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# Report To
# The Mississippi Legislature

## A Policy Framework for Evaluating Options for Further Encouraging Mississippi's Nonindustrial Private Owners of Forestland to Reforest

**March 5, 1998**

**Good stewardship of forestland in nonindustrial private ownership is important because this ownership category accounts for the majority of forestland in the United States (58%) and in Mississippi (72%) and supplies slightly over half of the nation's commercial timber. Current research, based on the best data available, shows that current reforestation incentives available to Mississippi landowners are sufficient to generate a slight increase in the state's pine and hardwood timber inventories by the year 2009.**

**If significant increases in these inventories are desired, lawmakers may choose from several options. One option is to let market forces drive the desired increase; however, some argue that these forces are insufficient due to the long-term and uncertain nature of an investment in reforestation. Another option is to enforce the state's Forest Harvesting Law requiring reforesting following harvesting, but amend the law to conform to current knowledge of best natural and artificial reforestation practices. Other options such as a reforestation tax credit and expansion of the state's cost-share program should be considered in light of their potential for efficiently and effectively encouraging those nonindustrial private owners of forestland to reforest who would not otherwise do so. Further, any new incentives adopted should include a clear, measurable statement of the specific objectives which the option is intended to address (e.g., to increase x type of timber inventory by x% by x target date).**

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**The Mississippi Legislature created the Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER Committee) by statute in 1973. A standing joint committee, the PEER Committee is composed of five members of the House of Representatives appointed by the Speaker and five members of the Senate appointed by the Lieutenant Governor. Appointments are made for four-year terms with one Senator and one Representative appointed from each of the U. S. Congressional Districts. Committee officers are elected by the membership with officers alternating annually between the two houses. All Committee actions by statute require a majority vote of three Representatives and three Senators voting in the affirmative.**

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**The Committee assigns top priority to written requests from individual legislators and legislative committees. The Committee also considers PEER staff proposals and written requests from state officials and others.**

# A Policy Framework for Evaluating Options for Further Encouraging Mississippi's Nonindustrial Private Owners of Forestland to Reforest

**March 5, 1998**

**The PEER Committee**

**Mississippi Legislature**

The Mississippi Legislature

**Joint Committee on Performance Evaluation and Expenditure Review**

PEER Committee

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**March 5, 1998**

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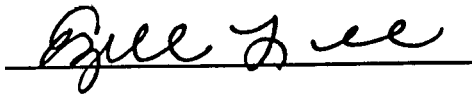
**On March 5, 1998, the PEER Committee authorized release of the report entitled A Policy Framework forEvaluatingOptionsforFurtherEncouragingMississippi's Nonindustrial Private Owners of Forestland to Reforest.**



**Senator Ezell Lee, Chairman**

# This report does not recommend increased funding or additional staff.

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# A Policy Framework for Evaluating Options for Further Encouraging Mississippi's Nonindustrial Private Owners of Forestland to Reforest

**March 5, 1998**

***Executive Summary***

## Introduction

**Good stewardship of forestland in nonindustrial private ownership is important because this ownership category accounts for the majority of forestland in the United States (58%) and in Mississippi (72%) and supplies slightly over half of the nation's commercial timber. Over the past decade, forestland held by nonindustrial private owners has become increasingly important to the U. S. timber industry, as timber production from other traditional suppliers has declined significantly.**

**In response to a legislative request, PEER conducted this review of options for further encouraging nonindustrial private owners of forestland in Mississippi to reforest.**

## Overview

**PEER found no convincing evidence that there is an urgent problem related to meeting any of the objectives for private nonindustrial forestland management which are specified in state law (e.g., insuring adequate habitat for wildlife, preserving and protecting the continuous growth of timber). Current research, based on the best data available, shows that current reforestation incentive programs are sufficient to generate a slight increase in Mississippi's pine and hardwood timber inventories by the year 2009.**

**If the general objective of new reforestation incentive programs is to increase significantly the state's timber inventory, it is possible that this objective could be accomplished by allowing free market pressures to drive reforestation efforts. However, professional foresters disagree as to the effectiveness of timber prices as an incentive for nonindustrial private forestland owners to invest the approximately $100 per acre needed to reforest using artificial regeneration. While the subject of debate among professional foresters, some believe that the long-term nature of investment in reforestation discourages many nonindustrial private forestland owners from choosing this option over options with more immediate tangible benefits—e.g., using proceeds from a timber sale to make a large non-timber-related purchase.**

**Regardless of whether the state creates an artificial incentive or depends on market forces to drive increases in reforestation, current ancillary resources (i.e., professional staff to assist with development of forest prescriptions, available seedlings, and vendors to plant the seedlings) may be inadequate in the short term (one to three years) to support large-scale increases in reforestation.**

## Options and Recommendations

**Although current information available to PEER does not provide strong support for the existence of a broad public need for immediate action to increase current reforestation rates, some forestry stakeholders perceive an economic development opportunity associated with significantly increasing the supply of timber available for commercial use. PEER considers the following options to have potential for increasing reforestation rates.**

**Option 1:** **Enforce provisions of the state's Forest Harvesting Law requiring reforesting following harvesting, but amend the law to ensure effective reforestation after pine, hardwood, and mixed timber harvests.**

**Option 2:** **Expand the state's cost-share program by increasing program funding.**

**Option 3:** **Establish a targeted state income tax credit program.**

**Option 4:** **Attach pre-conditions to eligibility for reduced assessed land values on forestland property.**

**Option 5:** **Establish a low-interest revolving loan fund.**

**Option 6:** **Examine the feasibility of greater reliance on volunteers to staff educational programs.**

**PEER also recommends that the Forestry Commission consider the viability of options used by other states to enhance cooperation among individuals and entities involved in forestry issues.**

**PEER further recommends that before the state adopts any potentially costly options for encouraging nonindustrial private forestland owners to reforest, that the Forestry Commission provide adequate documentation of the objectives of and need for any new public program the commission proposes or supports. Prior to approving any new public program, the Legislature should require the Forestry Commission to determine relevant characteristics of nonindustrial private forestland owners, including a determination of which owners choose not to reforest and why, as well as which owners choose to reforest and why. The Forestry Commission also should analyze the cost-effectiveness of any option prior to requesting legislative approval. For purposes of accountability, program information provided to the Legislature should include:**

- **a clear, measurable, statement of specific objectives which the option is intended to address (this enables policymakers to measure whether the incentive is effective). For example, the broad objective of "increasing the number of harvestable trees in the state for purposes of economic development" could be refined to "increasing the state's x type of timber inventory by x% by x target date;"**

- **suggestions for periodic monitoring of the incentive in terms of its efficiency and effectiveness in accomplishing stated objective(s); and,**

- **particularly with respect to any of the incentive options which require the commitment of state public funds, a proposed prerequisite that program participants provide evidence of adherence to principles of sound forest stewardship in the use of said public funds, preferably through the professional development and implementation of a forest management plan, as attested to by professional foresters.**


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# A Policy Framework for Evaluating Options for Further Encouraging Mississippi's Nonindustrial Private Owners of Forestland to Reforest

## *Introduction*

### Authority

**The PEER Committee, pursuant to the authority granted by MISS. CODE ANN. Section 5-3-57 et seq. (1972), authorized its staff to explore options for further encouraging nonindustrial private owners of forestland in Mississippi to reforest.**

### Scope and Purpose

**In response to a legislative request, PEER conducted this review of options for further encouraging nonindustrial private owners of forestland in Mississippi to reforest. PEER began its review by determining what programs and activities are currently in place for encouraging reforestation by nonindustrial private owners of forestland in Mississippi. Appendix A on page 35 categorizes and describes reforestation programs and activities currently provided by the federal government, state government, and the private sector.**

**After identifying existing reforestation incentive programs, PEER developed a framework for assisting legislators to evaluate options for further encouraging nonindustrial private owners of forestland in Mississippi to reforest. The framework focuses on desirable program characteristics. These characteristics include determination of whether a new public program is needed prior to adopting such a program. PEER then used the policy evaluation framework as a filter for gauging the merit of various reforestation policy options.**

### Method

**To identify options for further encouraging reforestation by nonindustrial private owners of forestland in Mississippi and the merit of each approach, PEER:**

- **reviewed MISS. CODE ANN. Section 49-19-1 et seq. (1972), containing the state's forest and forest protection laws;**
- **reviewed MISS. CODE ANN. Sections 27-35-50, 27-7-9, and 27-25-11 et seq. (1972), addressing timber-related property and severance taxes;**

- **interviewed and obtained relevant documents from staff of the following in-state entities: Mississippi Forestry Commission, Mississippi Cooperative Extension Service, State Tax Commission, and Mississippi Forestry Association;**

- **surveyed, by telephone, state forestry agencies in Alabama, Arkansas, Georgia, Kentucky, Minnesota, North Carolina, Oregon, Pennsylvania, Tennessee, Texas, Virginia, Washington, and Wisconsin to determine what reforestation incentives they are currently using or have considered using, and the advantages and disadvantages of each;**

- **interviewed and obtained information from staff of the following public and private entities: United States Department of Agriculture Forest Service; American Forests; Forest Landowners Association, Inc.; National Association of State Foresters; North Carolina's Governor's Task Force on Forest Sustainability; Alabama Forest Resource Center; the Department of Forestry at Virginia Tech; and,**

- **conducted a literature search of publications on the topic. PEER relied heavily on the manuscript of *Public Programs for Private Forestry: A Reader on Programs and Options* by R. Neil Sampson and Lester A. DeCoster of the Forest Policy Center of American Forests (formerly the American Forestry Association), which Mr. Sampson generously provided to PEER prior to the book's scheduled publication because of PEER's project deadline.**

## Overview

**PEER found no convincing evidence that there is an urgent problem related to meeting any of the objectives for private nonindustrial forestland management which are specified in state law (e.g., insuring adequate habitat for wildlife, preserving and protecting the continuous growth of timber). Current research, based on the best data available, shows that current reforestation incentive programs are sufficient to generate a slight increase in Mississippi's pine and hardwood timber inventories by the year 2009.**

**If the general objective of new reforestation incentive programs is to increase significantly the state's timber inventory, it is possible that this objective could be accomplished by allowing free market pressures to drive reforestation efforts. However, professional foresters disagree as to the effectiveness of timber prices as an incentive for nonindustrial private forestland owners to invest the approximately $100 per acre needed to reforest using artificial regeneration. While the subject of debate among professional foresters, some believe that the long-term nature of investment in reforestation discourages many nonindustrial private forestland owners from choosing this option over options with more immediate tangible**

**benefits--e.g., using proceeds from a timber sale to make a large non-timber-related purchase.**

**Regardless of whether the state creates an artificial incentive or depends on market forces to drive increases in reforestation, current ancillary resources (i.e., professional staff to assist with development of forest prescriptions, available seedlings, and vendors to plant the seedlings) may be inadequate in the short term (one to three years) to support large-scale increases in planting efforts.**

**Although current information available to PEER does not provide strong support for the existence of a broad public need for immediate action to increase current reforestation rates significantly, some forestry stakeholders perceive an economic development opportunity associated with significantly increasing the supply of timber available for commercial use. PEER considers the following options to have potential for increasing reforestation rates in response to this perceived economic development opportunity. With the exception of the first option, order of presentation is not significant.**

**Option 1:** **Enforce provisions of the state's Forest Harvesting Law requiring reforesting following harvesting, but amend the law to ensure effective reforestation after pine, hardwood, and mixed timber harvests (see page 25.)**

**Option 2:** **Expand the state's cost-share program by increasing program funding (see page 26.)**

**Option 3:** **Establish a targeted state income tax credit program (see page 28.)**

**Option 4:** **Attach pre-conditions to eligibility for reduced assessed land values on forestland property (see page 30.)**

**Option 5:** **Establish a low-interest revolving loan fund (see page 30.)**

**Option 6:** **Examine the feasibility of greater reliance on volunteers to staff educational programs (see page 31.)**

**PEER also recommends that the Forestry Commission consider the viability of options used by other states to enhance cooperation among individuals and entities involved in forestry issues.**

**PEER further recommends that, before the state adopts any potentially costly options for encouraging nonindustrial private forestland owners to reforest, the Forestry Commission provide adequate documentation of the objectives of and need for any new public program the commission proposes or supports. Prior to approving any new public program, the Legislature should require the Forestry Commission to determine relevant characteristics of nonindustrial private forestland owners, including a determination of which owners choose not to reforest**

**and why, as well as which owners choose to reforest and why and how the program being considered proposes to motivate the former group of landowners. The Forestry Commission also should analyze the cost-effectiveness of any option prior to requesting legislative approval. For purposes of accountability, program information provided to the Legislature should include:**

- **a clear, measurable, statement of specific objectives which the option is intended to address (this enables policymakers to measure whether the incentive is effective). For example, the broad objective of "increasing the number of harvestable trees in the state for purposes of economic development" could be refined to "increasing the state's x type of timber inventory by x% by x target date;"**

- **suggestions for periodic monitoring of the incentive in terms of its efficiency and effectiveness in accomplishing stated objective(s); and,**

- **particularly with respect to any of the incentive options which require the commitment of state funds, a proposed prerequisite that program participants provide evidence of adherence to principles of sound forest stewardship in the use of said public funds, preferably through the professional development and implementation of a forest management plan, as attested to by professional foresters.**

## *I. Why is Good Stewardship of Nonindustrial, Privately Owned Forestland of Public Importance?*

### Well-Managed Forestland Produces Multiple Benefits

**Forestland is a vital resource not only from an economic standpoint (in terms of timber production) but also because well-managed forestland provides numerous other benefits, including protection against soil and wind erosion and flooding; maintenance of a high level of water quality; increased carbon storage (which affects the cooling of the earth's climate); wildlife habitat; recreational opportunities; and, aesthetic benefits.**

**Good stewardship of forestland in nonindustrial private ownership is important because this ownership category accounts for the majority of forestland in the United States (58%) and in Mississippi (72%). Also, forestland in nonindustrial private ownership supplies slightly over half of the nation's commercial timber.**

**Over the past decade, good stewardship of forestland in the South in nonindustrial private ownership has become increasingly important to the U.S. timber industry, as timber production from other traditional suppliers has declined significantly (e.g., federal forestland, Pacific Northwest, and international suppliers) and timber imports from the United States' major foreign supplier, Canada, have been capped. Appendix B on page 50 contains a more complete discussion of factors affecting the role of nonindustrial private forestland owners in general, and in particular, the expanding role of nonindustrial private forestland owners in the South.**

### State Law Requires Good Stewardship of Privately Owned Forestland

**State law (MISS. CODE ANN. Section 49-19-53 [1972]) recognizes the importance of good forest stewardship of privately owned forestland in the legislative policy statement in the state's Forest Harvesting Law of 1944, which is still in effect. Specifically, Section 49-19-53 states that the public policy of the state and the purposes of the Forest Harvesting Law are to:**

- **encourage better management of forest lands;**
- **increase the efficiency in the harvesting of forest products and utilization of forest lands;**
- **preserve the tax base represented by forests and forest lands;**
- **preserve and develop forest lands for the equal and guaranteed use for future generations;**

- **preserve and protect the forest resources and the continuous growth of timber on lands suitable therefor;**

- **insure an adequate supply of forest products at all times;**

- **prevent soil erosion and consequent silting of stream channels and reservoirs;**

- **protect watersheds and reservoirs and to ensure at all times an adequate supply of water of the forest quality;**

- **preserve and insure for all times adequate habitats for wildlife;**

- **preserve scenic beauty and insure adequate facilities for outdoor recreation for public use;**

- **reduce forest fire hazards; and,**

- **encourage private ownership, economic management and scientific development of forest lands.**

**Given that Mississippi has long acknowledged the importance of managing nonindustrial private forests to achieve the common good, the challenge is to ensure that changes in reforestation policy are based on sound public policy principles which protect the best interests of relevant stakeholders, including the general public. The most basic of these principles requires that a program address a well-defined public need, achieving the maximum benefit possible while minimizing commitment of public resources. The following section discusses these principles of efficiency and effectiveness in program design.**

## *II. What Primary Principles Should Serve as the Basis for Evaluating Options for Encouraging Nonindustrial Private Forestland Owners to Reforest?*

**A public program should serve a well-defined public need effectively and efficiently. An appropriately targeted public program:**

- **is based on a well-defined program need (i.e., evidence that a public program is needed to address a documented public problem);**
- **is governed by a set of goals and clear, measurable, program objectives designed to address the documented need (this enables policymakers to measure whether the incentive is effective);**
- **identifies initially which groups are anticipated to benefit from the program and how, as well as which groups (if any) would be adversely affected by the program and how; and,**
- **has a high likelihood of effectively and efficiently meeting the documented need, based, in part, on knowledge of relevant characteristics of the targeted group. With respect to effectiveness, the program contains necessary requirements to ensure proper program implementation. With respect to efficiency, the program demonstrates that it is cost-effective prior to adoption. Also, the program contains provisions for ongoing monitoring of the program's effectiveness and efficiency in meeting stated goals and objectives.**

**The sections which follow address the issues of program effectiveness and efficiency in greater detail, based on available national and regional research concerning the effectiveness and efficiency of current incentives used to encourage nonindustrial private forestland owners to reforest.**

### Effectiveness Issues

#### *What Types of Reforestation Incentives Work?*

**Reforestation incentives fall into three primary categories: technical assistance, financial assistance. and educational assistance. (Appendix A on page 35 describes the historical rationale for public programs to encourage reforestation of nonindustrial private forestland and discusses public and private programs and activities currently in place to encourage nonindustrial private owners of forestland in Mississippi to reforest.)**

**Technical assistance generally refers to on-site land management or forestry assistance provided by a professional. Technical assistance as a reforestation incentive includes the development and assistance with implementation of a forest stewardship plan.**

**Financial assistance incentives attempt to address one of the main reasons that non-industrial private forestland owners fail to replant--i.e., the cost of reforestation.* This cost is currently estimated to be approximately $100 per acre. The main types of financial incentives currently offered to nonindustrial private forestland owners are cost-share funds and federal tax credits and deductions for expenses associated with reforestation.**

**Educational incentives to reforest range from informational brochures which promote a greater understanding of the personal and societal benefits of reforestation to seminars and short courses focusing on the steps involved in reforesting.**

### *Technical Assistance*

**In more than one study of the relative effectiveness of reforestation incentive programs by major category, technical assistance programs rank first. For example, a North Carolina study cited by Sampson and DeCoster concluded that "technical assistance had more impact than cost-sharing on the amount of tree planting that was accomplished." A Minnesota study found that woodland owners who had a management plan (almost always resulting from technical assistance) were more likely to carry out other forest management activities such as reforestation, and therefore concluded that "technical assistance appeared to be the most effective incentive." As noted by Sampson and DeCoster, the general conclusion of recent evaluations of technical assistance programs is that such programs "improve the management of NIPF *[nonindustrial private forest]* lands."**

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***The cost of reforestation varies depending upon the nature and extent of reforestation activities implemented. Dr. Stephen Dicke of Mississippi's Cooperative Extension Service states that this cost can range from $70 per acre for reforesting without site preparation (e.g., planting an old field) to $170 per acre for reforestation with site preparation (e.g., planting of cut-over land). In their fiscal impact estimate of the proposed reforestation tax credit, Dr. Bob Daniels, Extension Forester, Mississippi State University, and Everard Baker, Mississippi Forestry Commission, used an average regeneration cost per acre figure of $102.73, based on regeneration cost figures collected by the Forestry Commission from 1986 through 1997. Bill Hubbard, Southern Regional Extension Forester at the University of Georgia, conservatively estimates the 1996 cost per acre to reforest using artificial regeneration (including the cost of the seedlings, planting, and professional oversight) at $100. When referring to the estimated cost per acre of reforestation, this report uses the phrase "approximately $100."**

## *Financial Assistance*

**Despite the effectiveness of technical assistance programs in encouraging nonindustrial private forestland owners to practice good forest stewardship, including reforestation, it is important to note that the results of a national survey of nonindustrial private forestland owners conducted in 1992 showed that only five percent of such ownerships have a written forest management plan in place. However, the survey also showed that the proportion of nonindustrial private forestland owners with written management plans increases with the size of ownership as evidenced by the fact that the owners with written plans control thirty-nine percent of the private nonindustrial forestland. Therefore, the policy implication may be that technical assistance programs (particularly those directed at development of a forest stewardship plan) should be targeted to owners of smaller forestland acreages.**

**With respect to research on the effectiveness of financial assistance in encouraging reforestation, in an article entitled "Reforestation Incentives: Tax Incentives and Cost Sharing in the South," published in the August 1997 *Journal of Forestry*, Royer and Moulton concluded that:**

> ***The likelihood of reforestation is increased by 19 percent if a landowner is familiar with either the tax incentives or cost sharing. Landowners familiar with both incentives are 38 percent more likely to reforest, other factors being equal.***

**In arriving at this conclusion, Royer and Moulton used statistical methods that control for the effects of stumpage prices, reforestation costs, landowner income, farm (vs. nonfarm) occupation, and technical assistance.**

**With respect to research on the effectiveness of reductions in taxes as an incentive to reforest, Rathke and Baughman found that the effect of a forest management plan--not the effect of lower taxes--is most closely associated with higher levels of forest improvement practices; therefore, provided the supporting resources are available (e.g., experts to assist with development of forest management plans), tax incentives should be conditioned upon the implementation of a sound forest management plan.**

**In researching the merits of tax incentives versus cost-share incentives, Campbell found that financial returns to owners were affected more by cost-share programs than by tax programs, even if owners took advantage of all available tax benefits. This may be due to the fact that according to Sampson and DeCoster, nationwide five percent or less of nonindustrial private forestland owners are aware of tax incentive policies, while, "in combination, USDA forestry cost-share programs have assisted almost 40 percent of all the NIPF *[nonindustrial private forestland]* tree plantings in recent years (41 percent in 1995, for example)." One reason that tax benefits may not be more extensively utilized is that, also according to Sampson and DeCoster, "Existing [tax incentive] policies are confusing and not an incentive to most." In 1995, DeCoster wrote about the complexity**

**of federal tax code being a significant barrier to participation for many taxpayers. The complexity of federal tax rules make deduction of forest management expenses especially difficult for small landowners whose forestry activities are minor and who are likely to lack detailed information on tax rules.**

**While tax incentive programs, such as tax credits or deductions for expenses associated with reforestation, are designed to encourage forestland owners to reforest, it is important to note that all tax policy affecting forestland property and income influences forestland owner behavior and that some of the effect is to unintentionally discourage owners from reforesting. According to Sampson and DeCoster, "a broad array of landowner surveys indicate that tax policy is very important in guiding decisions relative to reforestation." Further, "Taxes--largely income and estate taxes at the federal and state levels; property taxes at the state and local levels--are often cited as among the most important factors in providing incentives/disincentives for good forest stewardship." In his keynote address at the 1996 national Symposium on Nonindustrial Private Forests, R. Neil Sampson noted:**

> ***Government creates or affects just about all of the economic incentives and disincentives facing private landowners, and it can encourage better management by improving the balance...it is tax policy that is often cited as the most significant economic disincentive*** **[to reforestation],** ***as well as the most frustrating complexity, by forest owners. Federal tax policies treat every forest owner as though they were a full-time forest business, even though the great majority are not.***

**Appendix C on page 54 contains a discussion of tax policy as it relates to forestland and income in Mississippi.**

### *Educational Assistance*

**Research shows that educational programs, which can be operated relatively inexpensively (e.g., through low-cost publications), can be effective in encouraging reforestation by:**

- **making nonindustrial private forestland owners aware of the value of good forest stewardship;**
- **teaching landowners how to manage their forest resources;**
- **increasing the likelihood of a nonindustrial private forestland owner's participation in other programs and activities designed to encourage reforestation, through an increased awareness of the availability of such programs and activities. Sampson and DeCoster note that, "one of the major outcomes of forestry education programs is that people are motivated to take advantage**

**of other forms of assistance such as technical assistance or cost-sharing"; and,**

- **reaching individuals who do not own forestland who, through participation in educational programs, may be encouraged to become nonindustrial private forestland owners.**

**Disadvantages of educational programs include the following:**

- **their effectiveness is difficult to assess; and,**

- **to the extent that such programs are carried out with face to face contact, it may be difficult and expensive to reach nonindustrial private forestland owners, who are geographically dispersed (including absentee owners who live out-of-state), many of whom are located in relatively remote rural areas, and many of whom may not be linked to less expensive information dissemination tools such as the Internet. As noted by Sampson and DeCoster, increasing fragmentation of forestland ownership combined with frequent turnover of ownership presents a challenge for forestry program administrators trying to educate the public on the need for and availability of reforestation programs.**

### *Identifying the Target Audience*

**A well-designed educational program can increase the effectiveness of technical and financial assistance programs by informing nonindustrial private forestland owners of the availability of programs offering such assistance. However, before designing an educational program to reach the target audiences of technical assistance and financial assistance programs, program developers first must identify the characteristics and likely motivators of these audiences.**

**In their book *Public Programs for Private Forestry*, Sampson and DeCoster observe that while all nonindustrial private owners of forestland are not alike and are not motivated by the same incentives, current public policy treats such owners as if they were of a single mind. As discussed by Sampson and DeCoster, a critical variable in setting effective reforestation policy is knowledge of critical characteristics of non-industrial private landowners (e.g. number of acres owned, age and educational level of landowners) and what type of policy most effectively motivates each major sub-group to reforest. As observed by Sampson and DeCoster, "most local program administrative groups (local agency and organizational managers) lack an accurate, up-to-date, broadly shared picture of the local population that they are charged with serving." However, this lack of knowledge is due, at least in part, to the fact that accurate statistics on characteristics of nonindustrial private forestland owners and ownership practices are difficult and expensive to gather and maintain.**

**Sampson and DeCoster argue that one of the most relevant indicators of the behavior of nonindustrial private forestland owners is the size of the owner's forestland acreage. Appendix D on page 56 contains Sampson and DeCoster's proposed breakdown of ownership size classes for purposes of establishing efficient and effective public policy. They note, however, that the size of the most forest-oriented ownership categories will vary by region (e.g., a forty-acre pine forest in the south may be more actively managed than a 200-acre hunting camp-lot in the north woods), which further establishes the need to tailor the national model to a state-level model, based on a state-level survey of relevant landowner characteristics.**

**Sampson and DeCoster warn that while current federal reforestation policy is directed towards the seven percent of nonindustrial private owners of forestland with substantial forestland holdings (i.e., 100 acres or more; such owners account for 70% of total acreage owned by nonindustrial private forestland owners), one of the biggest threats facing the sustainability of nonindustrial private forestland is the failure of reforestation policy to reach and motivate forestland owners of 100 acres or less (who currently represent 93% of nonindustrial private forestland owners and 30% of total nonindustrial private forestland ownership acreage), whose property is increasingly being subdivided and converted to non-forest uses. They warn that more and more nonindustrial privately owned forestland will be lost to development and mismanagement if public policy encouraging reforestation and good forest stewardship fails to reach this latter group-- i.e., ownerships of 100 acres or less. Keith A. Argow, President of the National Woodland Owners Association notes that nationally, "The nonindustrial private forest is fragmenting at a rate of 2,500 new landowners a week!"**

**According to Sampson and DeCoster, the challenge to reaching nonindustrial private forestland owners who own less than 100 acres of forestland is the "challenge of occasional relevance;" i.e., owners of large tracts experience more frequent timber-related decision events such as timber sales, fires, and storms. For owners of small forestland acreages, a timber sale may be a once in a lifetime event. Such owners may not know where or how to get professional assistance. Sampson and DeCoster also point out that from the standpoint of public policymakers attempting to motivate this landowner group to reforest, "dealing with occasional relevance is expensive."**

**As noted by Sampson and DeCoster, "The millions of acres and millions of owners presently sliding off the forestry relevance scale will only be reached by deliberate, well-researched, segmented marketing efforts that are very different from the programs that now serve the core of the forestry community." They believe that the challenge to policymakers is to help larger tracts to survive fragmenting pressures and to retain forest functions in smaller tracts.**

**The difficulty inherent in attempting to influence behavior relative to privately owned land is expressed in the following quote taken from an**

**article entitled "Factors Influencing Participation in Public Management Assistance Programs," contained in the published Proceedings of the February 18-20, 1996 Symposium on Nonindustrial Private Forests:**

> ***Nonindustrial private forestland (NIPF) owners have been the focus of research for over thirty years. This is inevitable since they account for 58% of the commercial forestland in the United States. . . .***
>
> ***For more than 30 years government agencies have attempted to motivate NIPF landowners to improve management practices on their lands by providing technical assistance and financial incentives (Weatherhead, Chapman and Kelso 1982). However, these programs have met with limited success (Beazley and Holland 1973, Clawson 1979). Nationwide, less than half the owners harvesting timber seek any technical advice from resource professionals.***
>
> ***Why do some landowners participate in government forestry programs, while others do not? This is a question that needs to be answered if we want to ensure wider participation and therefore better managed forest lands. The consumer has to be well defined and understood for the successful marketing of assistance programs. . . .By comparing the attitudes of non-participants with the behavioral premises on which present programs are based, changes can be made in marketing activities and the services provided. With a targeted approach, more landowners would adopt assistance programs and potentially more efficient management of NIPF [Nonindustrial Private Forest] land would occur.***

**David A. Hoge, USDA Forest Service, Southern Region, attempted to answer the question of which nonindustrial private owners of forestland are regenerating, which are not, and why in an article contained in the September/October 1997 issue of *Forest Landowner Magazine*. He concluded that nonindustrial private owners of forestland most likely to regenerate:**

- **were more than thirty-five years old, possibly retired;**
- **had an alternative source of income on which to live;**
- **possess more than 50 acres of forestland, which land they had owned for a significant period;**
- **display a stewardship ethic, hoping to leave a legacy to children or grandchildren;**
- **have extra time and money to invest in forest management;**

- **have knowledge regarding the economic value of the investment; and,**

- **seek the assistance of a professional forester and conduct forest management activities according to an established plan.**

**Mr. Hoge observed that those nonindustrial private owners of forestland who are not regenerating generally fall into the following categories:**

- **smaller home site ownerships (usually less than ten acres and located on the wild land-urban interface);**

- **larger ownerships that lack the available income to engage in regeneration activities;**

- **larger ownerships that have the income but who are not interested in forest management activities; and,**

- **small and large ownerships that lack awareness of the opportunities presented by forest management.**

**According to Sampson and DeCoster, nationwide the top priority for owning forest land is for immobile non-tangibles such as beauty, green space, wildlife habitat, and recreation (versus mobile tangibles [i.e., forest products such as lumber]). Data from a survey of Mississippi nonindustrial private forestland owners conducted in 1993 shows that 65% of the 341,200 ownerships surveyed reported that the primary reason for owning forestland was because the land was part of the owner's residence, farm, or estate. The next largest percentage of ownerships, 11%, listed "timber production" as the primary reason for owning forestland. However, when the responses are categorized by size of the acreage, "timber production" becomes the most frequent reason (accounting for 33% of the acreage), followed by "part of the owner's residence, farm, or estate" (29%) and "land investment" (17%).**

### *Conflicting Evidence on Promoting Effectiveness*

**Although research cited above on specific approaches to promoting effective reforestation (i.e., educational programs, technical assistance and financial incentives) suggests that each of these approaches has proven successful in specific cases, other evidence suggests that the approaches should be combined for best results. Specifically, Skinner et al. concluded that technical assistance alone does not appear to be very successful in promoting tree plantings on nonindustrial private forestland ownerships, but a combination of technical and financial assistance was found to be highly effective in achieving reforestation of such forestland. The federal government includes a technical assistance component in all of its cost-share programs, as does Mississippi in its cost-share program.**

**Also contradictory, on the surface, of other research documenting the effectiveness of technical assistance programs, is a conclusion by Moulton et al. that, "a field evaluation of tree plantings in the southern states indicated that regeneration quality was as high when owners used tax credits (without technical supervision) as when they participated in cost-sharing programs that included technical oversight." However, this counter-intuitive research conclusion could be due to the fact that very few landowners take advantage of tax credits (see discussion on page 9) and that those who do are probably large tract owners who already have their own technical expertise.**

**Mississippi Forestry Commission staff believe that the effectiveness of federal programs in encouraging nonindustrial private forestland owners in Mississippi to reforest may be adversely affected to the extent that federal program developers fail to understand relevant characteristics of Southern forestland owners.**

### *Conclusions on the Potential of Publicly Supported Technical, Financial, and Educational Assistance Programs*

**Research does not identify any one incentive which is without limitations. All nonindustrial private forestland owners are not alike and are not motivated by the same incentives. For example, those nonindustrial private owners of forestland who are not regenerating because of ignorance of forest management opportunities could be encouraged to regenerate through educational programs, while those who lack the income could possibly be motivated to reforest through financial incentives. While all may benefit from technical assistance, this form of assistance may be too expensive to reach a large proportion of small landowners.**

## Efficiency Issues

**It is an inefficient use of public resources for government to subsidize the cost of reforestation for nonindustrial private owners of forestland who would have reforested without government assistance. Jack P. Royer and Robert J. Moulton concluded from their analysis of the effects of public financial incentive programs on the decision by nonindustrial private owners of forestland to reforest that steps can be taken to better orchestrate current incentive programs (e.g., target them to user groups who would not replant without such programs) and to enhance the market incentives that would make such public programs unnecessary. In their closing sentence, Royer and Moulton state:**

> ***Observers of forest policy must continue to examine the role of government in nonindustrial private forestry, asking which programs or mixes of programs are most effective and efficient given regional timber supply needs and varying forestry investment opportunities.***

**Ideally, financial incentives would only be made available to those nonindustrial private owners of forestland who would not reforest without such incentives and where the benefits of such incentives exceed the costs of providing the incentives.**

**Some reforestation incentives require a substantial commitment of support resources, which creates efficiency challenges. According to Sampson and DeCoster,**

> ***A major problem inherent in the nature of public technical assistance programs is that each new client requires a significant amount of time, and there are few ways to gain 'economies of scale'. . . .As they*** **[the technical assistance programs]** ***reach landowners with less sophistication in forest management, the hours per landowner/acre rises. As a result of these factors, there may be diseconomies in scale for public technical assistance programs. In a recent series of telephone surveys with professionals in forest-related public agencies conducted as part of this study, there was almost-unanimous opinion that existing technical assistance programs are over-extended with little prospects for significant budget increases in the foreseeable future.***

**The problem of reaching individual clients is only exacerbated by the continuing fragmentation of nonindustrial private forestland. Not only are there more clients to serve, but the smaller the acreage, the less likely that they possess the knowledge and skills necessary to be good forest stewards, and hence the higher the training costs. According to Sampson and DeCoster, the major drawback to all reforestation incentive programs which rely on staffing or funding resources is that as public resources decrease and the number of nonindustrial private forestland owners increase (as existing ownerships continue to be subdivided), such programs are increasingly unable to serve all forestland owners desiring and in need of such services.**

## *III. What is the Status of Mississippi's Reforestation Needs, What are the Public Policy Considerations for Reforestation, and What Options Hold Promise for Meeting Reforestation Needs?*

### The Status of Mississippi's Reforestation Needs

**As noted on page 17, MISS. CODE ANN. Section 49-19-53 (1972) contains Mississippi's current policy objectives regarding forest management. Documentation of problems in meeting any of the policy objectives cited in Section 49-19-53 could constitute adequate grounds for development of a new reforestation incentive program. Examples of possible problems which might necessitate public sector remediation range from quantified threats to wildlife habitat (e.g., an x% decrease in x species due to loss of forestland habitat) to inadequate production of timber to meet industry demand (e.g. a projected x% shortfall in x type of timber by x date).**

**During the course of this review, PEER found no convincing evidence of an urgent problem related to meeting the state's objectives for private nonindustrial forestland management. In fact, current research shows that with respect to the primary purpose of the state's primary reforestation incentive program (the Forest Resource Development Program, whose purpose is to insure an adequate supply of forest products), current reforestation incentive efforts are sufficient as measured by the state's projected ability to maintain its timber inventory at current levels over the next ten years.**

### *According to Current Research, Mississippi's Pine and Hardwood Timber Inventories Will Increase Slightly by the Year 2009*

**Dr. Marc McDill (Louisiana State University Agricultural Center School of Forestry, Wildlife and Fisheries) projects that Mississippi's softwood and hardwood timber inventories will increase slightly by the year 2009. He presented his research in an article entitled "Southern Timber Supply Trends," published in the March/April 1997 issue of *Forest Landowner Manual*.**

**While Dr. McDill reports that during 1994 Mississippi's growth to removal ratios for both pine (0.87) and hardwoods (0.94) were less than 1 (which is the level at which growth equals removal--i.e., the level at which growth is being sustained), he projects that Mississippi's pine and hardwood inventories will increase slightly over the next ten years because he projects that the area of timberland in the state will increase. Dr. Dicke of Mississippi's Cooperative Extension Service explained that the key to understanding how the state's timber inventory can increase while timber removal exceeds timber growth is to understand how Dr. McDill defines timber growth. According to Dr. Dicke, Dr. McDill defines timber "growth"**

**as the current volume growth on merchantable timber stands--i.e., stands which are of sufficient size to sell. Dr. McDill defines a merchantable stand as one where the trees are over ten inches in diameter (generally, twenty-five years old or older). Mississippi has many young timber stands (i.e., stands less than ten inches in diameter) which are not included in Dr. McDill's growth data, but which are included in his inventory calculation. As these younger timber stands grow to diameters of ten inches or more, they will become part of Mississippi's timber growth data.**

**Dr. McDill attributes this projected growth in Mississippi's timber inventory, in part, to the success of Mississippi's reforestation cost-share program, known as the Forest Resource Development Program (see detailed program description on page 44). [Dr. Dicke of Mississippi's Cooperative Extension Service notes that during the 1995-96 planting season, Mississippi was "second in the nation, with 143,539 acres planted."] Dr. McDill projects that Louisiana and Texas, the other two states included in his study, will experience a 25% decline in their pine inventories over the next fifteen years as a result of increased harvesting and a failure to adequately reforest. At the time that Dr. McDill's research was conducted (published in March 1997), neither Texas nor Louisiana had a state-sponsored reforestation cost-share program such as Mississippi's (although Texas does have a reforestation cost-share program funded through voluntary contributions by the state's timber industry; see discussions on page 27). According to Mississippi Forestry Commission staff, Louisiana has since established a state-sponsored cost-share program.**

### *Accuracy of Mississippi's Timber Harvest Data May Be Questionable*

**While Dr. McDill's research results are positive for Mississippi, the forest-related data on which he had to rely in arriving at his results is not completely accurate. While the Mississippi Forestry Commission claims to have a fairly accurate picture of reforestation efforts by nonindustrial private owners of forestland in Mississippi (obtained by county foresters who are involved in some way with most reforestation efforts), Forestry Commission staff says that current data reporting the amount of forestland in Mississippi and the amount of forestland harvested is at best a "guesstimate." Mississippi forestland harvested data is presently derived from timber severance tax collection data which yields volume of wood removed, not acres harvested. According to Forestry Commission staff, volume harvested cannot be converted to acres harvested with any degree of accuracy. Dr. McDill based his timber harvested data on timber severance tax collection data.**

**As discussed on pages 23 through 25, there is general consensus that at least some timber severance taxes are not being paid on timber harvested in Mississippi. While Dr. Dicke, of Mississippi's Cooperative Extension Service, believes that the percentage of timber severance taxes not being paid is very small (1% to 2%), the actual extent to which such taxes are not**

**being paid is unknown. In considering Dr. McDill's research, it is important to note that his projections are overly optimistic to the extent that actual timber harvests in Mississippi exceed the estimated level of timber harvested based on timber severance tax collections.**

**Further, staff of the Mississippi Forestry Commission caution that a ten-year projection of timber inventory is not a sufficient gauge of future need to reforest. They believe that such projection should be carried out at a minimum of thirty years. However, until accurate harvesting data is collected, development of meaningful longer-term projections may not be possible.**

### *The Forestry Commission's Detailed Study of Clearcuts on Private Nonindustrial Forestland in the Northeast Section of the State Showed that Nearly 96% of the Forestland which Was Clearcut Remained as Forestland after Harvesting*

**In an effort to address forestland-related data deficiencies, the Forestry Commission undertook a pilot project in the northeast section of the state (Alcorn, Chickasaw, Itawamba, Lee, Monroe, Pontotoc, Prentiss, Tippah, Tishomingo, and Union counties) to assess the feasibility of using remote satellite imagery, followed by on-site inspections, to obtain accurate data relative to nonindustrial privately owned forestland. Known as the Northeast Mississippi Clearcut Project, the project was designed to answer questions relative to clearcuts of twenty acres or more on nonindustrial private forestland property between the period of September 1987 through November 1990, including:**

- **How much area is being clearcut?**
- **How much is being replanted?**
- **Are existing forest cover types being replaced with other types (and if so, what types)?**
- **How many of the clearcuts are being converted to non-forest uses?**

**One of the primary stated justifications for the study was to replace opinions with facts. County foresters followed up on the data collected through satellite imagery by ground checking 97% of the cuts to determine what the landowner had done to the property following the cuts. During the period of the study, 92,273 acres of forestland in private nonindustrial ownership was clearcut (representing 5% of the total forestland acreage in the study area). The study showed that nearly 96% of the clearcut forestland remained as forestland after harvesting. 37% of the acres remaining as forestland were planted following harvesting, while 63% remained as forestland through natural regeneration. Of the acres planted, 93% were planted with assistance from a cost-share program (either federal or state). With respect to changes in cover type on the land which remained as forestland following clearcutting, the mixed cover type**

**decreased by 14% (from 51% to 37%), the pine cover type increased by 4% (from 34% to 38%) and the hardwood cover type increased by 11% (from 14% to 25%).**

**Based on the ability of this pilot study to produce accurate forest-related data, the Forestry Commission staff is urging the Legislature to appropriate funds sufficient to obtain accurate statewide forest-related data on an ongoing basis through remote satellite imagery. Such data would be essential to the Legislature in making informed public policy relative to state forestry issues.**

### *If the General Objective of New Reforestation Incentive Programs Is to Increase the State's Timber Inventory Significantly, This Objective Might Be Accomplished by Allowing Free Market Pressures to Drive Reforestation Efforts*

**If significantly increasing the state's timber inventory is the objective of new reforestation incentive programs, this objective should first be expressed in terms of the amount of new timber inventory needed, by type and according to what projected timber production schedule.**

**With respect to future timber inventories, perhaps the most significant factor affecting a nonindustrial private forestland owner's decision whether to reforest is the perceived cost-benefit. Professional foresters disagree as to the effectiveness of timber prices as an incentive for nonindustrial private forestland owners to invest the approximately $100 per acre needed to reforest using artificial regeneration. Some argue that financial incentive programs designed to encourage nonindustrial private forestland owners to reforest are unnecessary because the price of timber is a sufficient motivator for this ownership class to reforest. In an article in the September/October 1997 issue of *Forest Landowner Magazine* discussing the role of public programs to encourage reforestation, author Bill Hubbard observes:**

> ***While some of these*** **[financial incentive]** ***programs continue today, landowners have begun to realize the importance and value of replanting after a harvest, and are regenerating without governmental financial assistance. With stumpage prices at or near all-time highs in some parts of the South, rates of return are often in double digits. Alternative enterprises-such as pine straw raking, wildlife leases and early thinnings-along with increased growth rates, all add to forest regeneration investments that pay handsomely. Improvements in forest fire management, forest genetics, and marketing and processing have also contributed substantially to high returns in the last 50 years.***

**According to a program brochure published by the Texas Reforestation Foundation (see discussion on page 27), "Even though the amount of return on a forest investment varies greatly over the long term, a**

**well-managed forest can earn its owner from 10 to 20 percent return depending on the site." A 1994 publication distributed by the North Carolina Cooperative Extension Service, states in part, "Over the years, income from managed timber stands has exceeded that from most other crops in terms of value added per acre per year."**

**With respect to the impact which high timber prices have on the decision of whether to convert marginal cropland to timber, Coleman W. Dangerfield, Jr., and David J. Moorhead, Associate Professors at the University of Georgia, calculate that the Annual Equivalent Return per acre from trees of $133 competes favorably with most annual crops on marginal rowcrop land. Bailian Li, Steve McKeand, and Robert Weir of North Carolina State University's Department of Forestry observe that with timber prices at near record highs, projections of further increases in timber prices in the near future, and the phase-out of crop subsidies, the planting of timber on marginal agricultural land becomes even more attractive.**

**Other professional foresters believe that the long-term nature of investment in reforestation discourages many nonindustrial private forestland owners from choosing this option over options with more immediate tangible benefits--e.g., using the proceeds from a timber sale to make a large non-timber-related purchase. Dr. Marc McDill of Louisiana State University's Agricultural Center and School of Forestry, Wildlife, and Fisheries notes that, despite the high prices of timber, "because of the uncertainty of having to invest money in timber management now, with no crystal ball to predict prices that will determine the return on the investment, market forces alone tend to provide an under-investment in forest management." Although timber prices steadily increased between 1988 and 1995, with a slight downward turn in 1996, some forestry researchers believe that high timber prices provide an imperfect incentive for nonindustrial private forestland owners to plant trees because the time frame for realizing a return on the required investment of approximately $100 per acre is so long (generally ten years until the first thinning on a pine plantation and thirty to forty years for hardwoods) and there is no guarantee that future timber prices will equal or exceed timber prices at the time that the decision to reforest was made. Dr. McDill believes that financial incentives to reforest, such as Mississippi's cost-share program, are necessary to address the imperfections of the timber market.**

### *In the Short Term, Current Ancillary Resources May Be Inadequate to Support Increases in Demand Associated with Reforestation Incentives*

**According to Mississippi Forestry Commission staff, there would be no point in the Legislature appropriating funds sufficient to meet 100% of the demand for the Forest Resource Development Program, because in the short term (one to three years) there are not enough ancillary resources (i.e., professional staff to assist with development of forest prescriptions, available seedlings, and vendors to plant the seedlings) to support this level**

**of funding. PEER contends that concern for adequate ancillary resources is not unique to the Forest Resource Development Program, but must be considered an important constraint on any incentive that increases the demand for ancillary service.**

**One significant short-term factor affecting the availability of these ancillary resources is the seasonal nature of tree planting. In Mississippi, the planting season for trees is from December through March. According to Forestry Commission staff, it would be difficult for these ancillary resources to handle a significant increase in demand for services in such a short time frame. However, Forestry Commission staff believe that this situation will correct itself within one to three years as a result of supply and demand.**

**With respect to the availability of plantable seedlings, the Forestry Commission has been studying whether it should expand its own nurseries to increase seedling production or whether the private sector will produce sufficient seedlings to meet demand for seedlings from nonindustrial private forestland owners. (The Forestry Commission charges $31 per 1,000 pine seedlings and $185 per 1,000 hardwood seedlings.) A consultant hired by the Forestry Commission in 1990-91 concluded that there was no need to expand the state's nurseries because private industry could provide all of the seedlings needed by Mississippi landowners. However, the Forestry Commission disagrees with this conclusion, noting that the problem with relying on the private sector (i.e., the timber industry, specifically companies such as Georgia Pacific and Weyerhaeuser) to provide seedlings for nonindustrial private forestland owners is that industry takes care of its own reforestation needs first, and after doing so, there is no guarantee that there will be any seedling supply left for nonindustrial private forestland owners.**

**The availability of vendors to plant seedlings is critical to the success of the Forest Resource Development Program because seedlings must be properly planted in order to thrive. Planting according to Mississippi Forestry Commission specifications is a prerequisite to receiving cost reimbursement under the program. According to Mississippi Forestry Commission staff, 99% of the seedlings planted in Mississippi must be planted by hand. This is very hard, labor intensive work which is usually performed by migrant workers. The labor supply cannot immediately respond to a large increase in demand.**

### *Without Establishment of Program Need, It Is Not Possible to Articulate Clearly the Goals and Objectives of any New Reforestation Incentive Program*

**Prior to implementing any new reforestation incentive program, policymakers should determine what goals and clear, measurable objectives they hope to accomplish. It is not possible to do this without first clearly defining program need.**

## Limitations to the Timber Severance Tax as Mississippi's Reforestation Incentive Program Funding Source

**There is a wide range of possible funding sources for reforestation incentive programs. These possible sources include, but are not limited to:**

- **voluntary contributions from the private sector;**
- **taxes imposed on the primary beneficiaries of incentive programs (e.g., Mississippi's timber severance tax which funds the state's cost-share program);**
- **state general funds.**

**Many states use a combination of sources to fund their reforestation incentive programs--e.g., severance tax collections matched with state general funds.**

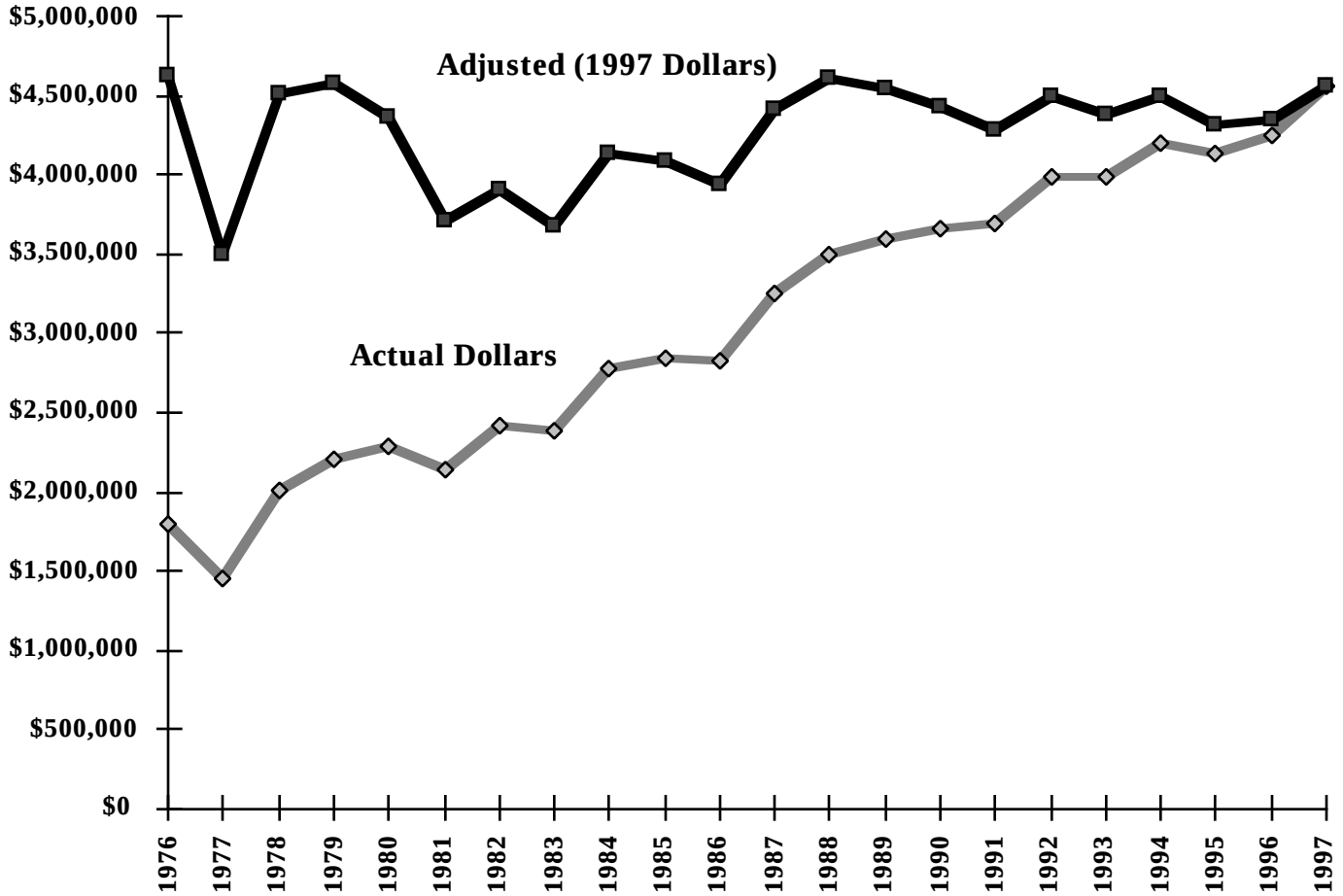
**The legal authority for Mississippi's timber severance tax is contained in MISS. CODE ANN. Section 27-25-1 (1972), which levies a privilege tax on timber producers. The tax is primarily assessed against the grower of timber products or the owner of the land from which the products were severed. The tax rate varies by type of wood (pine and other soft woods versus hardwoods) and use of the timber (e.g., lumber, veneer, chips). For example, the tax rate for pine timber is $1.00 per thousand board feet or 12 cents per ton. The measure of the tax is the quantity of timber or timber products at the date of severance or production. In the case of persistent or willful failure to pay the timber severance taxes due, MISS. CODE ANN. Section 27-25-23 (1972) directs the State Tax Commission to assess and collect damages of not less than 10% nor more than 25%.**

**MISS. CODE ANN. Section 27-25-11 (1972) provides that "[f]or the 1984 fiscal year and each fiscal year thereafter, eighty percent (80%) of such [timber severance tax] collections shall be credited to the forest resources development fund [state reforestation cost-share program] and twenty percent (20%) of such collections shall be returned to the counties from which the timber or its products was severed." MISS. CODE ANN. Section 27-25-11 (1972) and MISS. CODE ANN. Section 49-19-13 (1972) authorize county boards of supervisors to pay, in their discretion, to the Mississippi Forestry Commission not more than 25% of the forest severance tax received by the county in the preceding year, to be used for forestry work and protection in the county. Exhibit 1 on page 24 shows annual timber severance tax collections for fiscal years 1976 through 1997.**

**Some Mississippi Forestry Commission staff believe that the severance tax on the harvesting of timber is not being fully collected. Types of sales which Forestry Commission staff believe have a high potential for non-compliance include sales of Mississippi timber to out-of-state companies and to small in-state companies with frequent changes in**

**Exhibit 1**

**Annual Timber Severance Tax Collections**
**FY 76- FY 97**




**SOURCE: Mississippi State Tax Commission (severance tax collection data); FY 1999 OMB Federal Budget (National GNP Deflator Index)**

**ownership. Tax Commission staff concur that enforcement of this tax is a problem because it would not be cost-effective to monitor every timber sale.**

## Options That Hold Promise for Meeting Reforestation Needs

**Although current information available to PEER does not provide strong support for the existence of a broad public need for immediate action to increase current reforestation rates significantly, some forestry stakeholders perceive an economic development opportunity associated with significantly increasing the supply of timber available for commercial use. Although they have not provided evidence that the general public currently is at risk as a result of any decline in forested acreage, these stakeholders assert that the state will forego a valuable economic development opportunity if one or more new programs are not established to increase reforestation rates. Meeting this perceived need to increase the supply of commercial timber would primarily benefit nonindustrial private forest landowners and the timber industry in general. However, some public benefit might be realized to the extent that enhancing the well-being of the timber industry impacts the state's overall standard of living.**

**The section which follows presents six options for encouraging nonindustrial private owners of forestland in Mississippi to reforest. These are the options that PEER considers to have potential for increasing reforestation rates. With the exception of the first option, order of presentation is not significant.**

**The options presented below are not mutually exclusive and, for purposes of targeting different sub-categories of nonindustrial private forestland owners, it could be desirable to adopt more than one of the incentive options. It is important to note that the state already has a law mandating reforestation following a commercial timber harvest, although forestry professionals assert that this law, which was passed in 1944, does not reflect current knowledge of best practices for promoting natural reforestation. If an amended version of this law were properly enforced, there would be a reduced need to establish new incentives for encouraging reforestation because all existing forest land would be replanted or naturally reseeded after a cut. Incentives then could be focused on expanding the state's timber production capacity. Enforcement of an amended Timber Harvesting Law is therefore presented below as Option 1.**

***Option 1: Enforce provisions of the state's Forest Harvesting Law requiring reforesting following harvesting, but amend the law to ensure effective reforestation after pine, hardwood, and mixed timber harvests.***

**The Legislature passed the Forest Harvesting Law (MISS. CODE ANN. Section 49-19-51 et seq. [1972]) in 1944 to regulate forest harvesting on privately owned forestland in response to concern over the "waste,**

**inefficiency and wanton destruction of the forest lands in the harvesting of forest products" and resulting "serious economic and social loss." The Law mandates reforestation of privately owned land by requiring the leaving of seed trees on each acre of forest land commercially harvested or in lieu thereof for pine stands only, an acceptable plan of management which will "assure continued productivity of the area to be harvested." With respect to the leaving of seed trees, the law contains requirements as to the number and diameter of such trees which must be left following harvest of each of the following type of forest stands: pine (MISS. CODE ANN. Section 49-19-57 (1972), hardwood (MISS. CODE ANN. Section 49-19-59 (1972), and mixed (MISS. CODE ANN. Section 49-19-61 (1972). MISS. CODE ANN. Section 49-19-63 (1972) specifies the quality and distribution of said seed trees (e.g., well formed crowns, uninjured, well distributed over the acreage).**

**The Forest Harvesting Law requires the State Forestry Commission to publicize (MISS. CODE ANN. Section 49-19-65 (1972)) and enforce (through inspection, investigation, and if necessary, litigation) (MISS. CODE ANN. Section 49-19-71 (1972)) the reforestation requirements contained therein. The penalty for failure to comply with the law is $25 to $50 for each separate offense (an offense being the harvesting of a unit of 40 acres or fraction thereof on which 10% or more of the area harvested is in violation of the CODE sections governing reforestation).**

**When interviewed concerning enforcement of the state's Forest Harvesting Law, staff of the Mississippi Forestry Commission said they do not actively enforce the law because it is based on an outdated method of regenerating forestland. According to the staff, they only enforce the law in response to specific complaints, which are infrequently lodged by landowners in cases where the timber rights to the property were sold separately from the land.**

**A Mississippi Cooperative Extension Service researcher told PEER staff that the current law on pine tree reseeding is workable but not as effective as it could be; enforcement of the hardwood provision of the law is unlikely to result in regeneration of a full stand of hardwood trees; and, if landowners choose to comply only with the letter of the mixed harvest provision and not with its intent, enforcement of that provision is likely to result in a stand from which valued species such as oak are completely absent. The Cooperative Extension Service researcher said the law could be amended to require reforestation according to best current practices following timber harvest.**

***Option 2: Expand the state's cost-share program by increasing program funding.***

**This option is to expand the state's primary existing reforestation incentive program, the Forest Resource Development Program, by increasing funding to the program (an explanation of limitations to current funding, through the timber severance tax, is found on page 23). Appendix A on page 35 contains a detailed program description. Briefly, the program**

**provides cost-share payments covering 50% or 75% (depending on the practice) of the total cost of implementing one or more forestry practices, not to exceed a maximum annual limit of $5,000. PEER proposes that funding to the program could be increased through:**

- **voluntary contributions; and/or,**

- **increases in timber severance tax collections, through increased enforcement of the tax and/or a change in the basis of collection of the tax from timber volume to timber value.**

**Using voluntary contributions from the private sector to support reforestation cost-share programs is a practice found in other states. Texas lumber, plywood, and paper companies implemented such a program out of concern that a diminishing timber base could cripple the state's timber industry. The resulting Texas Reforestation Foundation cost-share program is supported entirely by voluntary contributions from forest industries, landowners, and supporters, with no funding support from government. The Texas Reforestation Foundation's cost-share program is intended to supplement state funded reforestation programs, not to supplant them. The Georgia Power Company provides cost-share funding for tree planting on eligible private open lands in Georgia. In return for receiving cost-share assistance, program participants must convey to the power company carbon storage rights from the trees planted using the assistance.**

**In addition to soliciting voluntary contributions, funds supporting Mississippi's Forest Resource Development Program could possibly be increased by increasing enforcement of timber severance tax collections and could definitely be increased by changing the basis of the tax collection from volume of timber harvested to value.**

**<u>Effectiveness Issues Related to Expansion of the State's Cost-Share Program.</u>**

**From 1976, the first year of implementation of the state's Forest Resource Development Program, through the close of Fiscal Year 1997, the program provided $49.6 million in reimbursements to nonindustrial private owners of forestland in Mississippi for expenses incurred relative to reforestation of 884,441 acres of forestland. Research indicates that at least to some extent, Mississippi's reforestation cost-share program appears to have been effective in encouraging nonindustrial private landowners in Mississippi to reforest who would not have otherwise done so. (See discussion on pages 17 and 18 regarding the McDill research, which conclusion is drawn from the fact that two Southern states without a state-supported cost-share program, Louisiana and Texas, are showing a decline in their timber inventories, while Mississippi's timber inventory is predicted to increase slightly, which increase Dr. McDill attributes, in part, to the state's cost-share program.)**

**In addition to encouraging reforestation, another positive aspect of the program is that it promotes good forest stewardship through its requirement that participants follow professionally developed forest prescriptions prior to receiving cost-share funds.**

**However, one major factor negatively impacting the potential effectiveness of a cost-share program expansion is the fact that in the short run, according to Mississippi Forestry Commission staff, there aren't enough program ancillary resources (i.e., trained professional staff to assist with development of the required forest management prescription, seedlings, and vendors to plant the seedlings) available to justify funding the program at 100% of demand. See page 21 for a more in-depth discussion of the lack of sufficient resources to support expansion of the Forest Resource Development Program or the establishment of any other incentive program requiring these ancillary resources.**

**Efficiency Issues Related to Expansion of the State's Cost-share Program**

**Efficiency problems with the state's current cost-share program would only be exacerbated through program expansion. These problems include the following:**

- **administration of the program involves relatively high overhead costs (e.g., costs of processing the applications, overseeing the reforestation efforts)**
- **Forest Resource Development Program cost-share funds are available to all counties, whether there is a need for greater reforestation in the county or not; and**
- **some of the individuals who participate in the Forest Resource Development Program would have reforested without the program (i.e., in some cases, the public cost was unnecessary; public capital was substituted for private capital).**

***Option 3: Establish a targeted state income tax credit program.***

**Appendix E on page 58 contains a discussion of the proposed Reforestation Tax Credit bill, as drafted for consideration by the Legislature during its 1998 Regular Session. This appendix also contains PEER's analysis of the proposal, a copy of the bill and a fiscal impact estimate prepared by the Mississippi Forestry Association and the Cooperative Extension Service. In an attempt to address some of the disadvantages to the current proposal (which are noted in Appendix E) PEER offers the following modifications.**

**From an effectiveness standpoint, the federal income tax credit program as a means of encouraging reforestation is characterized by**

**extremely low levels of participation (according to Sampson and DeCoster, 5% or less of nonindustrial private forestland owners are aware of tax incentive policies). The state tax incentive program before the Legislature, because of its significantly higher benefits (50% of costs under the proposed state program versus a maximum of 10% under the federal program), would probably be utilized significantly more than the federal tax credit.**

**To ensure effective forest management, the tax incentive option should include a requirement that participants adhere to a forest management prescription, as is now required by Mississippi's Forest Resource Development Program (i.e., the cost-share program).**

**From an efficiency standpoint, in order to minimize the likelihood of substituting public capital for private capital (i.e., of subsidizing the cost of reforestation for landowners who would reforest without public financial assistance), PEER recommends that the tax credit be graduated according to the income level of the nonindustrial private forestland owner. An example of how this would work follows:**

| Mississippi Adjusted Gross Income | Amount of tax credit (as % of reforestation expenses) |
|---|---|
| less than $25,000 | 50% |
| $25,000-$39,999 | 40% |
| $40,000-$54,999 | 30% |
| $55,000-$69,999 | 25% |
| $70,000-$84,999 | 20% |
| $85,000-$100,000 | 15% |
| over $100,000 | 10% |

**PEER also recommends that the amount of the tax credit be limited to $5,000 per year per landowner, which is the limit of the state's cost-share program.**

**In order to provide some control over the amount of public funds committed to the tax credit program, one alternative would be to close the state's cost-share program, only offer the reforestation tax credit program, and fund the reforestation tax credit program by channeling timber severance tax collections into the general fund. (This proposal would also alleviate the possible problem of landowners shifting from the state's cost-share program to the proposed state tax credit; see discussion beginning on page 60). The argument for using severance tax collections is that the timber industry benefits most directly when more trees are planted. In order to obtain sufficient revenues from this funding source, timber severance tax rates could be increased by changing the basis of the tax from timber volume to timber value. Severance tax collections could be compared annually to claimed tax credits to ensure that collections were sufficient to cover costs of the incentive; and if not, be adjusted accordingly.**

***Option 4: Attach pre-conditions to eligibility for reduced assessed land values on forestland property.***

**This option is an attempt to make an existing incentive more effective in promoting sound reforestation practices. Specifically, the Legislature could consider requiring nonindustrial private forestland owners in Mississippi to follow sound forest management practices, which would include reforestation following harvesting, as a condition for being eligible for the lower land use value of forestland property for purposes of taxation (i.e., otherwise, the property would be assessed at market value). That is, the ad valorem tax break for which all forestland owners currently are eligible would not be available to owners who do not replant within a specified period or who do not adhere to the reforestation provisions of MISS. CODE ANN. Section 49-19-53 et seq. (1972). The tax break also would not be available to owners who violate forest management guidelines that would be published by the Forestry Commission.**

**One way of ensuring landowner compliance with the practices prescribed would be to require county foresters to monitor adherence. Preferential assessment would continue as long as the landowner continued to meet eligibility requirements.**

**Any additional monies collected as a result of implementation of the preferential assessment program could be channeled into the State Forestry Commission to cover the costs associated with additional oversight by county foresters, and/or into the state's cost-share program. For example, the amount of any taxes collected on forestland over the amount which would be due if assessed at the land use value (i.e., at the preferential rate) could be set aside for such uses. Also, penalties in the form of roll-back taxes (i.e., the difference between the amount of taxes paid under the preferential assessment and what would have been paid in real estate taxes had the land not been assessed under the act) and interest on the roll-back taxes for landowners who later convert their land to a use not covered by the act, could be channeled to the Commission.**

**Property tax relief incentive programs similar to the one proposed for Mississippi are currently operating in several states, including North Carolina, Pennsylvania, and Indiana. Pennsylvania's program requires program participants to stock qualifying forestland with trees capable of producing 25 cubic feet per acre of annual growth. Indiana has a program which offers landowners an assessed property tax rate of $1 per acre as long as the owner keeps their forest qualified. State foresters inspect the property every five years for compliance with an approved forest stewardship plan.**

***Option 5: Establish a low-interest revolving loan fund.***

**As an alternative to other forms of financial incentives, the Legislature could establish a low-interest revolving loan fund using timber severance tax collections to provide financing for pre-approved reforestation**

**projects on nonindustrial privately owned forestland. The forestland owner could pay back the loan using proceeds from the first timber harvest. (The first thinning is usually made when the stand is approximately ten years old.) States with similar programs place a lien on proceeds of future timber harvests as a condition of receiving loan funds.**

***Option 6: Examine the feasibility of greater reliance on volunteers to staff educational programs.***

**Many states are increasingly relying on volunteers to bridge the gap between educational program supply and demand. The primary function of the state forestry agency, in these instances, is to train the volunteers. For example, established in 1982, Oregon's Master Woodland Manager Program, which was developed by Oregon State University, "recruits and trains experienced woodland owners to serve as volunteers in forest education outreach programs based on neighbor-to-neighbor contacts and influences." The landowners receive 85 hours of forestry training in return for 85 hours of volunteer service promoting forestry among other nonindustrial private landowners. The Master Woodland Managers develop forest management plans as part of their training, and many of the participants subsequently used the plan to manage their own property. Programs based on this model are currently operating in at least fourteen states.**

## *Recommendations*

1. **Before any potentially costly options for encouraging nonindustrial private forestland owners to reforest are adopted, the Forestry Commission should provide the Legislature with adequate documentation of the objectives of and need for any new public program the Commission proposes or supports. With respect to reforestation policy, documentation of need should be based on accurate forest-related data, such as number of acres of forestland harvested.**

2. **Prior to approving any new public program, the Legislature should require the Forestry Commission to determine relevant characteristics of nonindustrial private forestland owners, including a determination of which owners choose not to reforest and why, as well as which owners choose to reforest and why. Using this information to design a targeted program will maximize the program's efficiency and effectiveness.**

3. **The Forestry Commission should analyze the cost-effectiveness of any option prior to requesting legislative approval. For purposes of accountability, program information provided to the Legislature should include:**

   - **a clear, measurable, statement of the specific objectives which the option is intended to address; this enables policymakers to measure whether the incentive is effective. For example, the broad objective of increasing the number of harvestable trees in the state for purposes of economic development could be refined to increasing the state's x type of timber inventory by x% by x target date;**

   - **suggestions for the periodic monitoring of the incentive in terms of its efficiency and effectiveness in accomplishing stated objective(s); and,**

   - **particularly with respect to any of the incentive options which require the commitment of state funds, a proposed prerequisite that program participants provide evidence of adherence to principles of sound forest stewardship in the use of these public funds, preferably through the professional development and implementation of a forest management plan, as attested to by professional foresters.**

4. **The Legislature should consider amending the state's Forest Harvesting Law to reflect current knowledge of best practices for promoting natural reforestation. The amendment also should provide landowners the alternative of using artificial means of reforestation after harvesting timber of all types by including this alternative in the**

**provisions that require reforesting after hardwood and mixed timber harvests.**

5. **The Mississippi Forestry Commission should actively enforce the state's Forest Harvesting Law.**

6. **The Legislature should adjust the penalty provision of the Forest Harvesting Law contained in MISS. CODE ANN. Section 49-19-75 (1972) for inflation from its 1944 range of $25.00 - $50.00 to $225.00 - $450.00.**

7. **The Forestry Commission should consider the viability of options used by other states to enhance cooperation among individuals and entities involved in forestry issues. Following are examples of such programs:**

   - ***Cross Boundary Management Organizations*. Pennsylvania State University has proposed creation of cross boundary management organizations, which are groups of adjoining landowners who voluntarily form an association committed to sustainable forest management. Under the proposal, the group serves as a forum for "landowner interaction, information sharing, joint contract negotiations, visits from experts, and conflict resolution."**

   - ***Treasure Forest Program*. State and federal efforts at promoting reforestation can be mutually enhanced by creating a close relationship between state forestry employees, employees of the extension service, and USDA Forest Service employees. Alabama, through its Treasure Forest Program, co-locates county foresters with USDA Service Centers, which provides greater federal support of state programs and better program access to nonindustrial private forestland owner clients.**

   - ***Regional Forestry Coalitions*. The Lake States and several Northeastern States have formed regional coalitions to address forestry needs.**

   - ***Forest Improvement Districts*. In 1984, the Michigan Legislature established the Western Upper Peninsula Forest Improvement District. The District is managed by a Board of Directors, elected by the landowner members, which Board oversees District activities and hires staff. The main functions of the District staff are to provide the following services relative to member land: forest management (including property inventory and development of a forest management plan), forest products marketing (including timber harvest preparation and sale administration), and development of industrial sites which utilize the forest products. Other services which the district provides to members include: wildlife management planning, provision of information about land improvement programs, property taxes, income taxes, and consultation relative to forestry-related questions. An independent consultant's evaluation of the District reported that it had achieved significant gains in promoting forestry.**

- ***Nonindustrial Private Forest Landowners Councils.*** **Texas nonindustrial private forestland owners have formed the Texas Forest Landowners Council, which is "an association of private non-industrial landowners interested in managing their forests for wood products, as well as wildlife and environmental reasons. The Council's goals are to share information, provide training, and to improve the image of forest ownership."**

- ***Reforestation Board.*** **Virginia has a statutorily created Reforestation Board appointed by the Governor and comprised of: three representatives of the pine pulpwood industry, three representatives of the pine lumber industry, one owner of a sawmill annually producing not more than five million board feet, and three small forest landowners. The State Forester serves as a non-voting member of the board. The Board's primary responsibility is to formulate recommendations to the State Forester concerning regulations and other matters such as reforestation practices.**

# *Appendix A*

## *Current Policy and Programs Directed at Encouraging Nonindustrial Private Forestland Owners in Mississippi to Reforest*

**Because of the economic and societal value of forestland, public and private programs have long been directed at encouraging non-industrial private forestland owners to practice good forest stewardship, which includes the reforestation of forestland following timber harvesting. Historically, public programs were developed to encourage reforestation because the rapid growth of the timber industry threatened to destroy the resource which fueled it. According to an article by Bill Hubbard on sustainable forestry in the September/October 1997 issue of *Forest Landowner*, public programs to encourage reforestation were developed in a period when the nation's forestland resource was being threatened by the "cut out and get out" philosophy of the late 1800s and early 1900s. According to Hubbard, without the assistance of public sector forestry and agricultural professionals through public programs designed to encourage forest regeneration and after forestation of abandoned or marginal crop and pasture land, "much of our nonindustrial private forestlands would be in poor condition today."**

**The purpose of this appendix is to briefly describe programs and activities currently in place for encouraging Mississippi nonindustrial private owners of forestland to reforest. These methods for encouraging nonindustrial private owners of forestland to reforest are categorized by major type (i.e., general education, technical assistance, and financial) and primary source of the program or activity (i.e., federal government, state government, or private sector). As with most attempts at categorization, some overlap exists between categories. For example, state and federal reforestation cost-share programs currently available to Mississippi nonindustrial private owners of forestland are conditioned upon the nonindustrial private owners of forestland receiving and following technical assistance from a professional forester. In addition to overlap of types of programs and activities, significant overlap exists with respect to program delivery. All federal programs are delivered in partnership with state foresters. For example, while the federal government funds federal reforestation cost-share programs, all technical assistance related thereto is provided at the state level by either Mississippi Forestry Commission foresters or private forestry consultants.**

### Educational Programs

#### *Federal*

**The primary provider of federally funded education programs for nonindustrial private owners of forestland is the Mississippi Cooperative**

**Extension Service. The Renewable Resources Extension Act (RREA) and Smith-Lever funding made federal money available for this purpose.**

**Short Courses on Topics Relevant to Nonindustrial Private Owners of Forestland**

**Mississippi's Cooperative Extension Service provides short courses to nonindustrial private forestland owners on relevant topics such as forest management.**

**Landowner Stewardship Training Schools**

**According to Sampson and DeCoster, the Cooperative Extension Service's landowner stewardship training schools "involve landowners in an intensive week-long workshop that trains them to develop and manage their own forest plans with an array of semi-professional skills."**

**On-site Educational Seminars**

**Mississippi's Cooperative Extension Service's extension agents conduct "field days," which are discussion groups held on a nonindustrial private forestland owner's property to discuss topics of common interest to local owners.**

**Project Learning Tree**

**Project Learning Tree is a national program which focuses on educating non-forestry professionals (primarily teachers) to understand the value of forest resources. The Mississippi Forestry Commission actively promotes this project in Mississippi's schools.**

***State***

**Clearinghouse for Distribution of Forestry Literature**

**The Mississippi Forestry Commission serves as a clearinghouse for the distribution of forestry literature to all Mississippi residents, including nonindustrial private owners of forestland, upon request. This literature explains the benefits of tree planting and good forest stewardship.**

**Discussion of Forestry Related Issues at Monthly Chapter Meetings of the Forestry Association**

**Staff of the Mississippi Forestry Commission actively participate in monthly chapter meetings of the Mississippi Forestry Association, where forestry-related issues are discussed.**

***Private Sector***

**County Forestry Associations**

**Local affiliates of the Mississippi Forestry Association are organized in fifty-six Mississippi counties. The approximately 5,600 members statewide include landowners, business people, forestry consultants, and forest industry representatives.**

**Each county association plans meetings, industry tours, field days, and other events suited to the needs of the local members. Special opportunities for involvement in forestry-related activities also occur from time to time, such as regional legislative expos, political forums, teacher training, career days, and educational seminars.**

**Nonindustrial Private Forestland Owner's Educational Packet Distributed by the Sustainable Forestry Initiative**

**The Board of Directors of the American Forests and Paper Association (comprised of the Chief Executive Officers of all major U. S. forest industries) developed the Sustainable Forestry Initiative for the purpose of setting standards to ensure a well-managed, sustainable forest resource. Recognizing the importance of nonindustrial private forestland owners in achieving this goal, the Board of Directors broadened its initiative to include the education of nonindustrial owners of private forestland. Specifically, the Sustainable Forestry Initiative has developed an educational packet for distribution to nonindustrial private forestland owners by procurement foresters at the time of timber harvest, which includes information on reforestation, good conservation practices, and the economic benefits of good forest stewardship. The Sustainable Forestry Initiative also actively supports logger training programs designed to improve timber harvesting practices on forestland owned by nonindustrial private owners.**

**Provision of Technical Expertise Needed for Reforestation through a Turn-Key Program**

**According to Mississippi Forestry Commission staff, several forestry consulting firms provide turn-key type reforestation services to nonindustrial private owners of forestland in Mississippi. Basically, turn-key programs help landowners to establish tree plantations by providing all**

**of the seeding, tree planting, mowing, herbicide application, and maintenance called for by a forest management plan. Typically, the landowner signs a multiyear contract with the service provider to provide said services on x acres for a flat predetermined rate.**

**Forest Stewardship Certification Program**

**Another way that the private sector has begun to influence forest practices is through a certification program which recognizes those landowners employing sound forest management practices and which will bring public pressure on landowners to employ such practices by certifying products made using timber products from certified landowners. The Forest Stewardship Council is actively engaged in such an effort and in 1996 began accrediting bodies authorized to certify landowners who employ "sustainable" forest management programs.**

## Technical Assistance Programs

### *Federal*

**Forest Stewardship Program**

**The 1990 Farm Bill established the Forest Stewardship Program. It is a technical assistance program, the purpose of which is to promote the enhancement and management of all of the natural resources of nonindustrial private forestland through the development of site-specific Forest Stewardship Plans. The program is available to nonindustrial private forestland owners with ten or more contiguous acres (up to 1,000 acres) of forestland.**

**At the state level, the Mississippi Forestry Commission administers the Forest Stewardship Program. Under a 50/50 federal/state match, the Mississippi Forestry Commission receives approximately $400,000 per year in federal funds, which are primarily used for program promotion and workshops. The Forestry Commission (generally through county foresters) is the first point of contact for participation by Mississippi nonindustrial private forestland owners in the federal Forest Stewardship Program. The vast majority of Forest Stewardship Plans in Mississippi are developed by private consultants (including foresters and biologists). The only time that Mississippi Forestry Commission foresters would develop such a plan for a nonindustrial private forestland owner is if specifically requested to do so by the landowner or for a very small nonindustrial private forestland acreage, which acreage would not justify the cost of a private consultant. Regardless of who develops the plan, the Forestry Commission is responsible for its final approval.**

**The Forest Stewardship Program focuses on enhancing productivity of nonindustrial private forestlands while also achieving non-timber objectives, such as: enhancing wildlife habitat, developing and improving**

**natural beauty, increasing economic and environmental values, providing effective erosion control, maintaining a high level of water quality, enhancing outdoor recreational opportunities, developing well-managed forests, and enjoyment of natural beauty. Program participants select their primary objective(s) and work with a natural resource specialist to develop a Forest Stewardship Plan. The landowner can become a certified Forest Steward if he or she agrees to follow the plan. As of December 1997, there were 758 certified Forest Stewards in Mississippi owning 173,828 acres under Forest Stewardship Plans. As an incentive to encourage program participation, only individuals who have developed a Forest Stewardship Plan through the Forest Stewardship Program are eligible to obtain cost-share assistance available through the federal Stewardship Incentive Program (see separate program discussion on page 42).**

**One of the primary disadvantages of the Forest Stewardship Program is that with the recent drastic cuts to federal cost-share programs, the nonindustrial private owners of forestland may not have the financial resources to carry out the activities called for under the Forest Stewardship Plan.**

**Natural Resource Conservation Service Conservation Planning Assistance**

**According to Sampson and DeCoster, the Natural Resource Conservation Service provides an ecosystem-based planning approach to landowners that covers all their land and resource opportunities, including opportunities for forest development.**

**One potential disadvantage of this program is its breadth. By including all land and resource opportunities of all types of landowners, there is no guarantee that any of the available program resources will be used to encourage the reforestation of forestland. In fact, Sampson and DeCoster observe that the priorities of the Natural Resource Conservation Service may lead their staff to primarily focus their efforts on farm-related landowners (versus forestland owners).**

### *State*

**Primarily through its county foresters, the Mississippi Forestry Commission provides general one-on-one technical assistance (from forest management planning to implementation) to nonindustrial private forestland owners on an as-needed basis. While, as previously mentioned, private consultants develop the vast majority of nonindustrial private forestland owners' forest management plans (e.g., Forest Stewardship Plans), Forestry Commission staff develop the prescriptions for specific plan objectives. These prescriptions generally have a one- to two-year time frame.**

**As noted by Forestry Commission staff, when technical assistance is a pre-condition to funding, as is the case with all current cost-share programs (refer to discussion on pages 40 through 47), the Mississippi Forestry Commission has the additional task of ensuring that the nonindustrial private owners of forestland have properly adhered to all technical recommendations (i.e., monitoring for technical compliance).**

### *Private Sector Programs*

**The forest products industry created the Tree Farm Program in 1941 to offer free technical assistance in developing a forest management plan to any landowner who agrees to sign up and follow the plan. According to Sampson and DeCoster, industry and public foresters donate time to perform the necessary field inspections and prepare plans. Participants post signs that their property is a "Certified Tree Farm," and an annual contest is held to select and publicize the "Tree Farmer of the Year."**

## Financial Incentive Programs

### *Federal*

**Cost-Share Programs**

**Federal cost-share programs have been available to nonindustrial private owners of forestland for over sixty years. According to Sampson and DeCoster, "provision of direct financial assistance to landowners has been an important part of USDA's program mix since the 1930s." The oldest USDA cost-share program, the Agricultural Conservation Program was established in 1936. The Agricultural Conservation Program provided cost-sharing for tree planting, timber stand improvement, and wildlife habitat improvements. As will be discussed in the sections which follow, several additional federal cost-share programs were subsequently established for more specific forestry-related objectives, such as protection of wetlands. Cost-share rates under these federal cost-share programs have remained at approximately 50%.**

**In 1996, the Agricultural Conservation Program merged with other federal cost-share programs into the Environmental Quality Incentive Program administered by the Natural Resource Conservation Service (formerly the Soil Conservation Service). The primary federal cost-share programs currently in operation are the:**

- **Federal Incentive Program (FIP);**
- **Stewardship Incentive Program (SIP);**
- **Environmental Quality Incentive Program (EQIP);**
- **Wildlife Habitat Incentive Program (WHIP);**

- **Wetland Reforestation Program (WRP);**
- **Small Watershed Program; and,**
- **Conservation Reserve Program (CRP).**

**Even though all of these programs have tree planting components, the only one with a specific timber production objective is the Federal Incentive Program, a federal cost-share program (see page 41).**

**It is important to note that funding of federal cost-share programs has declined dramatically since the downsizing of federal government began seriously in 1993. As noted by Sampson and DeCoster, "The sharp reduction in federal funding support for FIP [Federal Incentive Program], SIP [Stewardship Incentive Program] and ACP [Agricultural Conservation Program] (now part of EQIP [Environmental Quality Incentive Program]) since 1995, done at a time when federal public lands and trade policies have shifted timber harvesting pressure to private lands, is both contradictory and, in the longer term, destructive." Mississippi Forestry Commission staff also note that during the same period, the priority of federal cost-share programs shifted away from timber production, making fewer cost-share dollars available for planting trees. Forestry Commission staff also noted that the fragmentation of federal cost-share programs in recent years, in order to meet more specific program objectives (e.g., wildlife habitat improvement), has resulted in confusion to nonindustrial private forestland owner applicants. According to Forestry Commission staff, as a result of the cost-share program fragmentation at the federal level, it is increasingly difficult to inform nonindustrial private forestland owners as to what cost-share programs are available, and when, where, and how to apply to participate in the programs. Further complicating matters, some of the cost-share programs have specific sign-up dates, rather than an open-ended application process, which makes the logistics of the application process more difficult for the nonindustrial private forestland owner.**

## Federal Incentive Program

**Congress authorized the Federal Incentive Program, which is run by the Farm Services Agency (formerly the Agricultural Stabilization and Conservation Service, or ASCS), in 1973 under Public Law 95.313. The purpose of the program is to help meet the anticipated excess demand for saw timber, plywood logs and quality hardwood logs, by encouraging private landowners to grow the trees needed by sharing the cost of tree planting and timber stand improvement with private landowners. According to the United States Forest Service program brochure, smaller, private owners control the majority of forest lands in the U. S., but they do not have the resources to make long-term investments in tree planting. To participate in the Federal Incentive Program, landowners cannot own more than 1,000 acres (with some exceptions) or less than ten acres of**

**eligible forest land. The federal share of costs ranges up to 65%, with a maximum annual cost share payment of $10,000. The Federal Incentive Program is available in counties designated on the basis of a Forest Service survey of total eligible private timber acreage and acreage potentially suitable for production of timber products. According to Sampson and DeCoster, as of 1992, 92 percent of the acres planted to forest under the Federal Incentive Program were still in forest.**

**According to Mississippi Forestry Commission staff, funding for the Federal Incentive Program has declined significantly over the past decade due to the decreased emphasis on timber production as a federal cost-share program objective.**

## Stewardship Incentive Program

**Authorized by Congress in 1990 through passage of the Farm Bill (Public Law Chapter 101), the Stewardship Incentive Program provides cost-share assistance to help nonindustrial private owners of forestland establish the management practices described in their Forest Stewardship Plan (see discussion of Forest Stewardship Program on page 38). Through the expanded objectives of the Forest Stewardship Program (i.e., to develop and enhance the diversity of forestland benefits) Stewardship Incentive Program, in effect, expands the number of practices cost-shared on private lands with multiple use objectives over and above the limited Federal Incentive Program cost-shared practices.**

**The Stewardship Incentive Program's cost share assistance (up to 65% of actual costs with a maximum grant of $10,000 per year) is offered to nonindustrial private owners of forestland who own from 20 to 1,000 acres of qualifying land and who are participating in the Forest Stewardship Program. Stewardship Incentive Program participants agree to maintain cost-share assisted practices for a minimum of ten years, and agree to complete the work contained in the forest stewardship plan within a specified period (usually one year). Practices are cost-shared under the Stewardship Incentive Program at a flat rate for each practice. The specific reforestation practices for which funding assistance can be obtained through the Stewardship Incentive Program are: tree planting, direct seeding, site prep (both artificial and natural regeneration-refer to Appendix F on page 71 for an explanation of these), and mixed stand regeneration.**

**Although the Stewardship Incentive Program is federally funded, states provide the staffing resources through county foresters to help administer the program (e.g., to process cost assistance applications), assist with Forest Stewardship Plan development, and to ensure compliance with practices recommended in the plan (i.e., to provide quality control) as a pre-condition to funding.**

**Environmental Quality Incentive Program**

**The Environmental Quality Incentive Program is run by the Natural Resource Conservation Service. The program provides technical assistance, cost-share payments, incentive payments, and education to producers who enter into five- to ten-year contracts based on conservation plans.**

**Wildlife Habitat Incentive Program**

**The Wildlife Habitat Incentive Program is also run by the Natural Resource Conservation Service. This program was established by Congress to provide cost-share payments for projects that benefit wildlife species and habitats that have declined due to agricultural practices. Currently, the proposed rule allows for contracts of five to ten years with a special provision for one-year contracts for pumping for waterbirds during drought conditions. Nationwide, $50 million have been allotted for the program. Allocations for FY 1998 were $24 million; Mississippi has received $1.3 million.**

**One of the objectives of Mississippi's program is to provide cost-share payments for the purpose of enhancing upland wildlife habitat, wetland wildlife habitat, threatened and endangered species habitat, aquatic habitats, and other types of wildlife habitat on eligible land.**

**Small Watershed Program**

**This program provides for cost-sharing through the Natural Resource Conservation Service for watershed treatment projects**

**Conservation Reserve Program**

**The Conservation Reserve Program is run by the Farm Service Agency. Created in 1985, the goal of the program was to reduce soil erosion losses by converting 40 to 45 million acres of highly erodable marginal crop land to grass or trees by 1990. By 1992, the program was credited with planting more than 2.5 million acres of trees, 90% of which were in the South. According to Mississippi Forestry Commission staff, 750,000 acres of trees were planted in Mississippi under the Conservation Reserve Program. Sampson and DeCoster attribute the heavy utilization of this program in the South to "a difference in the way the field agencies educated farm operators as to their tree planting opportunities." The Mississippi Forestry Commission also attributes the heavy participation of southern landowners in the Conservation Reserve Program to a recognition of the economic benefits of planting trees.**

**Forest Resource Development Program**

**Mississippi's cost-share program for promoting reforestation, the Forest Resource Development Program, was established in 1974 with passage of the Forest Resource Development Act (MISS. CODE ANN. Section 49-19-201et seq. [1972]). According to the Forest Resource Development Program brochure, the program:**

> ***. . .helps offset a landowner's expenses by sharing the cost of implementing specific forestry practices designed to produce timber and enhance wildlife development. . . .***

**Also, according to the brochure, the program has played:**

> ***. . .a significant role in providing landowners the financial support needed to turn idle and unproductive lands into well-stocked, responsibly managed forestland teeming with game and nongame species of wildlife.***

**In establishing the state's Forest Resource Development Program, the Legislature's stated purpose was to promote economic development as it relates to the state's timber industry. Specifically, MISS. CODE ANN. Section 49-19-203 (1972), which was passed in 1974 states:**

> ***The legislature of the State of Mississippi recognizes that the growing demands on forests and related land resources cannot be met by intensive management of public lands and industrial forests alone, and declares that the development of forest resources on poorly stocked, idle and poorly managed lands in Mississippi is needed to insure that Mississippi shall continue to develop its forest economy.***
>
> ***The legislature declares the development of forest resources on suitable lands to be a public policy of the State of Mississippi. The legislature is mindful, in stating this policy, that continuous timber growth of commercially valuable species for needed forest products is in the public interest, and that such growth can be attained, to a considerable degree, by making financial assistance available to private non-industrial landowners for developing forest resources on desirable and suitable sites.***

**This economic development focus is reiterated in the Forest Resource Development Program brochure, which describes the purpose of the program as providing "financial assistance to eligible landowners for establishing and improving a crop of trees."**

**Individuals wishing to participate in the Forest Resource Development Program apply at their local county forester office. The**

**landowner must have a professionally prepared forest management prescription for each area where Forest Resource Development Program funds will be applied, listing the forestry practices needed. Types of practices eligible for cost-share assistance include, but are not limited to: tree planting, site preparation, establishment of firebreaks, and prescribed burnings. Also, the program offers cost-share assistance for several different reforestation practices--e.g., natural regeneration, tree planting, and direct seeding. The county forester makes the final inspection on all work performed. The cost-share payment is made to the landowner after all recommended practices have been implemented according to specifications and the landowner has paid the costs.**

**Forest Resource Development Program cost-share payments cover 50% or 75% (depending on the practice) of the total cost of implementing one or more forestry practices, not to exceed a maximum limit set for each individual practice. Eligible landowners can receive up to $5,000 of Forest Resource Development Program assistance each year. In an effort to serve more applicants, the Mississippi Forestry Commission has reduced the amount of the maximum cost-share dollars provided to each program participant and the percentage of costs reimbursed. Program participants agree to protect the area receiving assistance from fire and grazing and to manage the area for a minimum of ten years.**

**Mississippi's Forest Resource Development Program is funded primarily through the state's Timber Severance Tax (MISS. CODE ANN. Section 27-25-3 et seq. [1972]) and occasionally supplemented with general fund appropriations. The Legislature made a $500,000 general fund appropriation to the Forest Resource Development Program in its first year of operation. The Legislature made a second general fund appropriation to the program for FY 1998, also in the amount of $500,000, to help meet a demand for program funds over available funding reserves. This action was precipitated by the Mississippi Forestry Commission's assessment of demand for Forest Resource Development Program cost-share funds (by asking county foresters how many Forest Resource Development Program applications were on their desk and how many of those they could serve), which showed that there was an estimated $5 1/2 million in unfunded applications.**

**Since FY 1976, approximately one million acres of Mississippi forestland have been improved using $49.6 million in cost-share funds ($1 million in state general fund appropriations and the remainder in severance tax funds). (Refer to Exhibit 2 on page 46.)**

**Like the federal cost-share programs, the Forest Resource Development Program requires technical assistance in the form of the professional development of a forest management plan and monitoring of proper implementation thereof as a pre-condition to the nonindustrial private owners of forestland receiving cost-share assistance. As previously discussed (see page 38), while private consultants or in limited instances, the Mississippi Forestry Commission staff, develop the plan, the Forestry Commission must approve the plan once developed and commission staff**

**Exhibit 2**

**Mississippi Forestry Commission**
**Forest Resource Development Program**
**State Totals, FY 1976 through FY 1997**

| FY | PLANTED | RELEASE | ACRES IMPROVED | COST-SHARE FUNDS EXPENDED |
|---|---|---|---|---|
| 76 | 10,237 | 2,574 | 12,811 | $ 669,485 |
| 77 | 17,267 | 7,581 | 24,848 | 1,000,796 |
| 78 | 19,635 | 7,707 | 27,342 | 860,137 |
| 79 | 20,314 | 7,239 | 27,553 | 1,171,861 |
| 80 | 21,518 | 2,849 | 24,367 | 1,270,523 |
| 81 | 14,931 | 2,941 | 17,872 | 908,733 |
| 82 | 26,309 | 7,161 | 33,470 | 1,690,268 |
| 83 | 29,930 | 5,267 | 35,197 | 1,473,292 |
| 84 | 30,254 | 3,932 | 34,186 | 1,185,152 |
| 85 | 51,783 | 2,493 | 54,276 | 2,420,957 |
| 86 | 57,199 | 4,311 | 61,510 | 2,693,435 |
| 87 | 39,209 | 5,554 | 44,763 | 2,117,638 |
| 88 | 48,333 | 4,840 | 53,173 | 2,580,485 |
| 89 | 46,524 | 4,202 | 50,726 | 3,555,939 |
| 90 | 32,117 | 4,967 | 37,084 | 3,070,699 |
| 91 | 57,492 | 5,498 | 62,990 | 3,268,913 |
| 92 | 56,131 | 5,083 | 61,214 | 3,257,687 |
| 93 | 59,312 | 8,712 | 68,024 | 2,925,961 |
| 94 | 69,697 | 15,243 | 84,940 | 3,688,879 |
| 95 | 56,938 | 19,576 | 76,514 | 3,336,576 |
| 96 | 55,773 | 21,189 | 76,962 | 3,183,015 |
| 97 | 63,538 | 22,630 | 86,168 | 3,257,966 |
| Total | 884,441 | 171,549 | 1,055,990 | 49,588,397 |

SOURCE: Mississippi Forestry Commission.

**monitor the work on the property of nonindustrial private owners of forestland for compliance with the plan.**

## *Tax Incentive Programs*

### Federal Reforestation Tax Credit and Seven-Year Amortization of Forest Management Expenses

**In 1980, two federal tax incentive programs were implemented to encourage tree planting: a ten percent reforestation tax credit and an eight-year amortization of 95% of reforestation expenses. These programs are not mutually exclusive and therefore may be used by a single landowner when planting trees. Both the reforestation tax credit (which is a dollar-for-dollar reduction in the amount of federal income taxes owed) and amortization apply to an annual maximum of $10,000 of capitalized reforestation expenses.**

**The amortization incentive program allows the nonindustrial private forestland owners to subtract reforestation expenses incurred in any one year from gross income from other sources over an eight-year period. As explained in the North Carolina Cooperative Extension Service's June 1994 issue of *Woodland Owner Notes*:**

> ***This provision is also limited to a maximum of $10,000 of qualifying reforestation expenses less one-half the amount of the tax credit claimed (the 10 percent investment tax credit). Thus, up to $9,500 ($10,000 minus one-half of the $1,000 tax credit) qualifies. In the first tax year, a taxpayer may deduct one-half of $9,500 divided by 7 = $679. For the next six years, $9,500 divided by 7 = $1,357 - may be deducted. In the eighth tax year, the remaining $679 is deducted. Amortization deductions are claimed as adjustments to income each year.***

**Federal law allows nonindustrial private forestland owners to use these federal tax incentives in conjunction with federal cost-share programs. The nonindustrial private forestland owners participating in both federal tax incentive and cost-share programs can choose whether to report federal cost-share income received as ordinary income. When cost-share payments are reported as ordinary income, the tax incentives apply to all reforestation expenses up to the $10,000 limit. When cost-share payments are excluded from ordinary income, the tax incentives apply only to the owner's share of the investment (i.e., of the reforestation expenses incurred). According to North Carolina's Cooperative Extension Service, most nonindustrial private forestland owners gain maximum tax advantage by including the cost-share payments received as ordinary income and applying the tax incentives to the remaining unreimbursed expenses that qualify for the investment credit and amortization deductions.**

### *State Programs*

**The Mississippi Forestry Commission attempts to encourage reforestation by producing and selling to nonindustrial forestland owners high-quality seedlings genetically engineered to grow well in Mississippi's climate, resist disease and insects, and produce superior wood products. The state operates two nurseries capable of producing approximately 35 million softwood seedlings and 5 million hardwood seedlings annually. The Forestry Commission sells these seedlings to non-industrial private forestland owners at a cost of $31 per 1,000 seedlings.**

#### Providing Tree Seedlings

**MISS. CODE ANN. Section 49-19-19 (1972) authorizes the Mississippi Forestry Commission to produce and make available to owners of farm land contiguous to school sites suitable for reforestation free commercial tree seedlings not to exceed 5,000 trees per farm owner per year. Forestry Commission staff have chosen to sell all of the commission's seedlings rather than provide free seedlings.**

#### Increasing the Availability of Seedlings for Purchase by Private Landowners through the Tree Seedling Revolving Fund

**The production of seedlings in state nurseries is funded by the Tree Seedling Revolving Fund as established in MISS. CODE ANN. Section 49-19-27 (1972). The purpose of this fund is to increase the availability of tree seedlings for purchase by private landowners. Monies flow into the fund from the sale of contract seedlings to Mississippi landowners, and the Mississippi Forestry Commission uses the funds to contract for the production or purchase of tree seedlings (from public or private nurseries) for resale to Mississippi landowners for reforestation. (The CODE section establishing the fund stands repealed on July 1, 2000).**

**According to Sampson and DeCoster, "Some 85 state nurseries produce about 30 percent of the total seedling production in the U.S. and provide the major source of tree seedlings for NIPF reforestation efforts." These state nurseries typically develop seedlings which are fast growing and high quality.**

### *Private Sector Programs*

#### Industry-Sponsored Private Nonindustrial Landowner Assistance Programs

**This category of industry sponsored program (which may be referred to as a Cooperative Forest Management Program) provides a broad range of professional assistance to nonindustrial private forestland owners, with the intent of ensuring good stewardship of nonindustrial privately owned**

**forestland. In general, Cooperative Forest Management programs include professional development of a forest management plan for the nonindustrial private forestland owners, followed by a range of continued professional assistance options, including: free or at-cost seedlings (which are frequently genetically engineered for superior growth), help with planting (including site preparation), timber marketing assistance, and timber management assistance (including burning, thinning, pruning and marking). The degree to which the industry assumes the cost of the assistance varies by program. Also, as a condition of participation, some companies reserve the right of first refusal on the sale of any timber grown through the company's assistance.**

**An article entitled "Industry Sponsored Landowner Assistance Programs" by Sue Shaddeau of the American Forest Foundation lists twenty-one private companies which offer landowner assistance programs, noting that the list is by no means complete. The following of the twenty-one companies listed in the article specified that they offer Cooperative Forest Management type assistance in at least a part of Mississippi:**

- **Georgia-Pacific, Forest Resources Group**
- **Louisiana-Pacific Corporation**
- **Packaging Corporation of America**
- **Stone Container Corporation**
- **Westvaco Corporation**

# *Appendix B*

## *The Role of the Nonindustrial Private Forestland Owner Nationwide and in the South*

### Nonindustrial Private Forestland Owners Own the Majority of Forestland Nationwide and in Mississippi

**There are 737 million acres of forestland in the United States, 18.6 million of which are located in Mississippi. There are three major categories of forestland ownership in the United States: nonindustrial private (which includes farmer/ranchers, private corporations, and private individuals), public, and forest industry. Nonindustrial private forestland owners own 58% of the forestland nationwide and 72% in Mississippi.**

### The U.S. Forest Industry's Reliance on Nonindustrial Private Forestland Owners

**The forest industry has always relied on private non-industrial forestland owners to help meet demand for timber; however, their reliance on this ownership class has increased in recent years due to:**

- **a dramatic decline in the amount of timber harvested from national forests. The decrease in timber harvesting on federal land is primarily due to public opinion opposing such timber cuts and laws protecting the habitat of endangered species found on federal forestland, such as the northern spotted owl and the red cockaded woodpecker;**

- **a cap on lumber imports to the United States. According to Sampson and DeCoster, Canada has historically provided over 95 percent of all lumber imports to the U.S. A recent trade agreement caps tax-free Canadian exports of timber at their 1995 level;**

- **the depletion of forests in equatorial areas such as Brazil and Indonesia, which supplied high quality lumber to the world; and,**

- **an increase in the demand for timber in response to stronger markets and prices.**

**It was logical that the timber industry would focus on nonindustrial private owners of forestland to meet the timber supply needs created by an increase in the demand for timber as well as by declines in timber production from other sources. The timber industry was already harvesting its own forestland to capacity. The only other remaining ownership classes of U.S. forestland were "nonindustrial private" and "non-federal, public," the latter of which often is not available for commercial timber harvest. Not only do nonindustrial private owners of**

**forestland own the majority of the nation's forestland, but of all the ownership categories, this category of land has the greatest capacity for increased production through more intensive planting and management (see related discussion on page 52).**

## The South Is Rapidly Emerging as the Woodbasket of the World, Due to the High Natural Productivity of its Forestland and the Significant Amount of Nonindustrial Private Forestland Ownership in This Region

**The natural capacity of Southern forestland to produce timber, the large percentage of nonindustrial private forestland ownership, strong state level public support of the timber industry in states such as Mississippi (see Appendix A, page 35 for a discussion of Mississippi reforestation incentive programs), and declining production from other timber sources has made the South the emerging "wood-basket of the world."**

**Forestland in the South is more productive than most other regions of the country. The South in general, and Mississippi in particular has the terrain, soil, rainfall, and growing season to sustain high timber productivity per acre. According to Ian Munn, assistant professor of forestry at Mississippi State University, eighty percent of Mississippi timberland can grow 80 cubic feet per acre per year; which is more productive than 77% of timberland nationwide.**

**According to an article on sustainable forestry by Bill Hubbard in the September/October 1997 issue of Forest Landowner Magazine, private nonindustrial forestlands have long been "the backbone of our southern forest economy," owning nearly three fourths of the forestland in this region. The significant role of southern nonindustrial private forestland extends beyond the southern timber industry to the national industry. The thirteen southern states account for about half of the nation's nonindustrial private forestland ownerships and forestland. These owners hold the majority of the country's productive pine forest lands. As a result, timber industry demand on southern nonindustrial private owners of forestland is especially strong for softwoods such as pine.**

**In 1996, Mississippi's timber harvest was valued at $1.17 billion. During this same year, the state's timber industry made up about half of the state's agriculture economy, pumping an estimated $7.2 billion into the economy every year and accounting for 63,800 jobs statewide paying $1.6 billion in annual wages.**

## Nationwide, Poor Timber Management Practices, Development, Urbanization, and Tax Disincentives Threaten to Reduce the Number of Forested Acres in Nonindustrial Private Ownership

**At the same time that the forest industry need and worldwide demand for timber production from forestland in nonindustrial private ownership has been increasing, certain factors (e.g., poor timber management practices, development, urbanization, and tax disincentives) threaten to diminish the amount of acreage maintained in forestland by this ownership class.**

### Poor Timber Management Practices

**Good forest stewardship involves not only proper planting of high quality seedlings, but also ongoing maintenance of the forest resource--e.g., protection against fire, insects, and disease, and thinning of less desirable species. Many nonindustrial private owners of forestland have neither the time nor expertise to properly manage their forest resources. Improving on poor timber management practices among nonindustrial private owners of forestland (e.g., through regeneration of cut-over or poorly stocked sites, more intensive management of existing stands, conversion of marginal lands) holds tremendous growth potential for timber production. According to a Landowner's Guide to the North Carolina Forest Development Program distributed by the North Carolina Forest Service, half of North Carolina's forestland in nonindustrial private ownership is "underused; only a fraction of the timber the land is capable of supporting is actually being grown."**

### Urbanization and Development of Forestland in Nonindustrial Private Ownership

**In addition to poor timber management practices, urbanization and development also threaten the state's timber supply from forestland in nonindustrial private ownership. As noted by R. Neil Sampson and Lester DeCoster in their book *Federal Programs for Private Forestry: A Reader on Programs and Options*:**

> ***. . .the trend is toward more people owning smaller pieces of land. This continuing shift from larger to smaller ownerships has been mostly for non-forestry purposes . . . .In the close-in future (around 2010), 95 percent of U.S. private forest ownerships and 38 percent of the land will probably be in pieces smaller than 100 acres each. These ownership sizes tend to be disconnected from forest-maintaining expertise and they continue to fragment into backyard-size pieces.***

**Smaller ownerships (i.e., ownerships of less than 100 acres) tend to be less professionally managed than larger ownerships. Because a timber**

**sale may be a once in a lifetime experience for a smaller acreage forestland owner, it may be less likely that such an owner would use part of the proceeds from a timber sale to reforest.**

## Tax Disincentives to Reforestation and Sound Forest Management

**Yet another disincentive to reforestation by nonindustrial private owners of forestland are some federal and state tax policies which unintentionally discourage reforestation and forest stewardship among nonindustrial private owners of forestland. For example, estate taxes can act as a disincentive to reforestation by nonindustrial private owners of forestland. In order to pay the potentially high estate taxes on forestland property (the value of which property and therefore amount of taxes due is affected by the value of the trees on the property), heirs frequently resort to unplanned timber sales and/or divide and sell the property in order to produce the cash needed to pay the taxes. Such sales may be ill-timed with respect to sound forest management and may not be accompanied by reforestation efforts. With respect to property taxes, the valuation of forestland at rates significantly higher than agriculture land may discourage landowners from converting their acreage to forests. This is particularly true in states which value forestland by its market value. As discussed on page 54, Mississippi property taxes on forestland (which is considered an agricultural land use) are not a disincentive to reforest, as agricultural land is assessed at its use value, which generally results in lower taxes on the property than the market approach to valuation.**

# *Appendix C*

## *Tax Policy as it Affects Forest Land and Income in Mississippi*

**Although Mississippi does not have a tax incentive program for encouraging nonindustrial private forestland owners to reforest, current tax policies do affect decisions relative to forestland; e.g., whether to plant trees or harvest trees. A brief discussion of how forestland property and related harvests are taxed in Mississippi follows.**

### Taxation of Forestland Property in Mississippi

**Mississippi taxes property used for agricultural purposes at its use value; i.e., based on capitalization of projected income from the land usage (versus valuing the property on the basis of its market value, as is the case with residential and commercial property). MISS. CODE ANN. Section 27-35-50 (1972) specifically includes the production of timber in its description of "agricultural purposes." For taxation purposes, forestland is classified by level of production capacity, as follows:**

| Forest Site Class | # of cubic ft. of wood the land can produce per acre per year |
|---|---|
| A | 120 or more |
| B | 80 to 120 |
| C | 50 to 80 |
| D | less than 50 |
| E | nonproductive (e.g., beaver ponds, spoil banks, gravel pits) |

**According to the State Tax Commission, the income approach to property valuation generally results in lower taxes on the property than the market approach to valuation. While taxation policy which taxes timberland at a higher rate than other uses would act as a disincentive to forestation, no such disincentive exists in Mississippi.**

**Nationally, annual property tax bills for forestland range from $1 to $30 per acre per year. According to Argow, the higher rates are unsustainable, since they exceed the rate of forest value growth.**

**Klemperer noted that "*ad valorem* taxes that tax the combined value of land and timber each year are biased against a long-term crop like timber whose harvest may be deferred long into the future." Mississippi only taxes the value of the timber.**

**Sound forest management is often negatively affected by estate taxes. In many cases, the heirs have not planned for the payment of estate taxes and are forced to sell timber on the land and/or subdivide and sell parts of**

**the property in order to raise the cash needed to pay the taxes. (In such cases heirs are caught with higher land and timber values, upon which estate taxes are assessed, but few liquid assets to pay the taxes.) Whether timber or land is sold, according to Sampson and DeCoster, "the future of the land as a sustainable forest may be jeopardized." (According to Joan Comanor, Deputy Chief, State and Private Forestry, USDA Forest Service, sustainable means "managed to meet the demands of the present without compromising options of future generations.")**

## Taxation of Forest-Related Income

**Two provisions of state law affect timber related income; specifically, MISS. CODE ANN. Section 27-7-9 (1972) regarding capital gains and MISS. CODE ANN. Section 27-25-1 (1972) regarding the timber severance tax. A complete discussion of Mississippi's timber severance tax is found on page 23. With respect to capital gains treatment, although it does not specifically refer to timber sales, MISS. CODE ANN. Section 27-7-9 (1972) allows timberland owners to transfer their timber to a corporation in exchange for stock without gain or loss.**

**According to Sampson and DeCoster, "A 1989 survey of tree farmers found 76 percent reporting that they planned to postpone timber harvests as a result of new tax rules perceived to be unfavorable, and 12 percent said they might simply stop harvesting altogether."**

**Providing a reforestation incentive by foregoing tax revenue can be expensive because it is not limited by its funding source, as are other types of incentive programs such as Mississippi's cost-share program, which is funded primarily by timber severance tax collections. Because of the potentially high cost, it is especially important to know what is being gained (e.g. quantify changes in forest management behavior) at what cost (amount of tax revenue foregone, what this revenue was previously used for, and how the loss in tax revenue will be offset).**

**Also, tax incentive programs are generally not conditioned on the development and implementation of professionally developed forest management plans, as are cost-share incentive programs. To the extent that less experienced, nonindustrial private forestland owners of smaller acreages who do not have their own technical expertise may take advantage of tax incentives, it is desirable to ensure that they adhere to sound forest management practices by requiring development of and adherence to a professional forest management plan. Otherwise, the potential exists that public funds will be used to encourage practices which are not prudent and which may not generate the public and private benefits which such incentives are intended to create.**

# *Appendix D*

## *Sampson and DeCoster's Proposed Size of Nonindustrial Private Forestland Ownership Acreage Classes, for Purposes of Establishing Efficient and Effective Reforestation Policy*

**Sampson and DeCoster propose four size classes as relevant to forest policy decisionmakers: 1-9 acres; 10-99 acres; 100-499 acres; and 500 acres and more. They believe that landholders falling into these classes share characteristics which decisionmakers should take into consideration when making forest management policy. The sections which follow address each of these classes in more detail.**

### 1-9 Acre Ownerships

**Sampson and DeCoster note that in 1994, there were 5,795,000 ownerships falling into this size category, which they refer to as Homesite Managers. These ownerships represented 58.5% of the owners, but only owned 4.2% of the total forest acres. Sampson and DeCoster state that these homesite managers are not likely to belong to forestry organizations and are primarily interested in green space values. Sampson and DeCoster observe that the values of this ownership category can be enhanced through better forest management. For example, it is possible for them to earn some income from timber, while at the same time improving their forest land for other objectives such as wildlife habitat and aesthetic beauty.**

### 10-99 Acre Ownerships

**This ownership category includes 35.1% of the owners, owning 27.4% of the acreage. According to Sampson and DeCoster, this category of nonindustrial private owners of forestland may or may not see their property as forests. According to Sampson and DeCoster, this group is "too numerous to reach easily one-on-one with traditional forestry programs and are often under the economic threshold for consultants or industrial foresters."**

### 100-499 Acre Ownerships

**This ownership category includes 5.7% of the owners, owning 23.3% of the acreage. Sampson and DeCoster refer to this category as "Forest Farmers," noting that their property holdings are large enough "so that the owners tend to participate in, and communicate with, people who are likewise interested in forestry topics and programs." Sampson and DeCoster also observed that "This community is fragmenting the fastest of all: 11 million acres moved out of this size category, mostly into smaller pieces, in the last 16 years. We estimate that about 17 million acres more may be broken into smaller parcels from these ownership by 2010."**

## Owners of 500 Acres and More

**Sampson and DeCoster describe these owners as "Timber Producers." This group represents only 0.7% of the owners, owning 45.1% of the acres. Most of these owners are in the business of growing productive forests and are likely to have their own professional forestry staff. According to Sampson and DeCoster, this group "is the most likely sustainable productive wood supply source for the nation. . . .Economic policies (including taxation) and regulation make or break this sector."**

# *Appendix E*

## *The Reforestation Tax Credit Bill*

**Summary and Discussion of Proposed Reforestation (State Income) Tax Credit Bill, as introduced in the Senate (SB 2774) and in the House (HB 894) during the 1998 Regular Session**

**The Reforestation Tax Credit bill allows eligible landowners "a tax credit against state income taxes for the costs of approved reforestation practices." The bill defines "eligible landowner" as "a private individual, group or association, but the term shall not mean or include private corporations manufacturing products or providing public utility services of any type or any subsidiary of such corporations." The bill defines "approved reforestation practices" as "practices for establishing a crop of trees suitable for manufacturing into forest products," including:**

- **pine and hardwood tree planting practices (cost of seedlings, planting by hand or machine, and site preparation);**
- **mixed-stand regeneration practices (by planting and/or direct seeding, including the cost of seedlings, seed/acorns, planting, seeding and site preparation);**
- **direct seeding practices to establish a crop of pine or oak trees by directly applying seed/acorns to the site including the cost of seed/acorns, seeding and site preparation; and,**
- **post-planting site preparation practices to reduce or control undesirable competition within the first growing season of an established crop of trees.**

**The bill does not allow the credit for practices related to the establishment of orchards, Christmas trees, or ornamental trees.**

**The amount of the tax credit allowed in the bill is the lesser of 50% of the actual costs of approved reforestation practices or 50% of the average cost of approved practices as established by the Mississippi Forestry Commission under the Forest Resource Development Program. The bill limits the annual credit which a program participant may take to $10,000, and allows the participant to carry forward to succeeding taxable years any unused portion of the credit. Further, the bill does not allow a program participant to receive a tax credit on any acreage on which state or federal cost-share funds has been received for reforestation practices during the same tax year (unless the eligible owner's adjusted gross income is less than the federal earned income credit level.)**

**Proponents of the bill observe that the state's primary reforestation incentive program, the Forest Resource Development Program (see**

**discussion on page 44), was insufficiently funded to serve all applicants wishing to participate in the program. Therefore, unlike the Forest Resource Development Program, which is not available to all nonindustrial private owners of forestland in Mississippi, the proposed state income tax credit would be available to these landowners.**

## Discussion of Advantages and Disadvantages of Reforestation Tax Credit Bill

### *Advantages of Proposed State Income Tax Credit for Encouraging Nonindustrial Private Forestland Owners to Reforest*

**Proponents of the state income tax credit argue that the estimated federal and state tax revenues which would be generated from a one-acre pine plantation planted with tax credit assistance would exceed the amount of taxes which the state would lose by providing the tax credit. For example, Dr. Stephen Dicke estimates that a reforestation tax credit of $70 per acre would generate approximately $70 in federal and state tax revenues from the first (fifteen-year) thinning of the plantation.**

**Proponents of the state income tax credit also believe that it would be cheaper to administer than the state's cost-share program, which requires significant overhead costs related to the processing of cost-share program applications, technical assistance in the development of forest management prescriptions for each program participant, and on-site inspection of each participant's reforestation efforts as a pre-condition to disbursement of cost-share funds.**

### *Disadvantages of Proposed State Income Tax Credit for Encouraging Nonindustrial Private Forestland Owners to Reforest*

**The primary disadvantages of the Reforestation Tax Credit, as proposed, are that:**

- **the cost of the Reforestation Tax Credit program to the state general fund (in terms of state income tax revenues foregone) is limited only by the extent of participation in the program (unlike the state's cost share program, which is limited by the amount of funds annually appropriated to the program). This cost could be significantly higher than the $4.2 million annual price tag projected by the Mississippi Cooperative Extension Service and Mississippi Forestry Commission in their estimate of program costs (refer to page 66); and,**

- **the Reforestation Tax Credit doesn't guarantee that sound forest management practices will be followed by individuals receiving the tax credit because receipt of the credit is not conditioned on evidence of adherence to such practices.**

**A more in-depth discussion of each potential problem with the proposed tax credit follows.**

**Cost of Reforestation Tax Credit to State General Fund is Limited only by the Extent of Participation in the Program**

**The way that the Reforestation Tax Credit solves the funding problem associated with the Forest Resource Development Program (refer to discussion on page 45), is that the Reforestation Tax Credit relies on an open-ended revenue source in the form of general fund tax revenues (i.e., state income tax collections foregone). While, as explained on page 66, the Mississippi Forestry Commission and the Mississippi Cooperative Extension Service estimate the fiscal impact of the proposed Reforestation Tax Credit to be $4.2 million per year, beginning in 2003 (the estimate assumes a five year start-up period during which time nonindustrial private forestland owners are learning about the program's availability), this estimate could be significantly lower than actual costs to the state because the Mississippi Cooperative Extension Service and Mississippi Forestry Commission estimate contains elements that may cause the estimate to understate the program's actual cost. These elements include the following:**

- **the estimate assumes that individuals currently participating in federal and state cost-share programs will not switch to a tax credit program;**

- **the estimate assumes that the estimated maximum participation rate of 59% for the federal reforestation tax credit (which offers a maximum 10% tax credit, with many strings attached) will be the same as for the proposed state Reforestation Tax Credit (which offers a 50% tax credit, with virtually no strings attached); and,**

- **the estimate does not include quantification of tax credit costs associated with expected increases in reforestation as a result of the program (i.e., the estimate assumes that the tax credit program will be limited to those landowners who applied for but were turned down for state cost-share assistance due to insufficient program funds.**

**The sections which follow discuss these points in greater detail.**

- ***Depending on the nonindustrial private forestland owner's financial circumstances, the Reforestation Tax Credit could yield a greater personal financial benefit than the Forest Resource Development Program, resulting in at least a portion of those who currently participate in the Forest Resource Development Program (or federal cost-share programs), switching in the future to the Reforestation Tax Credit.***

**The fiscal impact estimate found on page 64 refers to the benefits under the Reforestation Tax Credit and the Forest Resource Development Program as "comparable" and "essentially the same." This is the basis for the Mississippi Cooperative Extension Service/Mississippi Forestry Commission assumption that 78% of Mississippi forestland in nonindustrial private ownership regenerated annually will continue to be regenerated using the state's cost-share program (Forest Resource Development Program) or a federal cost-share program.**

**There are, however, some differences in the benefits under cost-share programs and the proposed income tax credit. The two differences which are the focus of the section which follows are that:**

- **income taxes have to be paid on cost-share funds, but do not apply to a tax credit; and,**

- **the cost-share programs require development and implementation of a forest management plan as a condition of participation while the tax credit program does not.**

**With respect to the first issue, under the Reforestation Tax Credit, the landowner receives the full benefit of the 50% tax credit, whereas the Forest Resource Development Program cost-share program participant's benefit is reduced by the amount of taxes which he or she must pay on the cost-share funds received under the Forest Resource Development Program. The Mississippi Forestry Commission files a 1099, Statement of Miscellaneous Income, for each cost-share benefit paid. It should be noted however, that this difference in benefits received under the two types of financial incentive programs (i.e., taxable benefits under the Forest Resource Development Program versus non-taxable benefits received under the proposed Reforestation Tax Credit program) could be ameliorated by the timing of the benefits received and by the nonindustrial private forestland owner's tax bracket. The lower the tax bracket, the less the amount of taxes which must be netted out of the cost-share benefit received (i.e., the smaller the difference between the amount of a tax credit and the amount of a cost-share payment). The time period over which the tax credit is taken (i.e., one year or multiple years) also affects the calculation of benefits received under a tax credit program versus a cost-share program, due to the time value of money. The further into the future the tax credit is received, the lower its value relative to cost-share dollars received in a prior time period; i.e., the present value of tax credit benefits received must be compared to cost-share benefits received.**

**The programs also differ in terms of the pre-conditions to receiving cost-share assistance. To receive the 50% cost-share assistance under either the state or federal cost-share programs, the nonindustrial private forestland owner must adhere to professionally developed reforestation practices, as verified by Mississippi Forestry Commission field monitors as a pre-condition to receipt of the cost-share funds. To receive the 50% credit under the Reforestation Tax Credit, the landowner has to document expenses associated with "approved reforestation practices," but the**

**definition of such practices (e.g., to include the planting of seeds or seedlings, site preparation) requires no professional input or oversight.**

**Because so little is known about relevant characteristics of nonindustrial private forestland owners in Mississippi, it is difficult to project utilization of the proposed Reforestation Tax Credit versus the Forest Resource Development Program; however, it is important to note that there are incentives for at least a segment of the nonindustrial private forestland owners currently using cost-share programs to switch to the proposed Reforestation Tax Credit in the future. To the extent that this shift is made, it represents a greater cost to the state general fund (in terms of income tax collections foregone) and a lesser utilization of industry specific funds (in the form of timber severance tax collections) to encourage reforestation by non-industrial private owners of forestland.**

- ***The Reforestation Tax Credit is not an efficient mechanism for providing a reforestation incentive to those nonindustrial private forestland owners not able to participate in the Forest Resource Development Program due to insufficient Forest Resource Development Program funds.***

**According to Mississippi Forestry Commission staff, the primary impetus for the proposed Reforestation Tax Credit was to make available a financial incentive to reforest to those nonindustrial private forestland owners who the Forest Resource Development Program could not serve, due to the limited financial resources of the Forest Resource Development Program (see discussion on page 45). The problem with the proposed Reforestation Tax Credit is that it is not limited to this group. Its perceived strength (unlimited funding, no waiting list for participation) is its weakness - it is not limited to the group that it was intended to serve. Because it is available to any nonindustrial private forestland owner (including those nonindustrial private forestland owners who are currently reforesting an estimated 35,633 acres annually without financial incentives), its price tag has the potential to be significantly higher than estimated by the Mississippi Cooperative Extension Service and the Mississippi Forestry Commission. For example, if every acre currently reforested and the estimated 104,000 acres awaiting Forest Resource Development Program assistance to reforest were reforested under the Reforestation Tax Credit Program, the potential amount of tax credit earned annually would be $13.5 million [50% times the product of 158,881 (number of acres currently reforested) x $102.73 (the current average per acre cost of regeneration) plus the product of 104,000 (estimated acres awaiting Forest Resource Development Program assistance to reforest) x $102.73]. This estimate assumes no increase in the amount or costs of reforestation following implementation of the tax credit program.**

**While Mississippi Forestry Commission staff believe that nonindustrial private forestland owners have a significant preference for a cash reimbursement for reforestation expenses over a reduction in taxes,**

**because of the uncertainty as to the magnitude of this preference, it would be far preferable to address the issue of unfunded Forest Resource Development Program applications with increased timber severance tax revenues (either through improved collection efforts and/or higher tax rates; see discussion on page 27.) At least such a supplement would be a finite amount (it would take an estimated $5.3 million to provide cost-share assistance to the current waiting list).**

- ***Because the proposed state Reforestation Tax Credit offers significantly greater benefits than the federal reforestation tax credit (50% of eligible expenses versus 10%) it is probable that the level of participation in the state program will be higher than that experienced by the federal program.***

**The Mississippi Cooperative Extension Service/Mississippi Forestry Commission fiscal impact estimate for the proposed state Reforestation Tax Credit assumes the same level of participation as for the federal reforestation tax credit program; i.e., 59%, which is the maximum estimated federal reforestation tax credit program participation rate cited in the research literature. This assumption dropped the estimated fiscal impact of the Reforestation Tax Credit from $7.1 million per year to $4.2 million per year ($7.1 million x .59). Although the Mississippi Forestry Commission/Mississippi Cooperative Extension Service did assume the higher of the federal participation rates estimated in the literature (the range was from 27% to 59%), the higher level is probably still not high enough for a state program with substantially greater benefits than the federal tax credit and fewer requirements for participation. It is improbable that 41% of those forestland owners eligible for a 50% tax credit with virtually no strings attached would fail to take advantage of such a benefit.**

- ***The fiscal impact estimate for the proposed state Reforestation Tax Credit does not include quantification of incentive costs associated with expected increases in reforestation as a result of the new program.***

**Although the possibility of increased reforestation as a result of the proposed Reforestation Tax Credit is acknowledged in the text of the fiscal impact estimate, no dollar figure is assigned to this expected program outcome. Therefore, the bottom line impact estimate is understated to the extent that tax credits are taken for expenses associated with increases in reforestation in the state.**

# Estimated Fiscal Impact of a Mississippi Reforestation Tax Credit Law

by Dr. Bob Daniels, Extension Forester, Department of Forestry, Mississippi State University
and Everard Baker, Mississippi Forestry Commission

The objective of a Reforestation Tax Credit (RTC) would be to create an alternative incentive for nonindustrial private landowners to regenerate harvested and idle lands by providing economic benefits comparable to existing state and federal programs that provide 50% cost share assistance to landowners. The RTC would apply to out of pocket expenses paid by the landowner and be limited to 50% of an owners paid expenses with an annual $10,000 tax credit limit per owner. The RTC would be applied as a 'below the line' tax credit against the owners individual state income tax in the year the expenses were paid. An owner would be able to carryover unused tax credit each year until it is utilized completely.

A basic assumption made when preparing this fiscal estimate is that since the RTC and Mississippi's Forest Resource Development Program (FRDP) provide essentially the same economic incentive, then the annual level of unmet requests under the state cost share program will be the major fiscal impact of the RTC.

An important question about the proposed RTC is what will be the amount of taxes credited? To answer this question we need to know how many acres will be reforested each year and what the costs will be.

How many acres might be reforested under The RTC?

Based on Mississippi Forestry Commission (MFC) records from 1988 to 1996, in an 'average' year there were 158,881 acres of NIPF land (the type eligible for the RTC) regenerated (planted and seeded) in Mississippi. Of these, 35,663 acres are planted by owners who do not use any financial assistance. The remaining 123,218 acres (78%) are regenerated using FRDP or another cost share program.

What is the RTC likely to cost?

To answer the question of cost we need to consider the total number of acres that will be regenerated each year times an average cost per acre.

A recent MFC survey revealed that an estimated 2000 landowners request FRDP cost share assistance each year and are turned down due to lack of funds. At an average tract size of 52 acres

these owners represent 104,000 acres that may not wait for FRDP funds and utilize the RTC. In addition, the owners that regenerate their land without assistance, on average 35,633 acres per year, will also be eligible. This would make an average of 139,663 acres of regeneration eligible each year for the RTC. If the RTC provides the incentive hoped it may cause this annual number of reforested acres to rise in the future.

MFC figures from 1986 – 1997 show that the average per acre cost of regeneration was $102.73. The total average cost of regenerating 139,663 acres will be $14,437,580. Since the RTC will only allow 50% credit for reforestation expenses the theoretical maximum impact of the RTC will be $7,173,790.

This figure is termed 'theoretical' because there are a number of practical limitations that will limit the RTC cost. These are as follows:

- Studies have shown that all forest landowners that reforest timber do not use the federal reforestation tax credit which has been available since 1980. The few studies that have estimated the percentage of forest landowners that use the federal reforestation tax incentives (which includes the tax credit of 10% the first year) show the percentage to be between 27 and 59 percent (Hoover, 1990 and Royer and Moulton, 1987, respectively). Hence, a more likely maximum cost for the RTC is $4,232,536 (7,173,790 x .59) each year, not $7.1 million.

- Nurseries supplying pine and hardwood seedlings would not be able to expand their capacity overnight. This would likely take 2 to 3 years.

- Vendors to do site preparation and planting would also have to grow to meet the new level of demand.

- Making the public aware of the new tax credit would also take time and would likely limit the cost of the program the first few years.

RTC will likely phase in

The most recent example of such a phase in is the Conservation Reserve Program (CRP) that resulted from the 1985 Farm Bill. The percentage increase of nonindustrial private (NIPF) tree planting acres in the 3 years following the passage of the Farm Bill was: 1986 – 13%, 1987 – 49% and 1988 – 146%, using the 1985 tree planting year as a base. By contrast, after the federal reforestation tax credit was established in 1980, Mississippi's reforestation acres remained steady for 4 years before they increased about 27% in 1984. It could be argued that the growth of the new RTC would be less than that of the CRP because the CRP was heavily promoted and offered cash annual payments for 10 years – a stronger incentive than the RTC.

So, if the RTC became law in 1998 there would be a limited impact in the 1998 tax year because the only portion of the planting season eligible for the RTC would be December 1 – 31, 1998. This regeneration activity would come at the end of the 1998 tax year. Hence, even if all 35,633 acres normally planted without assistance took advantage of the RTC in 1998 the impact on the state treasury would be less than $271,000 the first year because only 25% of the planting season occurs in tax year 1998.

It's unknown how quickly landowners and the market will adopt the RTC. However, if landowners increase their use of the RTC 20% per year the impact schedule may be as follows:

| | | |
|---|---|---|
| 1998 | $ 271,000 | |
| 1999 | $1,053,000 | |
| 2000 | $1,693,000 | |
| 2001 | $2,539,000 | |
| 2002 | $3,386,000 | |
| 2003 on | $4,232,536 | Assuming all those eligible and currently NOT using cost share programs use the RTC |

Therefore, because of the limitations listed, the real cost of the RTC will likely be between 2 and 4 million dollars per year once landowners become aware of the RTC.

Hoover, W.L. 1990. 1989 Tree Farmer Survey. Tree Farmer. Spring. pp. 10–12.

Royer, Jack P. And Robert J. Moulton. 1987. Reforestation Incentives: Tax Incentives and Cost Sharing in the South. Journal of Forestry Vol.85 No.8, p. 45–46. August, 1987.

What are the benefits to the state of an RTC?

A productive, healthy forest benefits the state economically, environmentally and in quality of life for all Mississippians. A full timber supply growing at a vigorous rate is desirable for all Mississippians because it maximizes the benefits of the forest. This is a worthy use of state funds.

The rising timber harvesting rate in Mississippi during the 1990's requires a measure to stimulate reforestation in order to maintain desirable timber supplies for the future. The investment in reforestation by way of the RTC is an economically attractive use of state funds when only the timber returns are considered. RTC reforestation dollars are well invested with a benefit/cost ratio of 7.4. Additional benefits also arise from the wildlife, soil conservation and water and air quality aspects of reforestation. An explanation of the analysis follows:

A well stocked pine stand on an average Mississippi site (site index 85) will produce 8 cords at age 15, 9 cords at age 22 and 8 MBF & 6 cords at final harvest at age 35, per acre. Suppose in the second year of the proposed RTC (the first year the RTC would have limited impact for reasons already described), 460 (23% of 2000) of FRDP clients waiting for funds utilize the credit. With an average tract size of 52 acres, then 23,920 acres would be eligible for the RTC from those FRDP owners. Suppose further, that the average number of acres get planted without assistance. This means that 59,583 acres will get planted that are eligible for the RTC.

The cost to reforest these acres will be $6,120,961 (59,583 acres. X $102.73). Since the RTC provides funds to reforest half of 59,583 acres, the RTC will cost $3,060,480 in that year. These acres will be thinned at age 15 yielding 476,664 cords of pine pulpwood, again at age 22 the thinning will yield 536,247 cords of pulpwood and at age 35 the stands will yield 476,664 MBF,D of sawlogs and 357,498 cords of pulpwood. Using 1996 average delivered pine product prices and discounting the future values to the present (discount rate 6%) the present value of the delivered timber generated from these RTC stands is $45,305,671. If we divide this value by 2 to get the portion of the timber supported by the RTC we get $22,652,836.

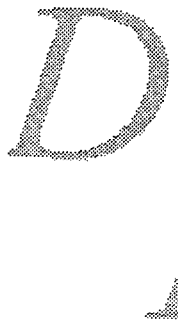
The present value of the costs is $3,060,480 since the RTC will be credited in the first year. Now, we have the present value of RTC incomes from the timber to compare with the present value of costs. The Net Present Value (NPV) of this investment is $ ($22,652,836 – $3,060,480) or $328.82.64 per acre ($19,592,356/59,583 acres). The benefit/cost ratio of the investment is ($22,652,836/ $3,060,480) 7.4. These figures indicate a very profitable investment of state funds in the 'average' year of the program. A similar investment will be made each successive year.

In addition, the timber from these lands will be raw material for the state's forest products industry which produces $2.9 billion in value added each year. Also, every additional dollar of harvested timber output from the forest stimulates $1.45 worth of economic activity in the Mississippi economy (Munn and Bullard, 1997).

Munn, Ian and Steve Bullard. 1997. Economic Impacts of the Forest Products Industries in Mississippi. In process. Approved as Journal Article No. FWRFO-36 of the Forest and Wildlife Research Center, Mississippi State University.

MISSISSIPPI LEGISLATURE REGULAR SESSION 1998

By: Senator(s) Harvey, Smith, Stogner To:



SENATE BILL NO. _____

AN ACT TO PROVIDE AN INCENTIVE FOR PRIVATE LANDOWNERS TO REFOREST IDLE NON-INDUSTRIAL PRIVATE LANDS; TO PROVIDE A TAX CREDIT FOR CERTAIN APPROVED REFORESTATION PRACTICES; AND FOR RELATED PURPOSES.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MISSISSIPPI:

Section 1. (1) For the purposes of this section the following words shall have the meaning defined herein:

(a) "Approved reforestation practices" shall mean the following practices for establishing a crop of trees suitable for manufacturing into forest products:

(i) "Pine and hardwood tree planting practices" including the cost of seedlings, planting by hand or machine, and site preparation.

(ii) "Mixed-stand regeneration practices" to establish a mixed-crop of pine and hardwood trees by planting and/or direct seeding including the cost of seedlings, seed/acorns, planting, seeding and site preparation.

(iii) "Direct seeding practices" to establish a crop of pine or oak trees by directly applying seed/acorns to the site including the cost of seed/acorns, seeding and site preparation.

(iv) "Post-planting site preparation practices" to reduce or control undesirable competition within the first growing season of an established crop of trees.

Such approved reforestation practices shall not include the establishment of orchards, Christmas trees or ornamental trees.

(b) "Eligible tree species" shall mean pine and hardwood commercial tree species suitable for manufacturing into forest products.

(c) "Cost-share assistance" shall mean partial financial payment for approved reforestation practices from the federal government or the state government or authorized under Section 49-19-201 et seq.

(d) "Eligible owner" shall mean a private individual, group or association, but the term shall not mean or include private corporations manufacturing products or providing public utility services of any type or any subsidiary of such corporations.

(e) "Eligible lands" shall mean non-industrial private lands owned by a private individual, group or association, but shall not include lands owned by private corporations which manufacture products or provide public utility services of any type or any subsidiary of such corporations.

(2) Any eligible owner shall be allowed a tax credit against state income taxes for the costs of approved reforestation practices as provided in this section.

(3) The amount of the credit allowed for the costs of approved reforestation practices for the taxable year shall not exceed the lesser of:

(a) Fifty percent (50%) of the actual costs of the approved reforestation practices; or

(b) Fifty percent (50%) of the average cost of approved practices as established by the Mississippi Forestry Commission under Section 49-19-219, Mississippi Code of 1972.

(3) The maximum annual credit that may be claimed is limited to Ten Thousand Dollars ($10,000.00). Any unused portion of the tax credit may be carried forward for succeeding taxable years.

(4) If an eligible owner receives any state or federal cost share assistance funds to defray the cost of an approved

reforestation practice, the cost of that practice on the same acre or acres within the same tax year is not eligible for the tax credit unless the eligible owner's adjusted gross income is less than the federal earned income credit level.

SECTION 2. This act shall take effect and be in force from and after July 1, 1998.

# *Appendix F*

## *Natural versus Artificial Methods of Regenerating Forestland*

**According to an article in the September/October 1997 issue of *Forest Landowner*, by Coleman W. Dangerfield, Jr., and David J. Moorhead entitled "Evaluating Pine Regeneration Economic Opportunities," "Natural regeneration of loblolly pine is a common practice, both planned and unplanned, across the South." In the same issue, Bailian Li, Steve McKeand, and Robert Weir of North Carolina State University's Department of Forestry note that "Intensive forestry practices have been adopted by only a fraction of the 4.9 million nonindustrial private forest (NIPF) landowners in the South. To date small forest landowners, who own 70 percent of the region's forestland, have not fully exploited the potential of genetic improvement [of seedlings] because they have often elected low-cost natural regeneration methods over plantation establishment." Further, in the same issue, David A. Hoge of the USDA Forest Service Southern Region observes a new trend in the growing number of landowners who prefer natural regeneration to artificial.**

**To naturally regenerate a cutover forestland, the owner typically leaves mature seed producing pines on each acre after harvest to provide seeds for the new crop. According to Dangerfield and Moorhead, other natural regeneration options include "seed, seedlings in place or seeding from adjacent stands as a natural regeneration source." Dangerfield and Moorhead further note:**

> ***While natural regeneration methods can provide a low cost, effective means to establish new stands, overstocking is common when favorable weather and seedbed conditions occur. Mechanical strip thinning is a recommended practice usually between ages 3 to 5 years. . . .***
>
> ***If a forest landowner harvests trees but cannot afford several hundred dollars per acre to replant trees on cutover sites, planned natural regeneration is a good option. Obviously, replanting a cutover stand with a pine plantation will earn a higher rate of return, and more total dollars per acre, than natural regeneration: $25 compared with $84 per acre per year for the two methods. But cutover plantations require more investment capital to be tied up while the trees are growing than does a naturally regenerated stand.***

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