representative Recommendations

- Encourage all agencies and landowners to participate in developing the forest road

portion of unit plans to ensure development of a coordinated forest road system that serves all ownerships.

- Implement recommendations contained in the State Forest Road Plan. Develop, upgrade, and maintain forest roads administered by the DNR.

- Use the County Assistance and Private Forest Management programs to encourage forest road development on county and private lands.

- Prepare a state forest road manual containing location, design, construction, and maintenance specifications, environmental protection guidelines, and general road policies.

- Consider fish and wildlife habitat, recreation, protection, and other needs when planning forest roads.

- Develop or update inter-agency agreements on development, use, and maintenance of forest roads serving multiple ownerships.

- Update forest road agreements to insure continued use and access to forest lands. Initiate new agreements where needed.

- Expand forest road access to areas, especially isolated or landlocked areas, where there is growing demand for forest resources.

Table 1. Summary of 1982 state forest road system inventory findings.

Region	Total Miles	Miles in Need of Reconstruction	Miles Recommended for Abandonment	Miles of New Construction Needed	Number of Bridges	Bridges in Need of Repair/Replacement	Number of Culverts
Bemidji (I)	752.7	288.6	51.2	28.3	21	12	638
Grand Rapids (II)	576.9	272.9	51.0	27.5	16	6	1,176
Brainerd (III)	345.3	25.1	24.6	36.6	1	—	253
Rochester (V)	123.6	54.9	—	8.2	7	4	64
TOTALS	1,798.5	641.5	126.8	100.6	45	22	2,131

INTEGRATION OF TIMBER AND FISH AND WILDLIFE MANAGEMENT

Issue Statement

Improved integration of timber, fish, and wildlife management goals could provide additional habitat for game and nongame species as well as increased timber production.

Goal

To improve and maintain forest-related habitat for game and nongame fish and wildlife species.

Strategy

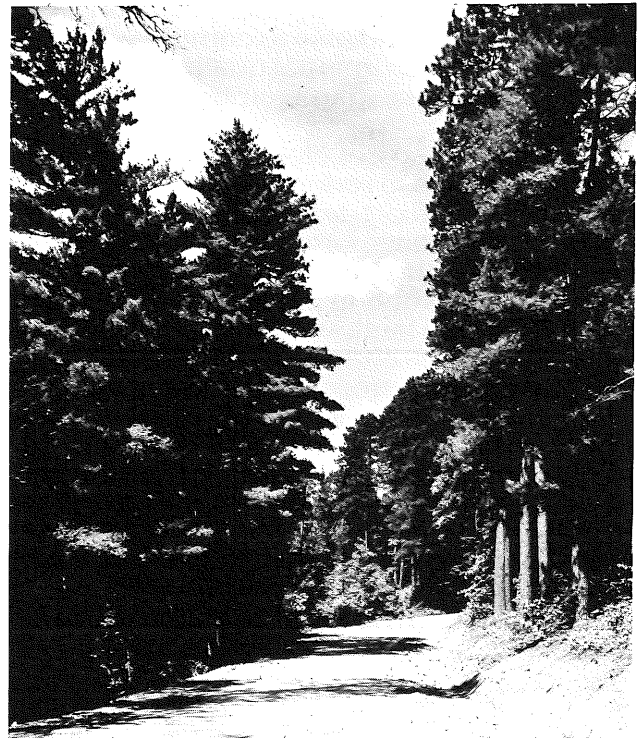
Increase integration of fish and wildlife management principles into forest and land management activities on all ownerships. Improve cooperation among wildlife, fisheries, and forestry personnel through more interdisciplinary training and interaction. Increase fish and wildlife habitat retention and wildlife management on private and county forest lands by encouraging joint evaluations and planning by appropriate natural resource and land management agency personnel. Protect water resources and critical habitat areas.

Representative Recommendations

- Provide more interdisciplinary education for wildlife, forestry, and fisheries students and practicing resource managers.
- Include interdisciplinary, inter-agency fish and wildlife management objectives in all Division of Forestry unit plans.
- Manage snags and mast-producing trees for wildlife, wherever feasible.
- Identify and implement appropriate management practices for species and ecosystems that are endangered, threatened, or of special concern.
- Develop a cooperative agreement that addresses the integration of fish management and timber management practices.
- When the opportunity arises, provide common field offices for DNR fisheries, forestry, and wildlife personnel in the forest areas of the state.
- Require field implementation of the

Forestry/Wildlife Coordination Policy and the related Forestry/Wildlife Guidelines to Habitat Management.

- Provide technical assistance to wildlife managers in using timber management to reduce costs in attaining wildlife management objectives.
- Revise property and income tax laws to encourage fish and wildlife habitat retention on private forest lands and more intensive wildlife habitat management.
- Develop and maintain forest roads in ways that will benefit fish and wildlife management and fish- and wildlife-oriented recreational use.
- Develop techniques to reduce timber losses to animal depredation.



DIVISION OF FORESTRY FUNDING, PLANNING, INFORMATION MANAGEMENT, AND PROGRAM COORDINATION

Issue Statement

Achieving higher levels of products and services through more intensive forest land management is limited by short-term funding of Division of Forestry programs, inadequate written long-term policy direction, inefficient use and organization of forestry data and information systems, and insufficient internal and external program coordination.

Goal

To provide administrative support and management control functions necessary to achieve the goals and direction contained in the Minnesota Forest Resources Plan (MFRP) and the Forest Resource Management Act of 1982.

Strategy

Develop and maintain a long-term planning, program development, and budgeting process within the DNR, Division of Forestry to improve policy development, program coordination, and management of state-owned forest lands. Establish monitoring and review procedures to ensure program effectiveness and implementation. Update Division of Forestry's policy documents and manuals; continue efforts to develop a computerized management information system; and maintain adequate forest resource inventory information. Expand training and continuing education programs. Cooperate with forestry research organizations and other agencies in developing improved forest management techniques and practices.

Representative Recommendations

- Develop accomplishment, staffing, and budget projections for the next three biennia, based on MFRP goals, strategies, and objectives. Update projections in each biennial budget.
- Prepare unit management plans for Division of Forestry's administrative areas.
- Conduct thorough program reviews at the field and staff levels.

- Implement the recommendations contained in the report to the legislature on **Continuing Education of Foresters in Minnesota**.

- Improve the process used to develop, review, and revise policy documents.


- Continue efforts to improve the DNR, Division of Forestry's management information systems.

- Maintain adequate forest resource inventory information on all ownerships.

- Identify the DNR, Division of Forestry's research needs and communicate those needs to appropriate research organizations.

- Provide information for a statewide assessment of timber, recreation, and wildlife resources.

INTRODUCTION



Section 2, Division of Forestry Program Highlights, summarizes Volume 6 of the Minnesota Forest Resources Plan (MFRP). Volume 6, **Division of Forestry Programs and Budget**, charts a course designed to improve the protection and management of Minnesota's forest resources between 1984 and 1989. This volume is based on the five preceding documents, integrating the preferred response to the 10 major issues of the MFRP with ongoing programs of the DNR, Division of Forestry. Volume 6, unlike the other volumes, focuses exclusively on DNR, Division of Forestry programs rather than all forest resources and agencies in the state.

Volume 6 contains a complete description of the Division's recommended program objectives and budget for 1984-1989. Individual program managers prepared comprehensive lists of objectives and budget and staffing needs to meet the preferred goals and objectives of the MFRP. The 1984-85 objectives reflect the Division's efforts to implement the MFRP strategies within the budget and guidelines established by the 1983 Legislature. The 1986-87 and 1988-89 objectives are based on program managers' estimates of what is needed to meet ongoing responsibilities and to achieve long-term goals.

The following assumptions were made in developing the proposed program budgets:

The BWCAW Forest Management Intensification Program will be funded at the \$3,750,000 level each year of the planning period.

The state-sponsored forest management intensification effort will be funded at the 1984-85 level through 1989.

The Legislature will appropriate the receipts deposited in the Forest Management Fund for the purposes outlined in the Forest Resource Management Act of 1982 (reforestation, forest road improvements, equipment and training for the prevention and suppression of forest fires, and forest pest prevention and treatment.)

Section 2

Division of Forestry
Program Highlights

Budget estimates were developed by each program manager based on experience and 1983 legislative action. Budget figures for 1984-89 are based on 1983 dollars. The 1984-85 budget includes the inflation allowance over the 1982-83 budget for non-personnel costs. Personnel costs will be covered by supplemental salary appropriations. The 1986-87 and 1988-89 budgets will be adjusted for actual inflation as part of the biennial budget process.

Each of these proposed program budgets can be compared to the 1982-83 budget figures of the existing program. Complete data were not available for fiscal year 1983 when the plan was prepared. Thus, information for 1982-83 is based on 1982 actual expenditures rather than on an average of the two years, except for the federal cooperative funds. This minimizes the influence of the budget cuts in fiscal year 1983, caused by the state's financial problems, and gives better base year figures for comparison.

LCMR funds, bonding, and other dedicated or easily traceable funds were attributed to the appropriate programs. The remaining general funds were pro-rated to each program based on staffing levels. The BWCAW forest intensification funds for 1984-89 were allocated to programs based on the existing work plan except for the shift of funds from the nursery program to state and county land management beginning in fiscal year 1985.

BUDGET AND STAFFING SUMMARY

Table 2 summarizes the recommended Division of Forestry budget and staffing levels for 1984-89. It should be noted that the budget does not include the cost of major equipment (e.g., tractors, trucks) which is budgeted for on the departmental level, and bonding for offices and other facilities. Capital improvement bonding for campgrounds, roads, bridges, and land acquisition are included in the Division of Forestry's budget.

Federal cooperative funds are expected to decrease, at least through 1987. Federal funding for some programs will probably be eliminated completely while funding for other programs remains static or increases slightly.

The budget request for the Legislative Commission on Minnesota Resources' (LCMR) projects is difficult to project since the LCMR prefers to fund new or innovative projects that address emerging resource issues. It is quite possible that additional LCMR projects will be proposed during the life of this plan.

The proposed bonding authority for roads, bridges, and land acquisition is based on the State Forest Road Plan and the land acquisition plan for the Richard J. Dorer Memorial Hardwood State Forest. The proposed increase in land acquisition from about \$235,000 per year in 1984 to over \$2,000,000 per year in 1989 may be reduced in light of recent efforts to limit the amount of land in state ownership. Bonding requests for road and bridge construction might also be reduced if an alternative method of financing forest roads is developed.

The "other" category in the budget summary includes federal cost-sharing payments to private landowners, dedicated campground receipts, DNR recreation funding, Trails and Waterways Unit funding, and other miscellaneous funds.

The staffing summary is based on the amount of time actually recorded on employee time summaries for calendar year 1982 and staff estimates of required time for 1984-89. Thus, the projected number of full-time equivalents cannot be directly related to the Division's personnel complement. For example, there were 480.3 full-time equivalents recorded in 1982 when the Division's complement was 434. The actual complement for 1984 is 431. New complement positions proposed for 1986-89 are identified in the program descriptions. The remaining full-time equivalents are due to overtime, or work performed by student workers, non-tenured labor, or 90 percent positions.

Table 2. Proposed Budget and Staffing Annual Averages per Biennium

	<u>1982-83</u> ³	<u>1984-85</u> ⁴	<u>1986-87</u> ⁵	<u>1988-89</u> ⁵
BUDGET (thousands of dollars) ¹				
General Fund	11,105.7	12,077.3	12,556.9	13,150.4
Forest Management Fund	—	3,590.2	6,763.2	7,800.3
Federal Cooperative Funds	1,324.9	789.9	750.0	780.0
BWCAW	3,659.5	3,750.0	3,750.0	3,750.0
LCMR	1,226.4	1,067.0	850.0	850.0
Bonding	585.8	1,479.3	4,806.0	4,686.4
Other ²	<u>1,495.8</u>	<u>1,496.5</u>	<u>1,527.0</u>	<u>1,562.5</u>
TOTAL	19,398.1	24,250.2	31,003.1	32,579.6
STAFFING				
Full-time equivalents	480.3	519.2	567.2	591.2

1. All figures are in 1983 dollars.

2. Includes federal cost-sharing payments to private landowners, dedicated campground receipts, recreation funding obtained through the Trails and Waterways Unit, etc.

3. 1982-83 dollars based on actual expenditures as of May 1, 1983.

4. 1984-85 dollars based on expenditure authority contained in Minnesota Laws of 1983, Chapter 301.

5. 1986-87 and 1988-89 dollars based on May 1, 1983 estimates of proposed expenditure requests, subject to approval by the Department of Natural Resources and the Legislature, and availability of funds.

COUNTY ASSISTANCE PROGRAM

Program Purpose

To assist county land departments in administering and managing approximately 2.8 million acres of tax-forfeited lands.

Program Priorities for 1984-89

Improve the efficiency and effectiveness of county forest management programs.

Encourage counties to manage their forest lands for a variety of forest outputs on a multiple-use, sustained-yield basis.

Assist counties in developing comprehensive forest management plans.

Encourage greater state-county cooperation in all phases of management activities.

Assist counties in effectively utilizing Phase I, Phase II, and county forest inventory information.

Process BWCAW grants to counties to insure improved and accelerated forest development where needed.

Assist counties in wildlife management and recreation resource development on county lands.

Upon request, provide counties with specialized technical and advisory support (e.g., aerial photo interpretation, insect and disease assistance, forest inventory and mapping services, and assistance with silvicultural techniques).

Review county timber sales for accuracy of appraised timber values and appropriateness of silvicultural practices.

Assist counties in using Timber Development Funds and/or Memorial Forest Receipts.

Assist in determining Tree Growth Tax rates.

Assist in county land sales, leases, exchanges and easements.

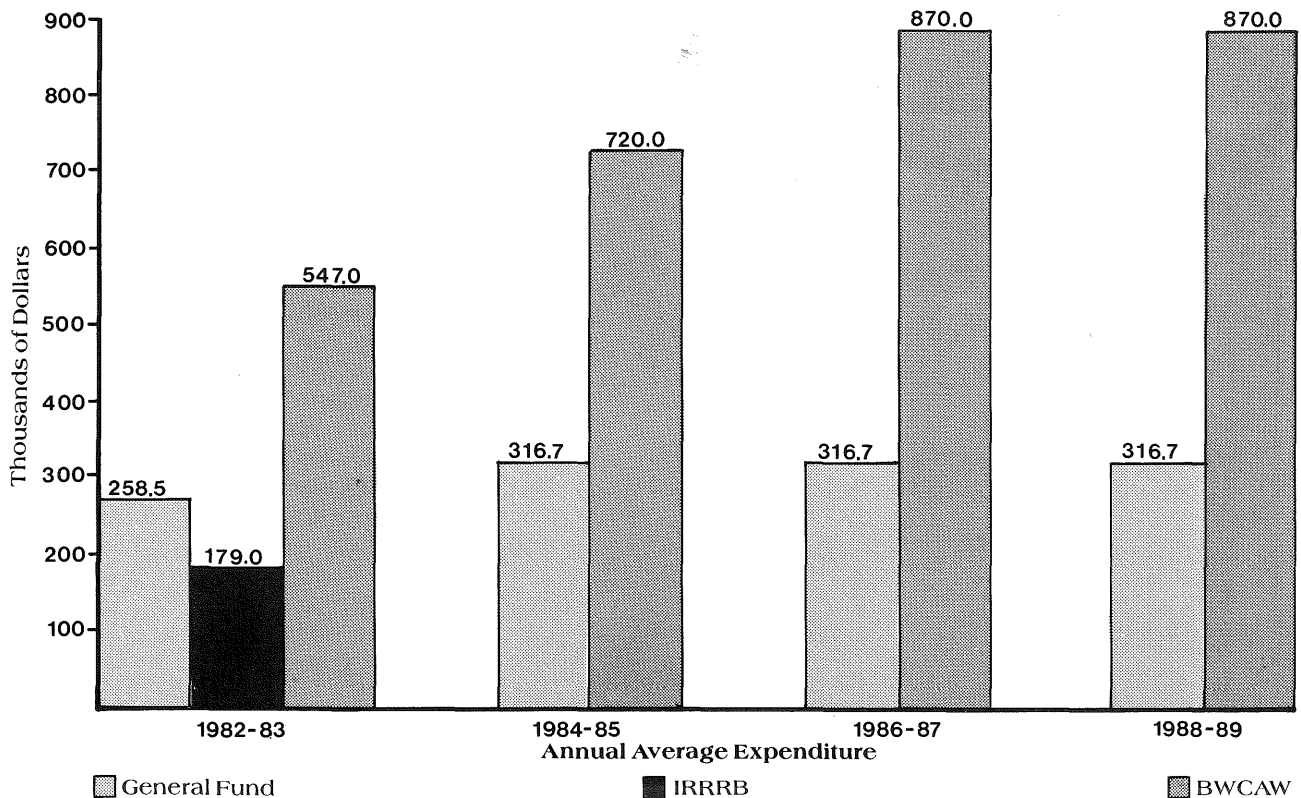


Figure 4: County Assistance Program Budget ¹

1. See footnotes, Table 2.

ECONOMICS AND STATISTICS PROGRAM

Program Purpose

To improve the decision-making process within the Division of Forestry by developing and applying relevant economic criteria and analyses.

Program Priorities for 1984-89

Implement semi-annual analytical stumpage pricing.

Analyze state stumpage sales to establish market pricing zones.

Assist in the efficiency analysis of the fire protection program.

Analyze the efficiency of the state's timber management program.

Improve project analysis and budgeting procedures.

Develop financial guidelines for forest management investments.

Improve analytical procedures to establish the taxable valuation of timber to assist county assessors.

Improve revenue and cost forecasting and auditing procedures for the nursery and trust fund land management activities.

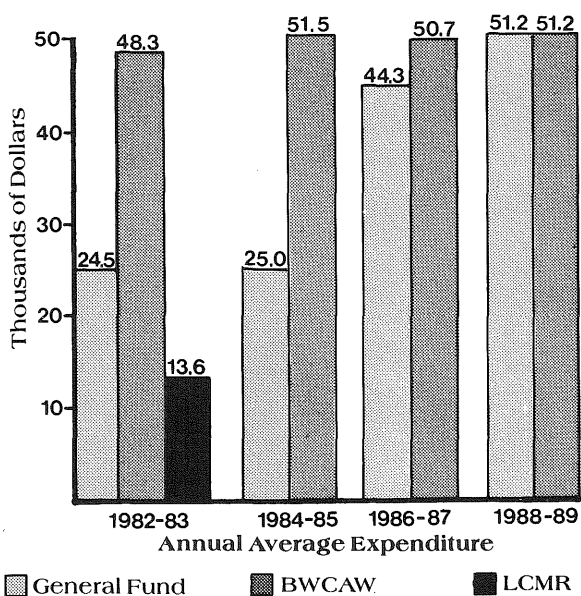


Figure 5: Economics and Statistics Program Budget ¹

¹ See footnotes, Table 2.

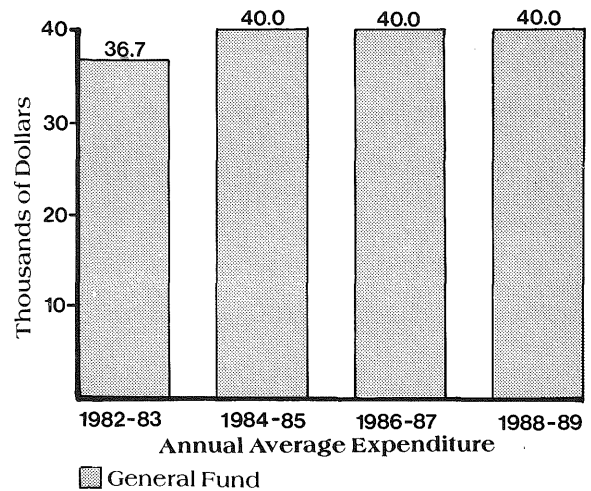


Figure 6: Environmental Review Program Budget ¹

¹ See footnotes, Table 2.

ENVIRONMENTAL REVIEW PROGRAM

Program Purpose

To represent the Division of Forestry on the DNR Policy and Environmental Review Team (PERT) and to fulfill the Division's responsibilities in environmental protection and writing and reviewing environmental documents.

Program Priorities for 1984-89

Represent the Division of Forestry and ensure interdisciplinary coordination and consensus within the Department on environmental review matters, including preparation of EIS's under Environmental Review Rules, long-range natural resource plans, management unit plans, proposed legislation, rules and regulations, and policies.

Facilitate interagency cooperation to prepare environmental documents and to analyze natural resource issues of mutual concern, especially with state agencies represented on the Environmental Quality Board.

Improve the Department's comprehensive policy planning and review approach to natural resource issues and project proposals.

Enhance environmental awareness and analysis in the Department's planning.

Incorporate the silviculture portion of the Minnesota Water Quality Plan into the Minnesota Forest Resources Plan.

FIRE MANAGEMENT PROGRAM

Program Purpose

To provide wildfire protection on 22.8 million acres of public and private lands in the forested regions of the state and to provide leadership in using fire as a natural resource management tool.

Program Priorities for 1984-89

Increase wildfire prevention and law enforcement components of wildfire protection programs, in part, through increased training and cooperation with the Division of Enforcement.

Use the results of the fire planning program to select an efficient mix of prevention, presuppression, and suppression activities for each area.

Organize and train local wildfire "strike teams" to increase coordination and effectively utilize all wildfire protection resources.

Improve the Division of Forestry's fire cause investigation capabilities.

Train Division of Forestry and other emergency service agency personnel to convert to and use the National Interagency Incidence Management System (NIIMS).

Improve radio communication capability between the DNR, rural fire departments, and other agencies involved in wildfire protection efforts.

Establish adequate depreciation and replacement schedules for specialized fire equipment.

Document costs of providing fire protection for structures in areas that are highly susceptible to wildfire. Explore appropriate alternative sources of funding to meet any additional costs.

Improve fuels management.

Assist vocational and technical schools to provide basic wildfire suppression training for rural fire department personnel.

Suggest local zoning law changes that would reduce potential damage to rural developments in fire prone areas.

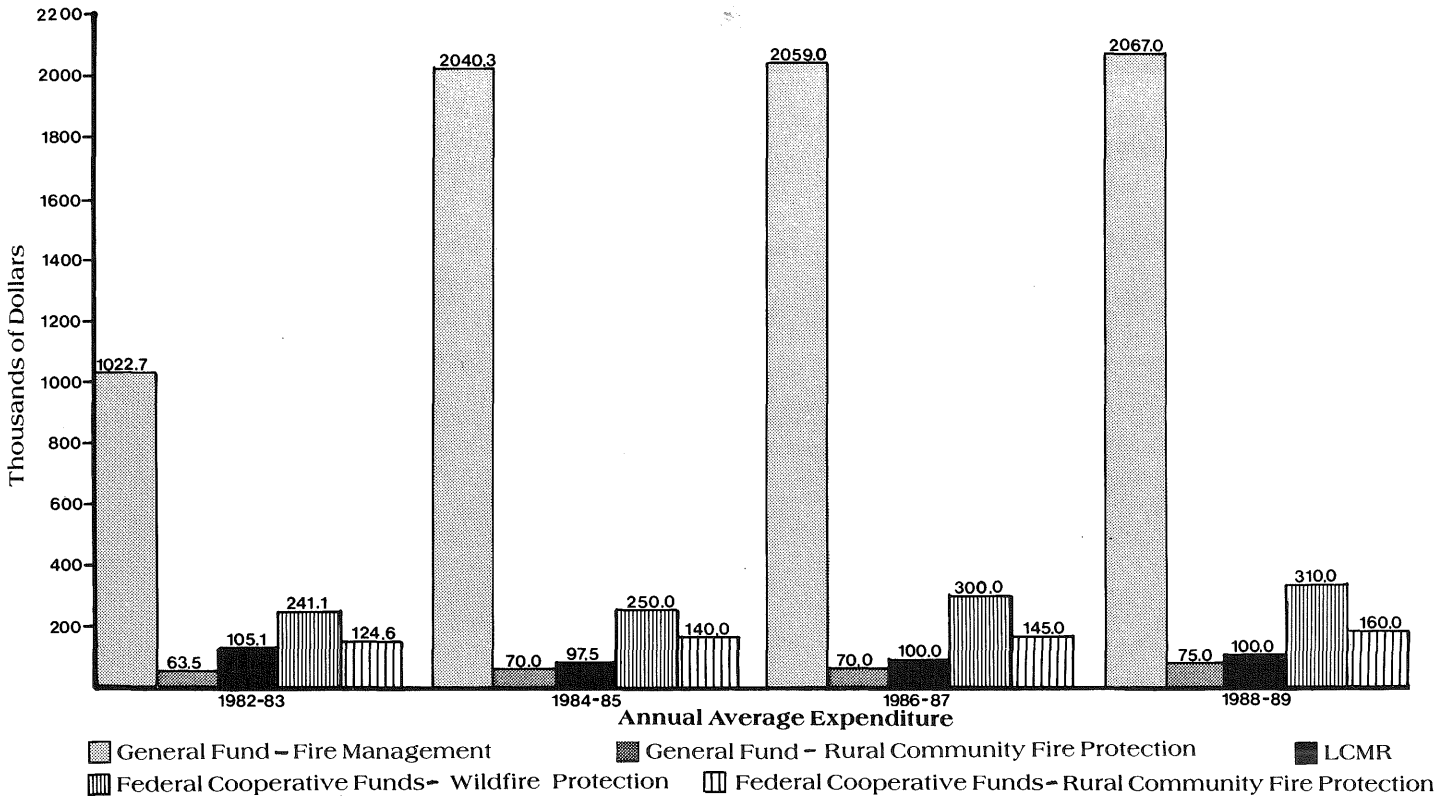


Figure 7: Fire Management Program Budget¹

1. See footnotes, Table 2.

FISH AND WILDLIFE HABITAT MANAGEMENT PROGRAM

Program Purpose

To improve and maintain forest-related habitat for game and nongame fish and wildlife species by integrating forestry and wildlife management practices on state-administered lands.

Program Priorities for 1984-89

Develop guidelines for habitat management in the transition zone and valley/agricultural woodlot zone, integrating nongame concerns into all guidelines.

Integrate wildlife habitat management guidelines into forest management activities.

Require field implementation of the Wildlife/Forestry Coordination Policy and the related Forestry/Wildlife Guidelines to Habitat Management.

Provide assistance to the Section of Wildlife in using timber management and silvicultural treatments to attain wildlife management objectives.

Address interagency fish and wildlife objectives in all Division of Forestry's unit plans.

Conduct annual joint meetings with the Section of Wildlife at regional and St. Paul levels to facilitate communications and to develop complementary goals.

Provide interdisciplinary training for foresters and fish and wildlife managers.

Provide forest resource inventory information, at cost, to the Division of Fish and Wildlife.

Develop a cooperative agreement with the Section of Fisheries that integrates fisheries management with forest management.

Cooperate with federal agencies and universities in promoting fish and wildlife management and research on common problems.

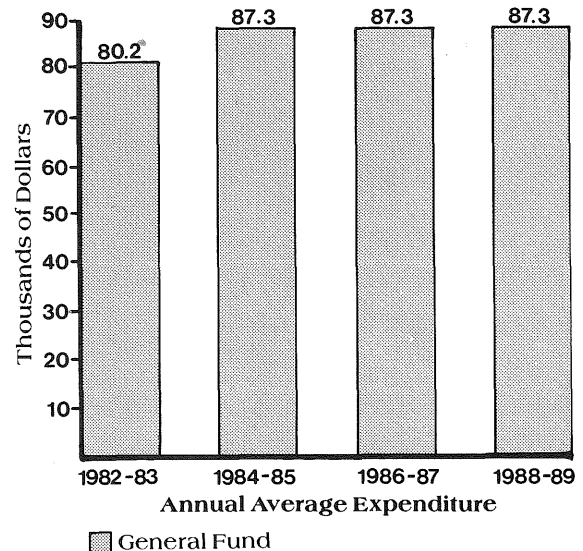


Figure 8: Fish and Wildlife Habitat Management Program Budget ¹

1. See footnotes, Table 2.

FOREST MANAGEMENT INFORMATION SYSTEM PROGRAM

Program Purpose

To develop management information systems that will provide the Division of Forestry with accurate, reliable information about forest resources and forestry activities in a time frame that is responsive to the needs of the Division.

Program Priorities for 1984-89

Develop, document, and maintain management information systems for the Division of Forestry. Specifically:

Implement a new timber sales system.

Transfer the Phase II forest inventory system to the Division's computer to save money, provide increased control of data, and improve the efficiency of inventory data processing procedures.

Develop a nursery information system, as required by the Forest Management Act of 1982, to provide cost accounting capabilities and to support the nursery and tree improvement programs outlined in the **Minnesota Nursery and Tree Improvement Program**.

Implement a new time summary system to account for time spent by the Division's personnel on reimbursable activities.

Design and implement a forest development records system to provide access to information on past development activities.

Implement a private forest management system to assist DNR foresters to develop management plans and insure that needed follow-up activities take place on private forest lands.

Complete the fire planning and management system to manage the presuppression and suppression activities of the Wildfire Protection Section on both state-owned and other lands.

Provide training to Division staff to use the Division's and Department's computer systems. Provide general training in

computer and information systems for Division personnel who use computers in their work.

Provide assistance in developing special projects or one-time efforts in the Division that require data processing services.

Coordinate Division of Forestry's information systems work with the Department's information systems development effort and with other agencies' efforts to promote data sharing, improve the efficiency of the systems development efforts, and reduce the costs of acquiring needed information systems.

Train management information systems staff in state-of-the-art data processing systems, equipment, and techniques.

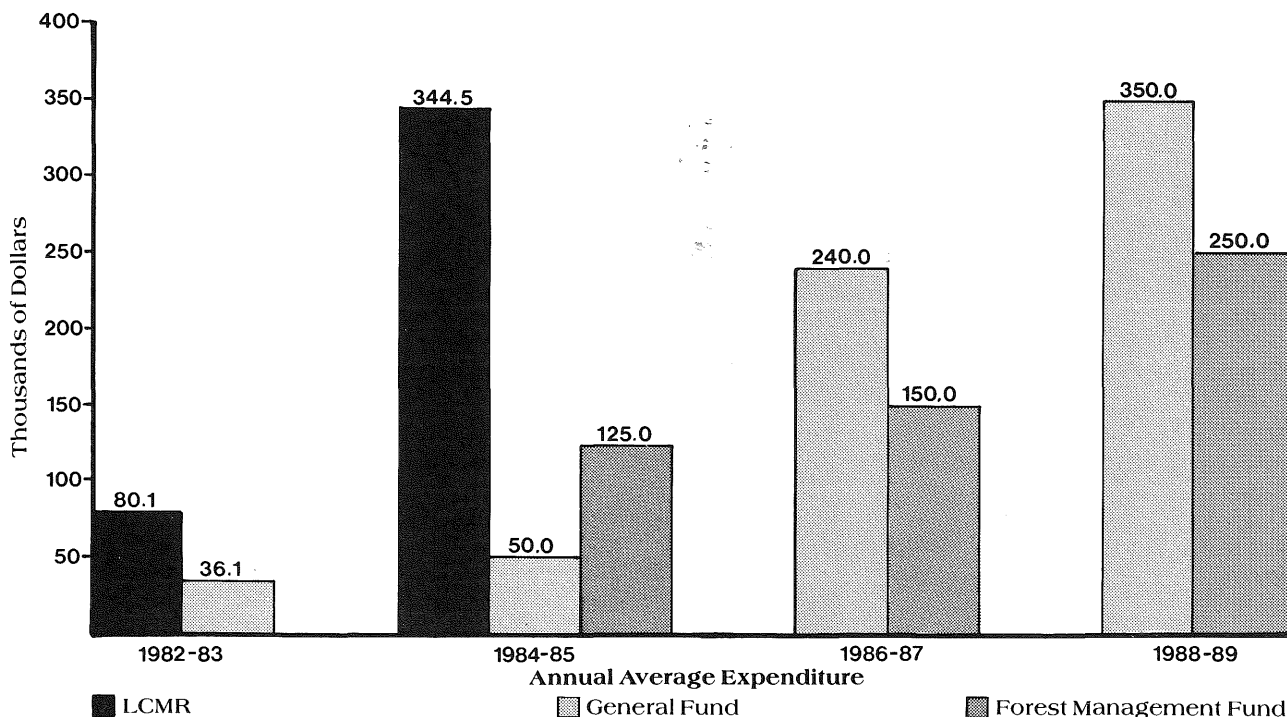


Figure 9: Forest Management Information System Program Budget ¹

1. See footnotes, Table 2.

FOREST PEST MANAGEMENT PROGRAM

Program Purpose

To reduce forest resource losses and constraints on productivity to acceptable levels by controlling forest pests on public and private lands in Minnesota.

Program Priorities for 1984-89

Conduct surveys and investigations to determine the presence and monitor the levels of forest pest infestations and evaluate the damage or potential for damage they cause.

Implement pest management guidelines and control strategies for each major timber type in Minnesota to reduce losses to forest pests. Integrate these guidelines into the unit planning process.

Develop stand risk rating systems for the major timber types within the state and begin risk rating Minnesota's forest lands.

Maintain up-to-date expertise in forest pathology, entomology, silviculture, vegetation management, and the use of pesticides through continuing education to provide a technical background for developing management techniques and guidelines.

Provide training for public, industry, private, and urban forest managers in pest management techniques and their integration into forest management practices.

Evaluate the effectiveness of prescribed pest management techniques and control strategies.

Provide technical review of forest development proposals utilizing pesticides to insure safe, effective, and economical pesticide use.

Restrict the losses within forest plantations due to weed competition. Develop criteria for evaluating weed competition and control needs in forest areas.

Request and participate in the revision of the DNR's policy on pesticide use to clarify the role of pesticides in natural resource management, provide greater flexibility in the use of pesticides within legal and safety guidelines, and develop improved

pesticide monitoring and reporting standards.

Assess the impacts of major forest pests on Minnesota's forest resources.

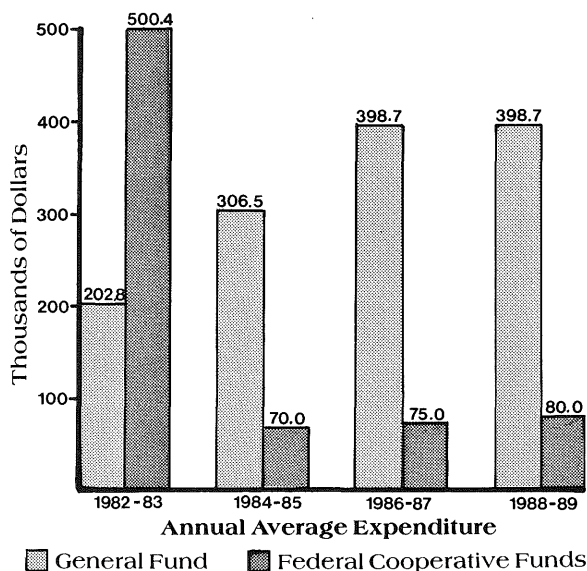


Figure 10: Forest Pest Management Program Budget¹

1. See footnotes, Table 2.

FOREST RECREATION MANAGEMENT PROGRAM

Program Purpose

To fulfill the outdoor recreation potential of Minnesota's forest lands by providing developed recreation areas and opportunities for dispersed recreation.

Program Priorities for 1984-89

Adequately operate and maintain forest recreation facilities.

Assist in developing specific detailed outdoor recreation components in all Division of Forestry's unit plans.

Assist in developing sub-area plans.

Rehabilitate or expand existing facilities in sub-areas and develop new sub-areas as outlined in unit or sub-area plans.

Assist in evaluating resources needed on lands administered by the Division of Forestry to fulfill dispersed outdoor recreation demands.

Cooperate with the Minnesota tourism industry and the State Tourism Division to market outdoor recreation and tourism opportunities, encourage development of private recreation facilities that would benefit from proximity to DNR lands, and minimize competition between the public and private sectors.

Develop guidelines for enforcing forest recreation regulations and review enforcement contracts with the Division of Enforcement and local law enforcement agencies. Work with the Division's training board and the Division of Enforcement to improve enforcement training.

Compile and distribute to Division of Forestry personnel a summary of all existing outdoor recreation policies. Develop and implement a system to

monitor implementation of existing outdoor recreation policies in conjunction with the unit planning process.

Assist in developing an off-road vehicle policy for state lands.

Assist in developing new state forest user maps in cooperation with other DNR divisions, the Public Documents Division, and other agencies.

Develop a manual for managing state forest recreation areas in cooperation with other DNR personnel.

Participate on the DNR Outdoor Recreation Coordinating Committee and represent the Division of Forestry's recreation responsibilities and interests in DNR recreation activities.

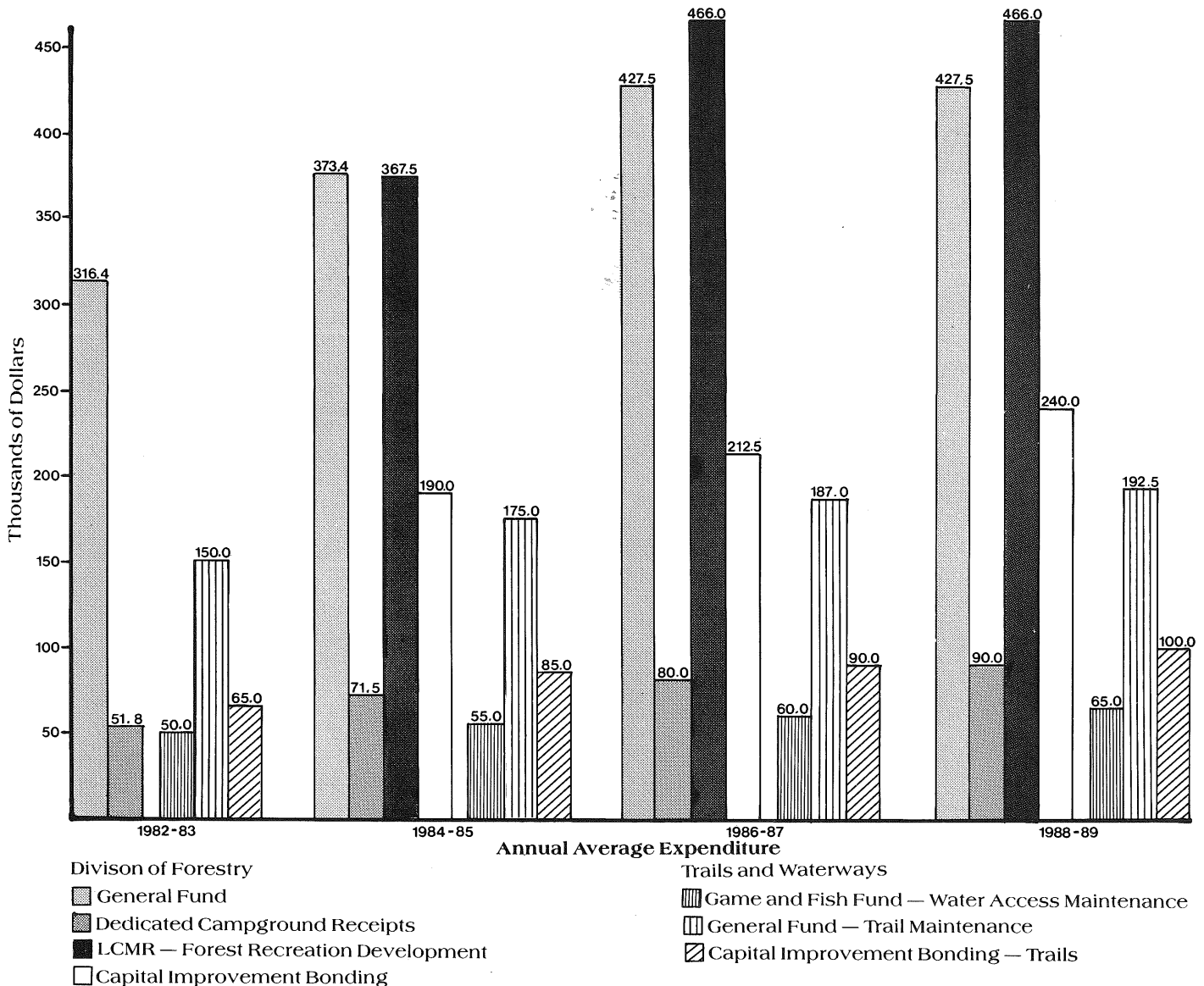


Figure 11: Forest Recreation Management Program Budget¹

1. See footnotes, Table 2.

FOREST RESOURCE INVENTORY PROGRAM

Program Purpose

To collect and maintain the data needed to develop effective forest management plans and to more effectively manage Minnesota's forest resources.

Program Priorities for 1984-89

Complete the "Phase II" inventory on the remaining 1.68 million acres of state and county lands.

Develop a computerized forest inventory mapping system that is compatible with the geographic information system maintained by the Land Management Information Center.

Emphasize the "alterations" procedures to keep the computer files and maps up-to-date.

Plan, design, and implement an inventory program for nonindustrial private forest lands.

Maintain an aerial photo procurement program to obtain 1:15,840 scale black and white photos of each selected forested county on an eight-year rotation.

Develop a program to obtain 35mm aerial photos of specific project areas.

Remeasure or update "Phase I" permanent plots in cooperation with the U.S. Forest Service.

Plan a program to reevaluate and update the "Phase II" inventory data for each management unit at 10-year intervals.

Train DNR and county land managers to use inventory systems.

Maintain inventory staff expertise in forest resource evaluation systems and methods.

Prepare and publish a paper on Minnesota's forest inventory system for national distribution.

Prepare and publish statewide, survey unit, and county level forest resource inventory reports at 10-year intervals.

Provide maps and summaries of forest inventory information.

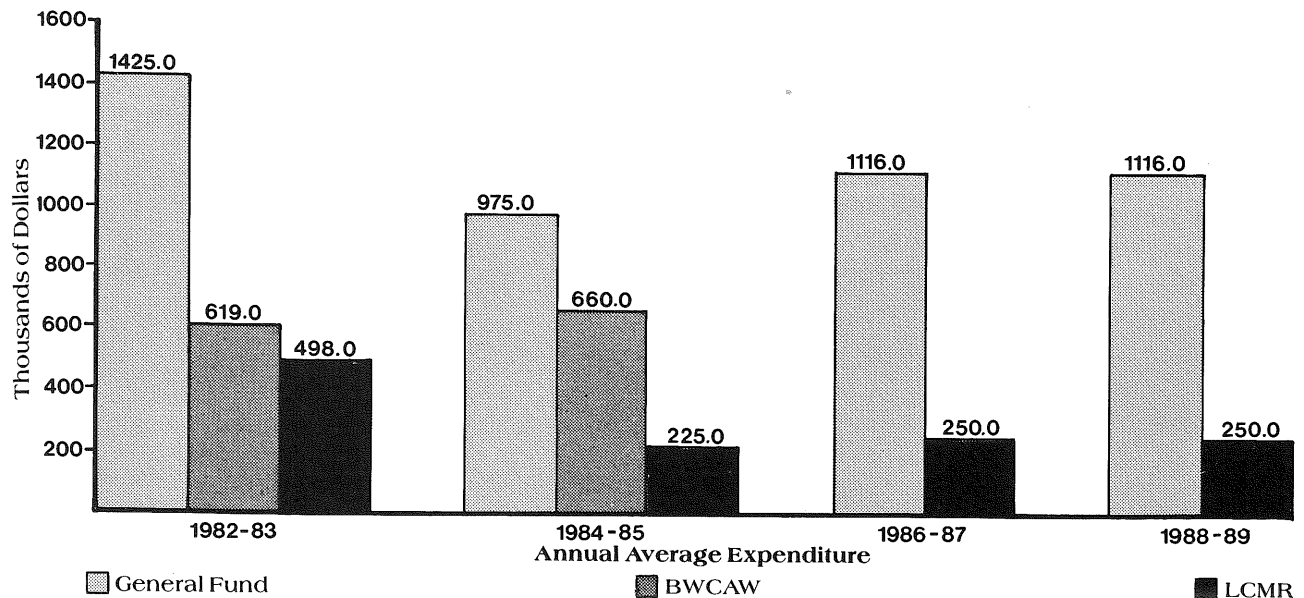


Figure 12: Forest Resource Inventory Program Budget ¹

1. See footnotes, Table 2.

FOREST RESOURCES PLANNING PROGRAM

Program Purpose

To develop and maintain statewide and unit plans for the Division of Forestry and to help coordinate county, state, and federal forest resource management in Minnesota.

Program Priorities for 1984-89

Develop forest resource plans for the Division of Forestry's administrative units in cooperation with forest managers, program managers, other divisions and agencies, and interested members of the public to: 1) set specific goals and objectives for managing, protecting, developing, and producing forest resources; 2) identify forest lands in the unit; and 3) integrate forest resource management with other uses not managed under multiple use, sustained yield principles such as extractive uses, utility corridors, and industrial, commercial, agricultural, institutional, and residential development.

Maintain the Minnesota Forest Resources Plan, particularly the Assessment and Program, so that it is up-to-date and responsive to forest resource management issues. Revise and update the plan according to the Forest Resource Management Act of 1982.

Develop state forest recreation sub-area plans, according to the Outdoor Recreation Act, for those facilities not included in a forest unit plan.

Help establish and communicate Division of Forestry's long-term policy direction to guide the use, management, and protection of state forest lands.

Participate in special DNR and Division of Forestry projects, including task forces and developing reports, legislation, environmental impact statements, and training sessions.

Provide state input into the federal Resource Planning Act process.

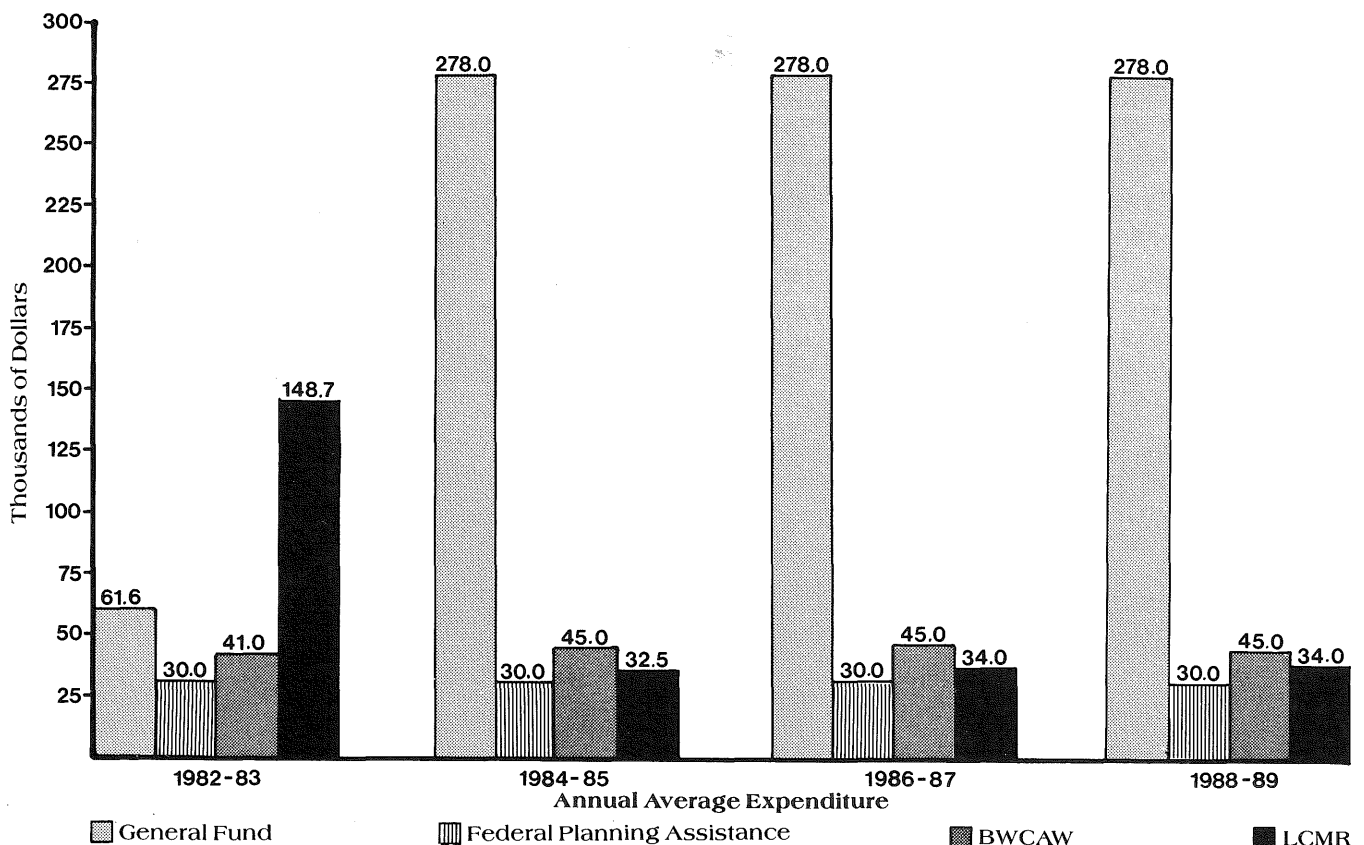


Figure 13: Forest Resources Planning Program Budget ¹

1. See footnotes, Table 2.

FOREST SOILS PROGRAM

Program Purpose

To provide site-specific forest soil interpretations and to promote the collection and use of soils information for forest management purposes.

Program Priorities for 1984-89

Provide technical soils information to field foresters on sites that involve high levels of investment (e.g., sites undergoing species conversion, road construction, or site preparation).

Assist in collecting forest soils data while developing soil surveys. Correlate soils data with timber inventory information.

Assist in developing publications supplemental to the county soil survey reports to provide foresters with interpretive information on forest soils.

Train field foresters in using soils information in forest management through silvicultural and soils workshops.

Provide technical soils information to field foresters and staff specialists for intensive forest management activities, including herbicide application, insect and disease management, timber sales, and timber stand improvement.

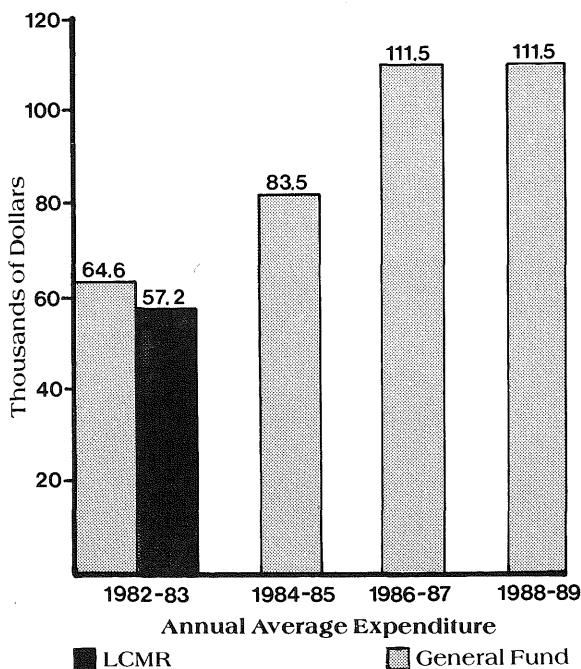
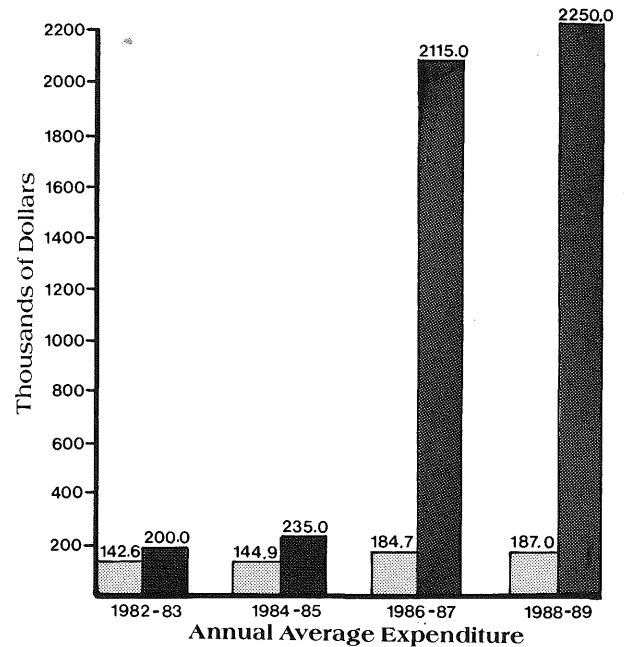


Figure 14: Forest Soils Program Budget ¹

1. See footnotes, Table 2.



■ General Fund ■ Capital Improvement Bonding

Figure 15: Land Administration Program Budget ¹

1. See footnotes, Table 2.

LAND ADMINISTRATION PROGRAM

Program Purpose

To direct the exchange, sale, acquisition, and leasing of Division of Forestry-administered lands to achieve a land ownership pattern that permits efficient multiple-use management of forest resources.

Program Priorities for 1984-89

Administer over 3,000 leases and special use permits on state lands in compliance with DNR policies and regulations.

Propose and follow through on land exchanges, sales, and acquisitions that will result in a land ownership pattern that allows for efficient multiple-use management of forest resources.

Participate in developing and implementing prime forest land, land classification, and land adjustment studies or plans.

MAINTENANCE AND ADMINISTRATION PROGRAM

Program Purpose

To provide the basic maintenance and administrative support required to achieve the goals of other Division programs.

Program Priorities for 1984-89

Improve personnel and fiscal support services provided to program supervisors.

Use the consolidated payments provision of the Cooperative Forestry Assistance Act of 1978 to apply for and administer federal cooperative forestry funds.

Hire a business manager for the Division.

Reorganize the Division's upper management structure to improve coordination between the regional forest managers and St. Paul staff. Establish the position of assistant director.

Establish a Division library/public information center to make technical documents available to Division staff and to distribute Division-produced documents to the public.

Establish a training officer position within the Division of Forestry.

Support and implement the recommendations of the report to the Legislature on **Continuing Education of Foresters in Minnesota**.

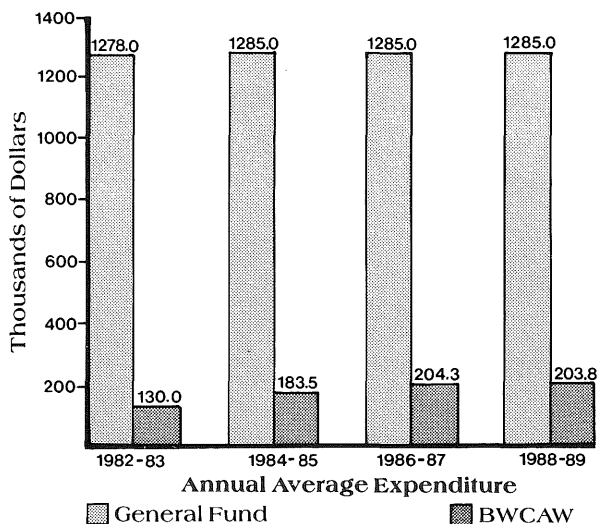


Figure 16: Maintenance and Administration Program Budget ¹

1. See footnotes, Table 2.

NURSERY AND TREE IMPROVEMENT PROGRAM

Program Purpose

To produce genetically improved seed and planting stock to use on public and private land for afforestation, reforestation, windbreaks, shelterbelts, erosion control, soil and water conservation, wildlife habitat, and environmental education.

Program Priorities for 1984-89

Produce sufficient conifer and hardwood seedlings to meet the demand for each.

Produce sufficient conifer transplants to meet the demand for transplants.

Produce sufficient seedlings of the proper species needed for wildlife habitat plantings.

For priority species, provide from identified seed sources all seed needed by the nurseries for planting and by the areas for direct seeding.

Implement seed source control in procuring cones and seeds. Train area personnel in seed procurement.

Plant 16 acres of jack pine seedling seed orchards.

Develop 40 acres of control-pollinated second generation white spruce seed orchards.

Plant a five-acre grafted white pine seed orchard, a five-acre white pine seedling seed orchard, a five-acre European larch seedling seed orchard, and a five-acre grafted Scotch pine seed orchard.

Establish contacts and develop procedures to sell, exchange, or purchase surplus nursery products with other public nurseries in the upper midwest.

Supervise contracts to produce 750,000 containerized seedlings per year by 1989.

Operate the nurseries on a self-sustaining basis beginning in fiscal year 1985.

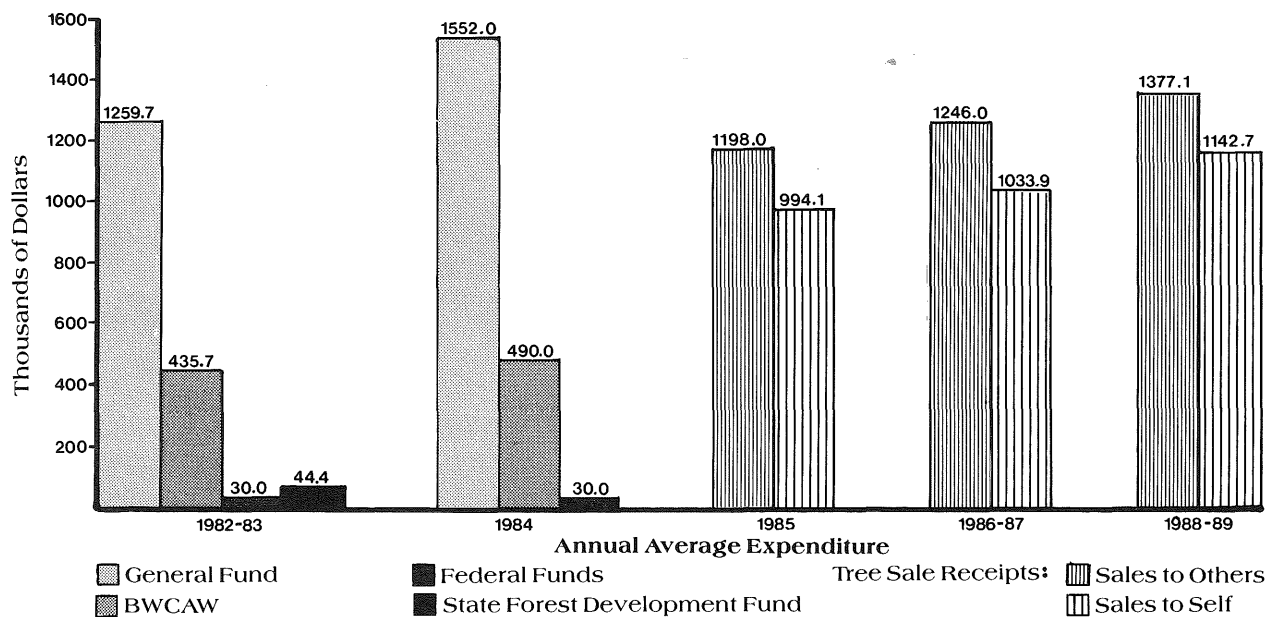


Figure 17: Nursery and Tree Improvement Program Budget ¹

1. See footnotes, Table 2.

PRIVATE FOREST MANAGEMENT PROGRAM

Program Purpose

To improve multiple-use management of non-industrial private forest lands (NIPF) and to benefit the landowners, economy, and environment of Minnesota by providing technical assistance to NIPF landowners.

Program Priorities for 1984-89

Increase to 95,100, by 1989, the number of

NIPF acres receiving management planning assistance each year.

Increase to 7,130, by 1989, the number of NIPF landowners assisted annually.

Improve the quality of management on NIPF lands through educational programs, technical assistance, and other means.

Expand the role of consulting and industrial foresters in private forest management.

Promote multiple-use management on NIPF lands between different natural resource disciplines.

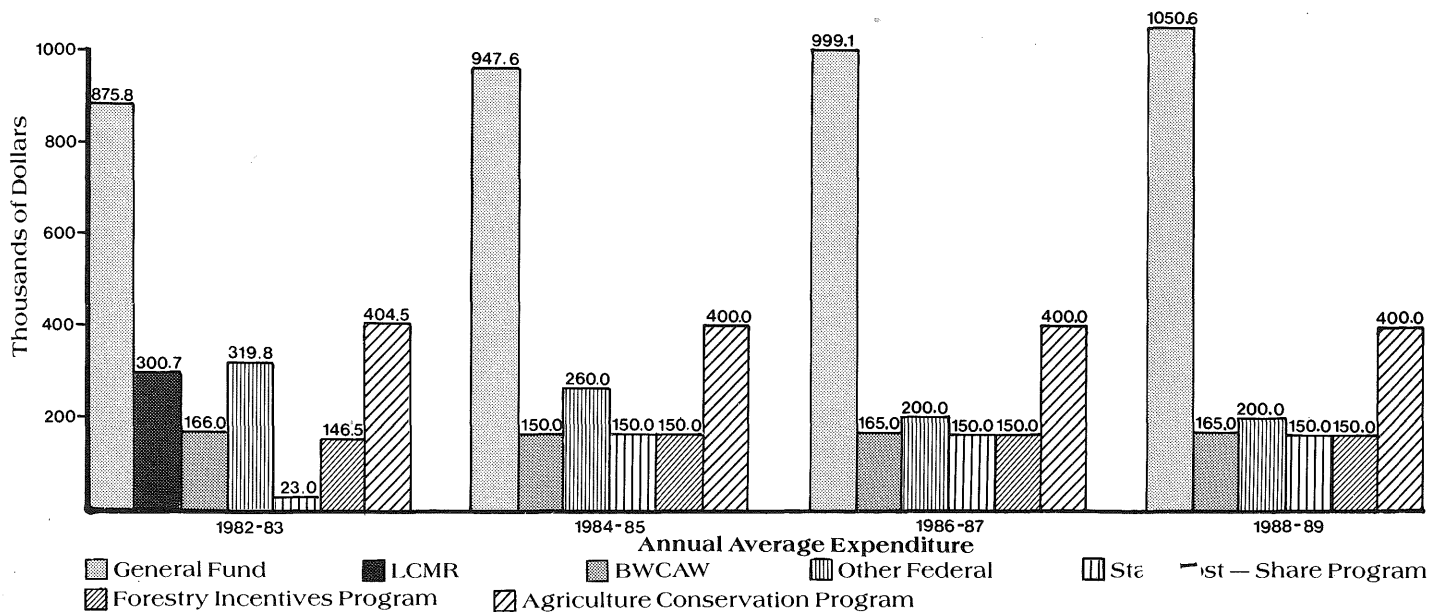


Figure 18: Private Forest Management Program Budget

1. See footnotes, Table 2.

Reduce the rate of conversion of NIPF land to non-forest uses.

Reconstruct existing state forest roads and bridges to meet safety and use requirements.

STATE FOREST ROAD PROGRAM

Program Purpose

To develop and maintain the state forest road system to facilitate the protection, management, and use of state forest lands.

Program Priorities for 1984-89

Formulate and implement policies regarding state forest road protection, development, and use.

Develop criteria for selecting, evaluating, and ranking state forest road and bridge construction and improvement projects.

Develop formal mechanisms to coordinate forest transportation planning on federal, state, county, and private forest lands.

Expand and improve the state forest road system in areas where growing demands for timber, fish and wildlife management, recreational use, or other development exist.

Fill the DNR forest road supervisor position to manage and coordinate state forest road program responsibilities.

Maintain and update the state forest road inventory.

Develop a state forest road manual.

Clarify responsibility for managing, maintaining, and constructing forest roads accessing areas of mixed forest ownership.

Develop and compare alternative methods of financing the state forest road system.

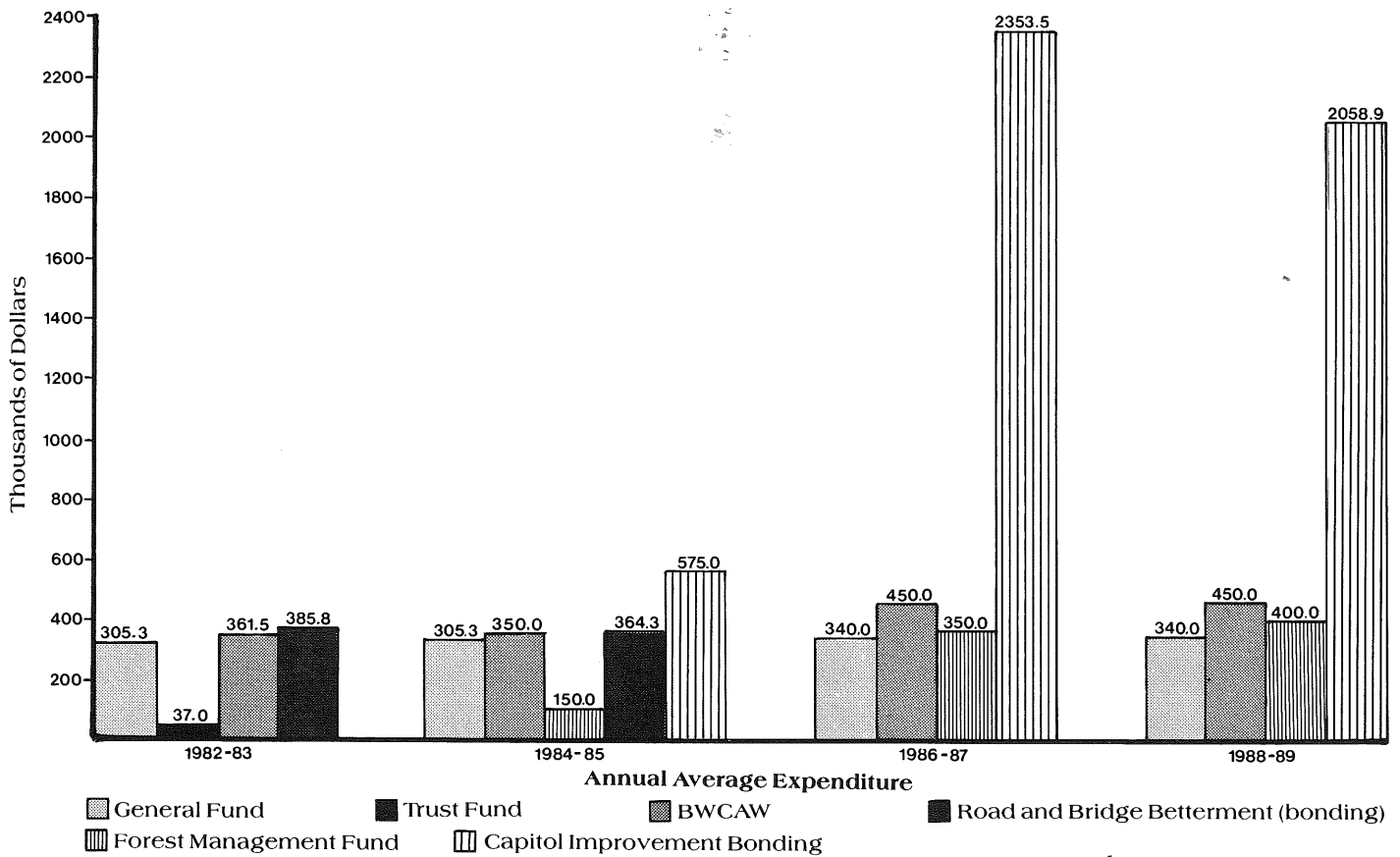


Figure 19: State Forest Road Program Budget ¹

1. See footnotes, Table 2.

TIMBER MANAGEMENT PROGRAM

Program Purpose

To provide a sustained yield of timber products from state lands by regulating harvests and practicing silviculture, in accordance with multiple-use management plans.

Program Priorities for 1984-89

Prepare and maintain regulated harvest timber management plans for each administrative unit.

Develop silvicultural guidelines for the major forest cover types.

Continue to supply the state market share of the timber harvested within the state.

Conduct an intensive regeneration program to maintain a sustained yield of forest products.

Conduct timber stand improvement activities in accordance with the Division's guidelines.

Carry out general forest management activities to protect against encroachment or damage to forest resources.

Conduct annual forest and timber management workshops for forestry personnel.

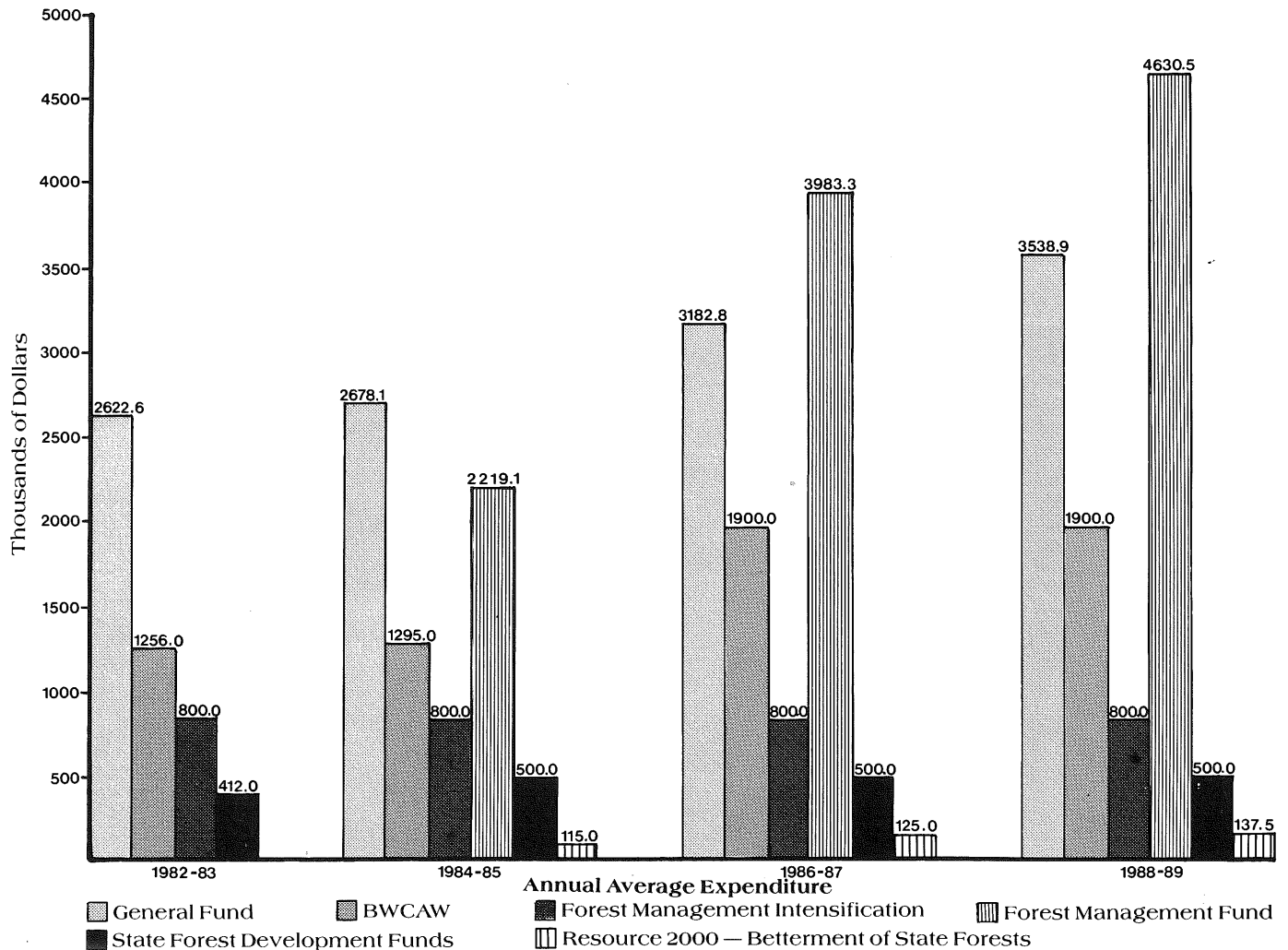


Figure 20: Timber Management Program Budget¹

1. See footnotes, Table 2.

URBAN FORESTRY PROGRAM

Program Purpose

To assist Minnesota communities in managing municipal and school forest resources.

Program Priorities for 1984-89

Provide training to Private Forest Management (PFM) specialists so they can become the urban forestry program's field resource people.

Help upgrade PFM specialists' knowledge of insect and disease problems, since the majority of urban forestry requests relate to insects and diseases.

Provide training to city foresters, tree inspectors, community leaders, and interested homeowners on urban forest management policies and techniques.

Assist communities with developing tree inventories, tree management plans, city tree ordinances, and forestry budgets.

Promote special programs such as Arbor Day, Tree City USA, and the Minnesota Register of Big Trees.

Develop educational material such as planting guides and urban forestry newsletters and brochures that can be distributed to foresters, tree inspectors,

community leaders, and interested homeowners.

Advise communities on tree maintenance, selective tree planting, and utilization or disposal of urban forest resource wastes.

Encourage the media to promote urban forest management to interested communities and individual landowners statewide.

Administer state and federal urban forest management grants.

Acquaint community developers with the benefits of urban forest management and encourage them to protect existing vegetation at construction sites.

Encourage communities statewide to establish urban forestry programs of their own.

Coordinate all urban forestry program activities with other concerned agencies such as the Department of Agriculture and the University of Minnesota.

Encourage educational institutions to establish and use municipal and school forests for teaching purposes.

Encourage PFM specialists and district foresters to share their forestry expertise with people living in urban and suburban environments.

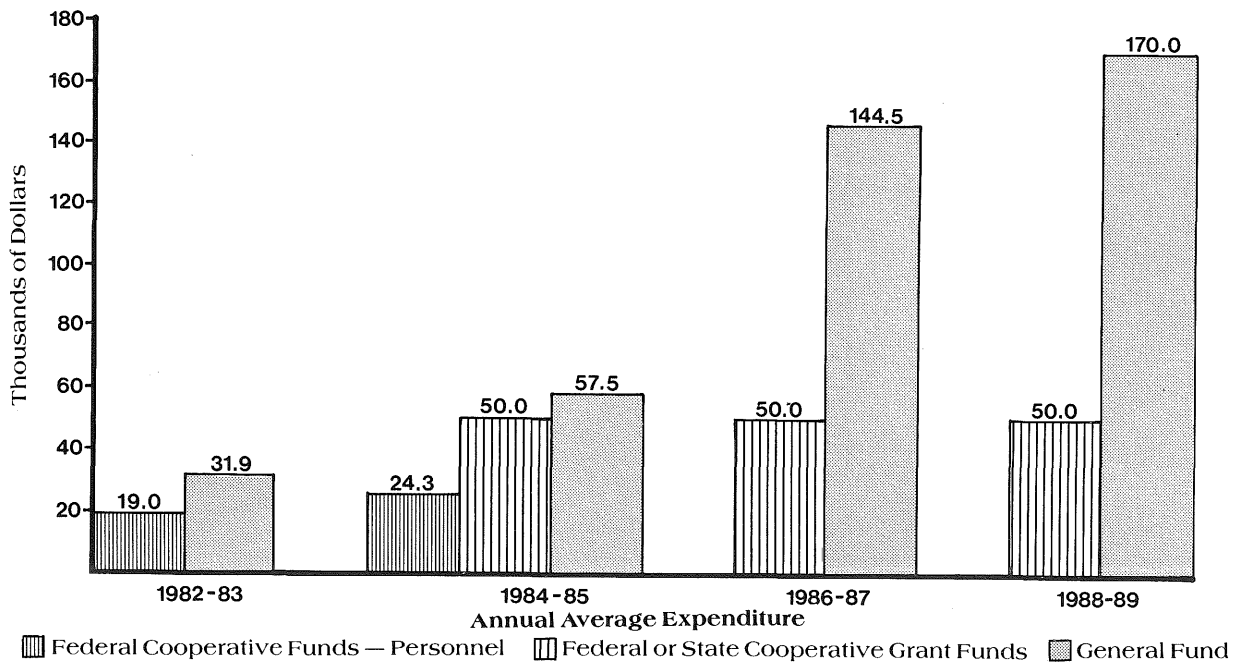


Figure 21: Urban Forestry Program Budget¹

1. See footnotes, Table 2.

UTILIZATION AND MARKETING PROGRAM

Program Purpose

To improve the efficiency of forest resource harvesting and processing and to promote the development of wood products industries and markets.

Program Priorities for 1984-89

Assist primary processing industries with resource recovery and efficiency studies.

Analyze Minnesota's forest resources for expanded wood products industrial development opportunities.

Assist primary and secondary processors in locating new and expanding existing markets for their products.

Promote the use of Minnesota's forest resources for manufacture of products which will bring the greatest net return to the state.

Analyze timber and residue resources to help the wood energy program be developed properly.

Promote the use of Minnesota's timber in manufacturing finished products within the state.

Conduct special initiative projects as described in the utilization and marketing work plan.

Expand efforts to export Minnesota wood products to other states and nations.

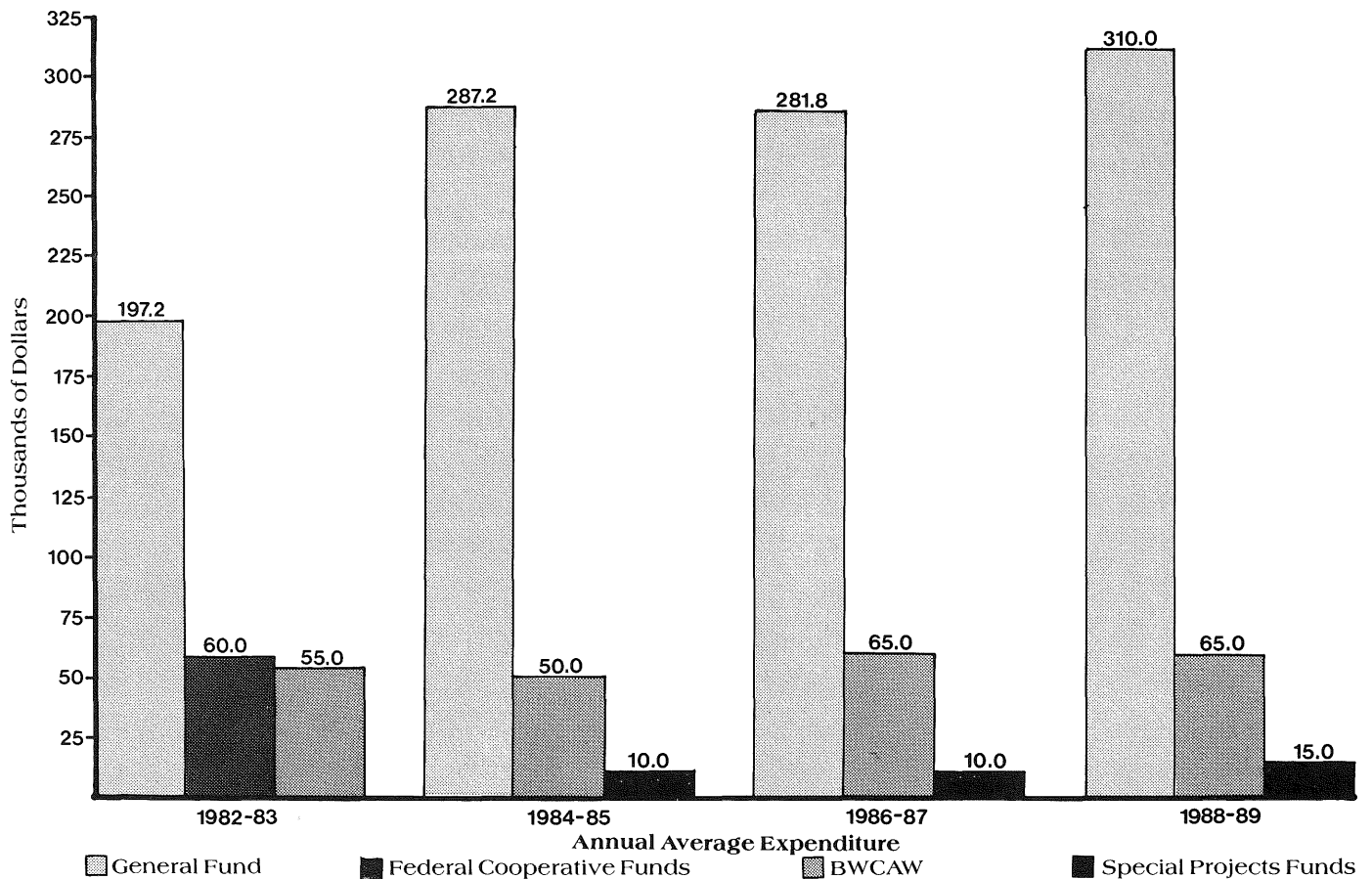


Figure 22: Utilization and Marketing Program Budget¹

1. See footnotes, Table 2.

