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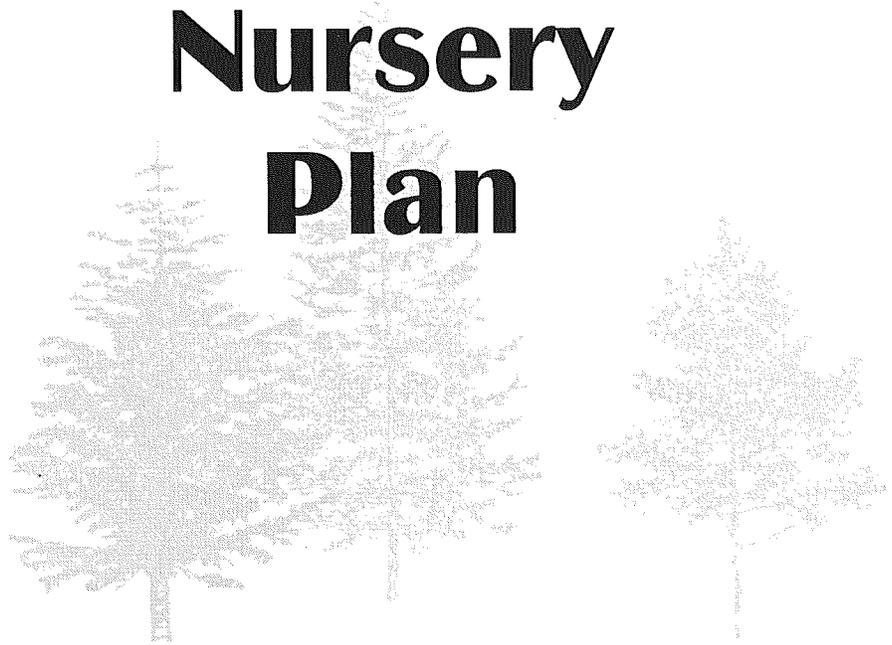
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**MINNESOTA DEPARTMENT OF NATURAL RESOURCES**  
**Division of Forestry**

# State Forest Nursery Plan



## 1998 to 2002

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# Background Information

## Introduction

The Minnesota Department of Natural Resources (DNR) Division of Forestry (DOF) State Forest Nursery Program (SFNP) provides bareroot tree and shrub regeneration materials used by both public and private landowners for conservation plantings in Minnesota. The Nursery Program's primary activities are the production and distribution of quality bareroot tree seedlings for erosion control, shelterbelts, windbreaks, wildlife habitat, and other restoration and conservation projects. The DNR SFNP is legislatively structured to be self supporting from the sale of its products.

The SFNP produces 33 different species of trees and shrubs. Including seedlings grown from improved seed, the wildlife packet, and transplant materials, there were 42 products available during the 1998 planting season.

## Mission Statement

To economically produce and/or distribute quality Minnesota grown, native and certified revegetation products for conservation plantings in the state that keep Minnesota's forests and associated biomes healthy, diverse, and productive.

Our mission since 1933 has been to produce Minnesota hardy, bareroot seedlings of high quality and low price for forest land stewardship. We are dedicated to promoting and protecting the sustainability of Minnesota's diverse forest resources, and our state's proud tree planting heritage, to 2002 and beyond.

## Overview

The last 10 years have been a period of change and challenge for the SFNP. A proud history of providing hardy, low-cost trees for statewide conservation projects since 1933, was of little value when markets began to decline in the early 1990s. Changes in silvicultural systems, the advent of container-grown stock, and a heavier reliance on natural regeneration and aerial seeding reduced the demand for bareroot seedlings.

Since 1984 the SFNP has been self supporting, operating on the money generated by sales of trees to public and private land owners and managers. In 1992 the Office of the State Auditor noted a decline in the program's fund balance. The auditor mandated the SFNP improve its internal cost accounting procedures, reestablish a front end load balance so the account would have sufficient surplus funds to perform the spring lifting operations, prior to full payment, avoiding negative cash balances. The report also called for the initiation of market pricing of seedlings so as not to incur a production loss or unfairly out compete private nurseries.

Staff and cost reductions, coupled with program restructuring and active marketing, resulted in a rebuilding of the account balance. Tree sales, however, continued to decline

and increased pressure came from private sector producers to eliminate the sale of SFNP trees to private customers. In response to this issue, the Commissioner of Natural Resources, at the request of the SFNP, convened a Forest Nursery Roundtable Working Group in February 1995. Their report produced a compromise that was legislated in April of 1997. The new law caps SFNP production at 10 million units annually and ends non-native production in the year 2000. An annual fiscal review must also be filed with the Legislature.

## **Cooperative Efforts**

The SFNP is a member of the Minnesota Tree Improvement Cooperative (MTIC), the Northeastern Area Forest Nursery Association (NAFNA), the Minnesota Nursery and Landscape Association (MNLA), and the Minnesota Crop Improvement Association (MCIA). We will continue to receive technical support and information transfer from the U.S. Forest Service Nursery and Tree Improvement Initiatives through the North Central Experiment Station in St. Paul.

The SFNP also provides support to research and educational efforts. The SFNP hosted the 1997 Northeastern Area Forest Nursery Conference and Workshop at Bemidji and Badoura Nursery with over 80 nursery and research professionals in attendance.

The SFNP cooperated with Dr. Richard Tinus of the USFS to review container seedling production in the state. At his suggestion, the SFNP will not produce containers in the near future. We continue to cooperate with his listing date and cold hardiness studies.

Doctors Leo Tervo (silviculturist) and Kaya Kainanen (occupational psychologist) of the Finnish Natural Forestry Institute, Suonenjoki Research Station, conducted on-site interviews of nursery workers at both General Andrews and Badoura as part of an international review of nursery work, and motivational and stress factors.

General Andrews State Forest Nursery is a research site for the nursery's best management practices project being conducted by Dr. Jennifer Juzwik and Joe O'Brien of the USDA Forest Service, North Central Forest Experiment Station, and Michael Irvine of the Ontario Ministry of Natural Resources.

## History

### Seedling Distribution

A history of SFNP shipments are listed in Table 1 (see page 10). Throughout the time period, the mix of major sales products remained fairly constant: 40 percent red pine, 20 percent white spruce, 10 percent jack pine, 10 percent white pine, 10 percent hardwoods, and 10 percent transplants and shrubs. The number of trees sold was directly related to the amount of cost share money available for planting tree on private land and the amount of money in reforestation budgets for public lands.

### Program Events 1993 to 1997

The Nursery Plan for 1993 to 1997 successfully responded to the 1992 State Auditor's report by:

- a. rebuilding the carry forward account to in excess of \$600,000,
- b. conducting annual market pricing exercises,
- c. streamlining internal seed and cone account audits, and
- d. using standardized financial manager reports on a monthly basis.

A series of interactions with private producers in the state resulted in significant program changes.

1. The Nursery Roundtable Agreement in 1996 directed private-public sector cooperation and recommended SFNP production be limited to 10 million seedlings, cuttings, and transplants of native origin.
2. Concern raised by the State Attorney General's office over the scope of this Roundtable Agreement and potential anti-trust violations then led to legislative adoption of these recommendations in 1997.
3. Passage of legislation in 1997 officially capped SFNP production at 10 million native units, mandated the advertisement of private nursery seedlings as acceptable for cost share programs, and required an annual SFNP fiscal report to the legislative auditor.

### Transition

Roundtable discussions and information provided during the drafting of the 1997 legislation indicated the SFNP already had trees sown in 1995 and 1996 for sale in the springs of 1998 and 1999 that could exceed the 10 million cap if sales increased. No one mandated the destruction of trees already growing. The SFNP would sell existing stock to

meet market demand until the spring of 2000 when the cap would reflect the fall 1997 seeding plan that complied with the new law.

In the meantime, an internal working team of Olin Phillips (section manager), Doug Ford (division economist), Bruce Zumbahlen (state land manager), and Mark Wallace (field services specialist) established a long-term transition to a Major/Minor Nursery designation in June of 1997. Under this plan Badoura will be responsible for 80 percent overall seedling production and, the seed extractory operation and planting machine maintenance. General Andrews provides 20 percent of the seedling production, the Government Surplus Administrative (GSA) program, tree sales operations, and tree improvement activities.

After the sale of only 8.6 million seedlings in fiscal year 1997, additional reductions of time for clerical and repairman positions were made at both nurseries to further reduce salary costs in the nursery budget. A high seniority full-time nursery staff then bumped back into a general fund division position to avoid salary and benefit losses. Similar actions could occur in the future.

Several state and federal cost share programs for planting trees on private land were revitalized in the summer of 1997, however, and market demand for bareroot seedlings increased for the first time in eight years in the fall of 1997.

Important seed source control and tree improvement commitments were made by the SFNP in 1997. The SFNP agreed to be the pilot site for Forest Nursery Certification efforts in the state. Certified forest reproductive materials were available for purchase and delivery in the spring of 1998 and the SFNP is committed to remain in the program.

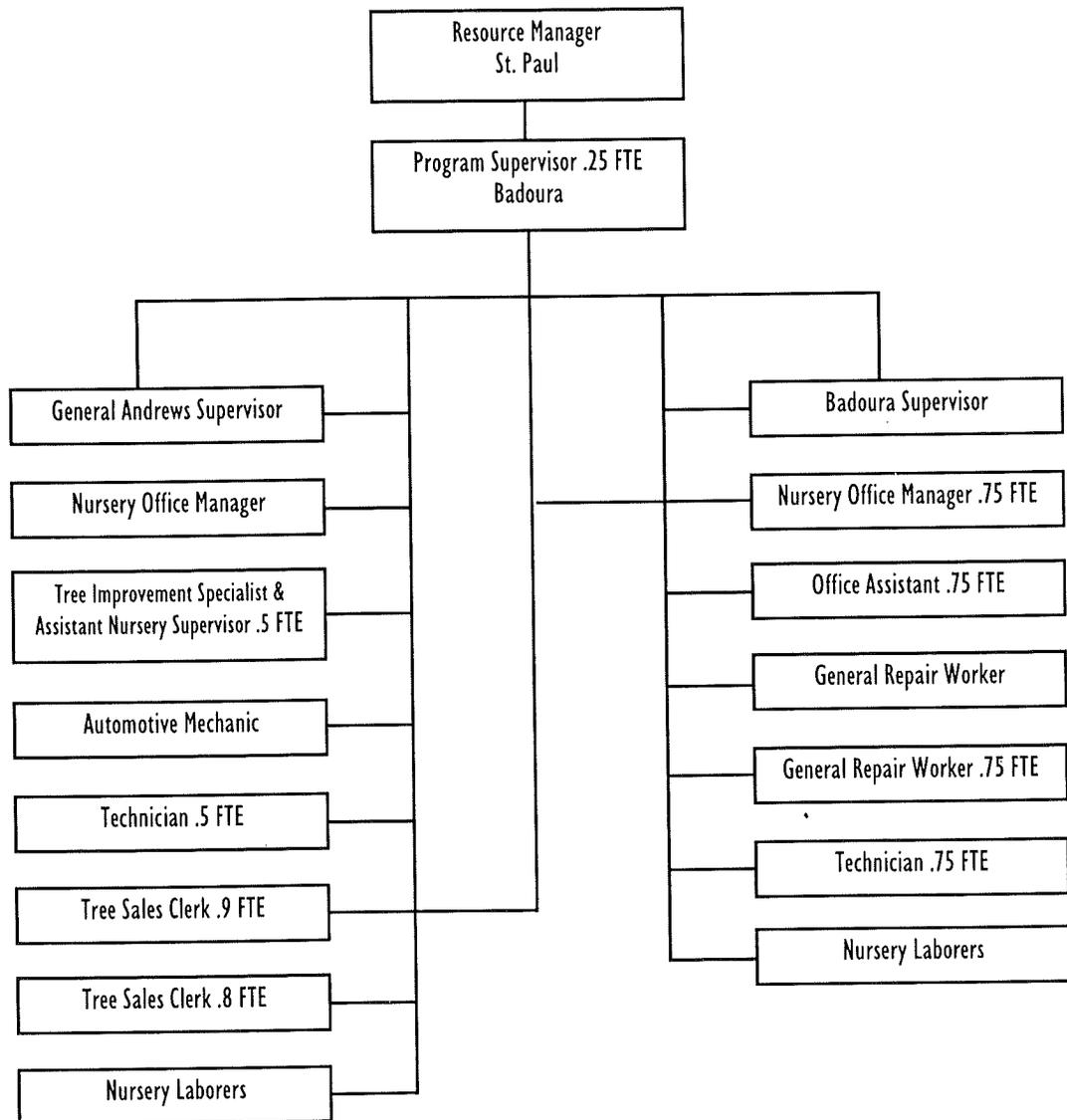
The tree improvement program leader position was vacated in February 1996. Program activity was completed at minimum levels by using nursery, field staff, and assistance from the Minnesota Tree Improvement Cooperative (MTIC). The DOF then reaffirmed its commitment to an internal level one Tree Improvement Program and filled the program leader position in April 1997. The position leads SFNP seed source control, information transfer, and staff training activities. The tree improvement program leader is the lead contact to MTIC and MCIA and computer liaison for the program. The tree improvement specialist is also the assistant nursery supervisor at General Andrews Nursery.

# Site and Staffing

## Current Status

The current organizational chart for the SFNP is Chart 1. As long as tree sales remain at over 8 million units annually, both sites will continue seedling production. If sales drop below 8 million, traditional forestry bareroot seedling production will cease at General Andrews Nursery. A redevelopment plan would be initiated for the site to maintain it in DNR operation for specialty production, department initiatives, and potential expansion of the tree improvement program.

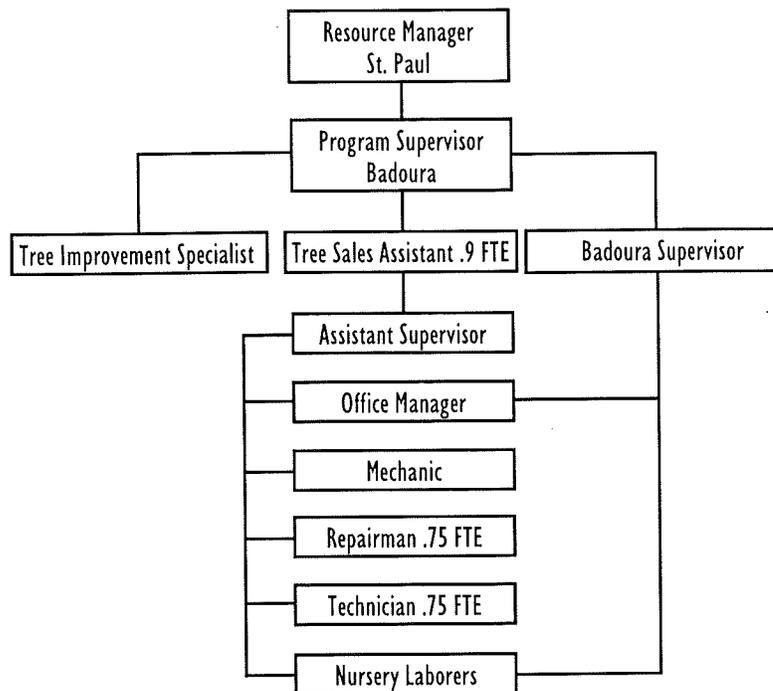
**Chart 1: Nursery Staffing FY98**



## One Site Option

The staffing structure of the SFNP under one production site is Chart 2 (see below). If sales decline below 8 million units annually, additional staff cuts would have to be made. If total sales drop below 4 million units annually, the need for a SFNP would have to be reexamined.

Chart 2: One Site Staffing Option



# Program Priorities to 2002

## Revitalized Markets

Currently a revitalization of state and federal cost share programs has increased the demand for trees, and sales projections look good for the next two to four years.

A new era of private-public marketing cooperation is beginning due to strong cost share programs. At least for the short term, demand exceeds what the SFNP can supply for some species. The brokering of private trees has become necessary to meet the demand for Minnesota seed source, Minnesota-grown, conservation-grade bareroot seedlings. This relationship will take time and effort to develop. New procedures will have to be developed concerning referrals to and purchase from private firms.

## Five-Year Goal and Action Outlook

**GOAL 1.** To increase cooperation with private sector producers to meet the vegetative needs of reforestation and habitat restoration projects statewide.

**ACTION** Continuing membership in and active participation with the MNLA, completion of the MCIA certification pilot with a formal report to all cooperators, and the continuing purchase and distribution of privately produced materials.

**GOAL 2.** To continuously improve the efficiency of SFNP operations through:

- ACTION**
- development of annual training and travel plans for nursery staff to retain technical expertise,
  - completion of a formal information systems review and reinvestment in necessary hardware and software upgrades, and
  - review and implementation of new harvesting, packaging, handling, and storage systems to reduce hand labor and worker exposure to the elements.

**GOAL 3.** To define a product mix under the new 10 million production cap that assures both fiscal solvency of the SFNP and leadership in the promotion of native materials for statewide revegetation projects.

**ACTION** Continuation of the marketing committee made up of internal and external customers to annually review price and product mix, the sales brochure, advertising efforts, and forestry program areas where nursery staff need to be actively involved. Nursery staff will also attend division and regional supervisor and planning meetings and annually review with other DNR divisions and bureaus their plant materials needs. Formal



## Chapter V

product quality reviews will continue through on-site inspections and survey sheets included in boxed orders.

**GOAL 4.** To provide plant materials from the tree improvement program and technical support and information transfer to resource managers aimed at improving the diversity and productivity of state land management projects.

**ACTION** Formal training sessions on seed source control and orchard management, area field visits, and one-on-one contact with land managers for input into planning and forest development module activities.

**GOAL 5.** To develop multidisciplinary plans for the continued full utilization of the GAN site focusing on meeting the revegetation needs of DNR's ecosystem-based management programs and traditional office and storage space needs.

**ACTION** Interview all DNR program managers and cooperators beginning in July 1998 to identify new initiatives to utilize GAN staff expertise and facilities.



## Summary

A vital and growing SFNP not only produces a variety of quality low-cost native seedlings but is active in tree improvement, adaptive silviculture, seed certification, and conservation projects statewide. The support and development activities carried out by nursery staff in cooperation with other agencies, task forces, and professional organizations is critical to the future of Minnesota forests, woodlands, and shelterbelts. In order to maintain a leadership role in revegetation projects in the state, the DNR should retain nursery operations and expertise. As partnerships with the private sector continue to grow, it is even more important that the DNR leads conservation plantings statewide by retaining in-house the hands-on knowledge, skills, and abilities of nursery operations.



## Attachment I: Minnesota's State Forest Nursery Program Contacts

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**Table I: Minnesota State Forest Tree Nursery Shipment Totals  
1970 to Present**

<b>Year</b>	<b>Private</b>	<b>Public</b>	<b>Total</b>
1970			14,615,600
1971	6,295,200	8,130,800	14,426,000
1972	7,428,400	6,291,600	13,720,000
1973	6,688,600	5,845,500	12,534,100
1974	6,775,800	6,062,700	12,838,500
1975	6,562,000	6,473,000	13,035,000
1976	5,165,600	6,906,600	12,072,200
1977	5,355,300	4,444,700	9,800,000
1978	7,704,200	8,069,000	15,773,200
1979	5,255,600	5,995,200	11,250,800
1980	5,727,000	7,226,700	12,953,700
1981	11,030,400	10,838,800	21,869,200
1982	9,143,700	12,615,800	21,759,500
1983	8,424,300	12,440,200	20,864,500
1984	8,762,800	11,102,200	19,895,000
1985	10,500,100	11,048,900	21,549,000
1986	8,252,100	10,089,700	18,341,800
1987	5,730,000	15,869,300	21,599,300
1988	11,149,400	7,185,400	18,334,800
1989	12,516,600	9,010,000	21,526,600
1990	11,739,000	6,783,600	18,522,600
1991	10,779,000	5,822,300	16,601,300
1992	9,586,500	5,018,600	14,605,100
1993	9,421,600	4,176,500	13,598,100
1994	6,939,100	4,139,900	11,079,000
1995	6,065,373	4,105,925	10,171,298
1996	5,557,674	4,122,275	9,679,949
1997	4,395,720	4,256,030	8,651,750
1998	7,385,362	4,534,055	11,903,617