

Investment, Taxation, and Regulatory Environment (Indicator 58)¹

Extent to which the economic framework supports. . . **Investment and Taxation Policies and a Regulatory Environment That Recognize the Long-term Nature of Investments and Permit the Flow of Capital in and out of the Forest Sector In Response to Market Signals, Nonmarket Economic Valuations, and Public Policy Decisions in Order To Meet Long-term Demands for Forest Products and Services**

Rationale and Interpretation

The sustainability of forests and the many benefits they are capable of providing requires high levels of sustained investment in their management and protection. It is only through such investment conditions that a full range of products, values, and services provided by forests can be assured. If investment capital is lacking in the forest sector, sustainable management, and the associated economic, ecological, and social benefits, may not transpire. Similarly, if investment capital is prevented from leaving the forest sector, inefficiencies can occur and over-exploitation of forests is a possibility. These conditions of investment are driven by a number of economy-wide factors, most notably product or service prices, forest land productivity, and discount rate as affected by risk (Roundtable on Sustainable Forestry 1999).

While necessary to establish, maintain, and improve forest conditions, forest investment is often discouraged by certain inherent characteristics forests. For example, they typically grow very slowly thus creating substantial holding costs and revenue uncertainty; they are at risk to insect and disease infestations and natural disturbances (fire and wind) that can seriously erode or wipe out the capital investment (trees); and they have a very low degree of liquidity (National Research Council 1998). Consequently, forest investment is often discouraged in favor of opportunities that provide greater return with less risk. Understanding the economic framework within which capital can readily flow in and out of the forest sector will suggest the degree to which policies and programs support adequate long-term investment in forest resources required to sustain their use, management, and protection (Roundtable on Sustainable Forestry 1999).

Useful data for measuring economic capacity for investment as suggested by this indicator are compilations and descriptions of laws, policies, and programs at national and sub-national levels that encourage (or discourage) investment in and management of forests. From a private sector perspective, two primary categories of laws, policies, and programs are significant, namely tax incentives (or disincentives) and fiscal incentives. Involved in describing the former is documentation of tax laws at the national (income, estate) and sub-national (income, inheritance and estate, property) levels that represent capacity to encourage investment by private forest landowners (individual or corporate). As for the latter, required is description of major fiscal incentives (for example, grants, cost-share assistance, conservation easements) offered to private forest landowners to encourage their investment in the management and protection of forest resources. Information describing the use, efficiency, and effectiveness of tax and fiscal incentives is also considered relevant to describing legal and institutional investment capacity.

The review of information regarding this indicator is limited in scope. First, the review focuses on the Nation's *policy and program capacity* to promote adequate private investment in forest resources as measured through existing economic frameworks (taxation and fiscal

¹ Prepared by Michael A. Kilgore, Assistant Professor (mkilgore@umn.edu), and Paul V. Ellefson (pellefso@umn.edu), Professor, Department of Forest Resources, University of Minnesota. St. Paul, MN. Draft prepared January 2002. Anonymously reviewed and subsequently revised August 2002.

incentives). Information on actual levels of investment in the management, use, and protection of forest resources is given only limited attention. Second, regulatory programs that force private investments in forests are not reviewed here as they are given extensive coverage in review of Indicator 57 (enforcement of laws, regulations and guidelines). And third, the primary focus of the review is on legal and institutional capacity for guiding investment toward private forests. Fully acknowledged is the importance of legal and institutional capacity to encourage investment in public forests. However, examination of information about such capacity is beyond this review.

Concepts and principles that are to be identified and addressed are suggested by the indicator. To guide this review, brief definitions of three important concepts are: *forest investment* – expenditure of funds to increase the production of goods and services from forest land; *tax incentives* – programs designed to alter the timing, type, or amount of tax expected from private forest land or the income produced from the property; and *fiscal incentives* – financial payments to owners of private forest land for the purposes of encouraging certain land uses and/or management practices (Ellefson 1992, Klemperer 1996, Roundtable on Sustainable Forestry 1999).

Conceptual Background

Forests are an important natural asset that provides a wide range of ecological, social, and economic values. Nationally, they provide more than 16.3 billion cubic feet of wood fiber to support a forest products industry that employs more than 1.3 million people, contributes in excess of \$40 billion in wages per year, and annually produce products valued at more than \$200 billion (Congressional Information Service 2000). Forests also provide important nonmarket outputs such as wildlife habitat, clean water, recreational opportunities, and aesthetic enjoyment.

The capacity of the Nation's forests to provide in a sustainable manner an array of products and services is heavily dependent on the condition of private forests. Accounting for more than 474 million acres or nearly 2 of 3 acres of all forest land in the United States, private forests are owned by some 10 million ownership units (Birch 1996, Forest Service 1996). The vast majority of private forests are in nonindustrial private ownership (85 percent), with the remaining 15 percent owned by the forest products industry (Smith and others 2001). Nearly one-half of the Nation's private forest land consists of tracts at least 500 acres in size; with 80 percent accounted for by tracts at least 50 acres in size. As represented by ownership units, 59 percent of the ownerships are quite small—less than 10 acres (National Research Council 1998).

The economic and ecological contributions of the Nation's private forests are significant. Consider the following: more than 80 percent of the Nation's timber harvest (13.4 million cubic feet) originates from private forests; 61 percent of the Nation's growing stock inventory occurs on private lands; an estimated 148 million acres of private forest land are available for recreational use by the general public (Forest Service 1989); 70 percent of carbon sequestered in the Nation's forests is located on private lands (Heath and Birdsey 1996); habitat for 86 percent of all species listed as threatened or endangered (609 species) is located on private property (U.S. General Accounting Office 1994); and hunting and fishing are among the most popular recreational activities found on private forests (Forest Service 2001a). The ability of private forests to provide in a sustainable manner these products and services is directly dependent on the level of investment made in them.

Landowners invest in private forests for a number of reasons, including maintaining the land in a forested condition; improving the growth (and hence value) of trees; protecting or reducing the risk of loss due to insects, diseases, fire, or vandalism; developing or improving access through road and trail construction; management planning such as timber harvest or estate planning; and pursuing management activities associated with specific land management objectives such as tree planting, timber stand, or wildlife habitat improvement (National Research Council 1998). Many forest landowners (primarily nonindustrial) invest in forests in order to

capture a very broad range of benefits – both market and nonmarket alike (for example, recreation, esthetic enjoyment, part of residence) (Birch 1996, Kuuluvainen and others 1996). Yet for other landowners (for example, timber land investment management organizations), investments are made with the intent of maximizing return on investment. Such is particularly true of industrial timber land owners and owners of other large private forest holdings, where maximizing profit is of fundamental importance. Nearly 30 percent of privately owned forest land area (industrial and nonindustrial) is managed with timber production as a principal goal, yet only 3 percent of owners consider such to be the primary reason for ownership (Forest Service 2001a).

Adequate investment in the Nation's private forests requires an economic climate that fosters the flow of capital in and out of the forest sector. Some have questioned whether the amount of capital required to capture many forest investment opportunities in the United States is available from most landowners (Kaiser and Royer 1997). Reasons suggested for this void include high establishment costs, long investment horizons, uncertain markets, low liquidity of and access to capital, and various biological risks associated with forests (National Research Council 1998). Implied is that many individuals and organizations perceive forest land investments as characterized by high risk and low yield; thus they are passed over in favor of alternative opportunities considered safer and providing greater return.

Analyses have also suggested that investment in forests is not to be considered high risk and low return. One such analysis suggests that as an asset class, timber land investment portfolios are able to produce low price volatility and price correlation with other financial assets, resulting in higher than average returns for a given level of risk (Binkley and others 1996). The analysis reports the average cumulative total return (nominal return including land appreciation) during the 10-year period ending in 1996 for timber land investments were 21.4 percent annually as compared to 18.0 percent annually for the S&P 500 Index during that same period of time. Indeed, institutional investment in timber land has grown from less than \$100 million in 1986 to more than \$6 billion in 1997, suggesting long-term returns to timber land investment are competitive with other investment opportunities (Yin and Izzar 2001).

The economic framework that supports sustainable forestry is one that can be characterized by an environment where the following conditions exist: *forest land base is retained and expanded* (recently harvested sites are sufficiently reforested or regenerated, nonforested areas are planted to trees, and conversion to uses inconsistent with forest management are discouraged), *long-term investments are made in forest management* (adequate investments are made in forest management activities required to maintain or improve site productivity and associated forest conditions [for example, wildlife habitat]), and *nonmarket values and services are produced* (markets fully account for the wide variety of nonmarket uses, outputs, and values provided by forests, and encourage their production). Taxation and fiscal incentives are two important policy and program tools that have significant influence over the extent to which this economic framework exists.

Taxation as Investment Influence

Tax policy can be an important means of encouraging (or discouraging) behavior that leads to the subsequent production of goods and services associated with forests. As an approach that can significantly impact the profitability of forest investments (Bailey and others 1999), taxation has been applied in forestry for at least three basic public purposes, namely to encourage private forest landowners to invest in activities that result in increased timber supply and encourage the flow of capital from outside sources into the forestry sector; compensate private forest landowners for the many nontimber values provided by forests from which society as a whole benefit; and provide an equitable basis for investment due to the long-term nature of forest investments (Forest Service 1990). While a number of different forms of taxation exist, the most common forms impacting forest investment and management decisions are taxes on income, property, and estates.

Conceptually, tax policy must be well designed, properly focused, and well administered if it is to guide investment toward worthwhile opportunities represented by forests and forestry. Among the many suggested principles to be embraced by good tax policy are the following (Hibbard and others 2001).

Equity. Tax policies should provide for equal (fair) treatment both between various sectors and among individuals within a sector. To be an equitable tax policy, taxpayers should be liable for the same amount of tax given the same set of circumstances (horizontal equity focuses on how equal taxing situations are treated) and across a range of abilities to pay (vertical equity focuses on how different abilities to pay are treated). The latter can be designed to be proportional or to be discriminatory in the sense of being progressive or regressive. While tax equity is an important consideration in forestry, many times tax equity goals applied to forestry conflict with one another (Klemperer 1996).

Efficiency. Tax policies should be efficient in all their ability to gather revenue for government operations and to influence private investment decisions. They should not distort or adversely affect market behavior nor should they adversely affect the timing of management decisions (for example, harvest activities, timber stand improvement activities). From a broader market-driving perspective, taxation should neither favor nor oppose decisions to convert forest land to a nonforest use. Tax policies and programs should also be efficient as they relate to their administration (for example, collection, enforcement).

Simplicity. Tax policies should be easy to understand and administer. Taxpayers should clearly know who is taxing them, how the tax is determined, and how to make use of various tax provisions. Tax policies that are designed with simplicity in mind tend to breed a sense of fairness, reduce compliance costs, and increase accountability. Principles of simplicity and equity can be in conflict. For example, variability in forest management conditions (for example, site characteristics, growth rates, markets, species, landowner objectives) would make the most equitable forest tax prohibitively costly to administer and too complex to realize its full potential. Appropriate tax policy necessitates a balance between equity and simplicity (Minnesota Department of Revenue 2000).

Adequacy, Stability, and Visibility. Tax policies should provide an adequate, stable, and visible revenue sources necessary to provide government services. The revenue generated by tax policies should be sufficient (adequate) and should be predictable over time, namely revenues collected should be stable from one taxing period to the next. Tax policies and their administration should be clear and widely known so as to provide adequate political accountability as to accomplishment of desired policy outcomes.

When judged against goals implied by sustainable forestry, tax policies should consider the following (Hibbard and others 2001): How do they affect investments in long-term forest productivity? How do they affect the propensity of private forest landowners to apply ecologically sound forest management practices? How do they encourage retention or expansion of the forest land base? How do they protect and enhance the production of wildlife habitat and other important nontimber benefits? The extent to which tax policies encourage these outcomes is often unclear. (Brockett and Gebhard 1999, Klemperer 1989, National Research Council 1998).

Fiscal Incentives as Investment Influence

Fiscal incentives can also be used as a policy tool to address certain characteristics of forests and forestry that tend to discourage forest investments. Tree planting, for example, requires significant capital expenditure without financial return for very long periods of time, often 60-80 years or beyond. Fiscal incentives can be used by government to encourage landowners to make these long-term investments, investments they might not otherwise consider (Sampson and DeCoster 1997). By providing financial payments to offset or reduce these large initial capital outlays, landowners can increase their return on investment and at the same time provide variety of important goods and services desired by the public in general. Fiscal incentive programs initially were developed to focus on the production of timber, namely cost-share payments to landowners for tree planting, site preparation, and other cultural practices that tend to increase productivity (for example, timber stand improvement). More recently, fiscal incentive programs have been developed and implemented to address a wide range of forest resource benefits (for example, wildlife habitat improvement, riparian habitat and productivity (USDA Natural Resources Conservation Service 2001, Forest Service 2001b).

Current Economic Capacity

Federal Government Capacity

Income Tax Provisions

The Federal tax code contains a number of provisions that impact private landowners interested in the management of their forests. For example, the tax code contains several provisions regarding how to allocate costs of purchasing forest land (percentage of value attributed to land, timber, and other property improvements), the treatment of expenses commonly associated with forest management activities, and the depreciation of equipment and land improvements (Bailey and others 1999). Many of these tax provisions are complex and vary depending on taxpayer classification (for example, corporate versus individual), use and purpose of owning the property (investment versus a business or hobby), and level of taxpayer involvement in managing the forest (material versus no material participation) (Haney and others 2001). Relatively few provisions, however, have the unique and specific objective of encouraging landowners to make long-term investment in the management of forest resources. Rather, tax provisions often apply to a broad range of income-producing activities of which forest management is but one. Three provisions that are available to encourage investment in forest resources management are as follows.

Reforestation Amortization and Investment Credit. The reforestation amortization and investment credit is specific to forest landowners. Landowners who reforest property are eligible for a 10 percent reforestation credit on up to \$10,000 per year of their reforestation costs. Qualified reforestation expenditures (or afforestation, in the case of planting or seeding non forested land) paid or incurred in a tax year are eligible for a 10 percent investment tax credit. Unlike a deduction, which is an offset against income, a credit is a direct offset against taxes. In addition, qualified reforestation costs (direct expenses incurred in establishing a stand of timber, whether by planting, seeding, or natural regeneration) can be amortized as a deduction over 8 tax years to an annual maximum of \$9,500 if the credit is taken. Individuals, States, partnerships, and

corporations are eligible for either or both the amortization and the tax credit. Trusts are not eligible for either (Haney and others 2001). Additionally, Federal and State cost-share payments used for reforestation can generally be excluded from gross income.

Capital Gains Treatment of Timber. The Federal tax code also provides for lower tax rates (capital gains tax treatment) on the sale or cutting by the owner of standing timber that meets certain standards (how long timber has been owned, how it is disposed of, and whether or not timber is held as an investment or as part of a business). In comparison to being taxed as ordinary income, capital gains treatment for timber can substantially lower tax bills. In 1999, noncorporate taxpayers were taxed at five levels for ordinary income, with a maximum rate of 39.6 percent. Noncorporate long-term capital gains, however, were generally taxed no higher than 20 percent (10 percent for gain that otherwise would be taxed in the lowest, 15 percent rate bracket). Certain noncorporate capital gains realized after December 31, 2000, are taxed at a top rate of 18 percent and at a bottom rate of 8 percent if the timber has been held for 5 years (Table 1). For corporations, ordinary income and long-term capital gains are taxed at the same rates (Table 2) (Haney and others 2001).

Management Expense. Corporate and noncorporate timber owners may generally deduct management costs relating to timber held as an investment against income from any source in the year they were incurred (as opposed to capitalizing them). Management costs include normal expenses associated with managing the forest property (for example, consultant fees, labor, silvicultural and related management activities) and carrying charges (for example, insurance, property taxes). The specific tax treatment of management costs and carrying charges depends on a landowner's specific tax classification and ownership objectives (Haney and others 2001).

Estate Tax Provisions

Federal estate taxes can impose significant burdens on the heirs of highly valued forest lands (Table 3). Due to the potentially high tax burden imposed (50 percent maximum in 2002), estate taxes can impact forest management and timber harvesting activities and may, in extreme circumstances, force premature timber liquidation or outright forest land disposal in order to satisfy estate taxes. Major reforms in Federal estate tax provisions were made in 1997 and 2001. Through 2001, the Federal estate and gift tax were combined into a unified tax on the transfer of wealth. A "unified credit" shielded large, lifetime gifts and estates from tax, up to a certain value. Gifts and estates that exceeded the

Table 1. Federal Noncorporate Income Tax Rates, 2001

Type of Taxpayer (taxable income)			Type of Income	
Married Taxpayers Filing Joint Return	Single Taxpayers	Estates and Trusts (thousands)	Ordinary Income	Net Capital Gains
\$ 0 – 45,200	\$ 0 – 27,050	\$ 0 – 1,800	15	8
\$ 45,201 – 109,250	\$ 27,051 – 65,550	\$ 1,801 – 4,250	27.5	18
\$ 109,251 – 166,500	\$ 65,551 – 136,750	\$ 4,251 – 6,500	30.5	18
\$ 166,501 – 297,350	\$ 136,750 – 297,350	\$ 6,501 – 8,900	35.5	18
\$ 297,351 +	\$ 297,351 +	\$8,901+	39.1	18

Haney and others 2001.

Table 2. Corporate Federal Income Tax Rates, 2001

Taxable Income	Type of Income (maximum marginal tax rate – percent)	
	Ordinary Income	Net Capital Gains
\$ 0 – 50,000	15	15
\$ 50,000 – 75,000	25	25
\$ 75,000 – 100,000	34	34
\$ 100,000 – 335,000	39	39
\$ 335,000 – 10,000,000	34	34
\$ 10,000,000 – 15,000,000	35	35
\$ 15,000,000 – 18,333,333	38	38
\$ 18,333,333 +	35	35

Haney and others 2001.

Table 3. Federal Estate and Gift Tax Rates, 2002–2009

Estate Tax Applicable		Maximum Estate and Gift Tax Rate	
Tax Year	Exclusion Amount	Tax Year	Tax Rate (percent)
2002	\$1,000,000	2002	50
2003	\$1,000,000	2003	49
2004	\$1,500,000	2004	48
2005	\$1,500,000	2005	47
2006	\$2,000,000	2006	46
2007	\$2,000,000	2007	45
2008	\$2,000,000	2008	45
2009	\$3,500,000	2009	45

Source: U.S. Department of Treasury 2002.

unified credit were taxed at rates ranging from 37 to 50 percent. Beginning in 2002, gift and estate taxes are treated separately, each with their own exemptions (\$1 million each for gift and estate exemptions in 2002, with the latter increasing to \$3.5 million in 2009). The maximum gift and estate taxes (55 percent in 2002) decrease to 45 percent by 2009. In 2010, the estate tax is eliminated completely, and the maximum gift tax rate will equal the top individual income tax rate. At the end of 2010, however, these provisions are scheduled to sunset, returning the estate and gift tax back to their status prior to 2002.

From a forest landowner perspective, current estate tax law provides for (a) an increasing credit that has the effect of exempting a portion of the value of the estate from taxation; (b) ability (if eligible) to value the forest land estate (both land and timber up to certain limits) according to its current use value (as opposed to fair market value), and (c) the ability to exclude up to 40 percent of the land and timber's value (up to certain limits) if the land is enrolled in a qualified conservation easement. When carefully planned, the death tax liability on a forest land estate can be significantly reduced (more than 50 percent) by taking advantages of specific estate tax provisions (Peters and others 1998).

Fiscal Incentive Programs

The Federal Government has a number of agencies and programs involved in reducing or offsetting large, initial investments in management and related activities considered necessary to protect, improve, restore, and sustain forest resources (National Research Council 1998) (Table 4). Although not all focus directly on forests, Federal funds available for cost share and related fiscal support of private actions affecting forest conditions probably exceeds \$1 billion. These funds are administered by at least

seven major Federal agencies. The following are but five examples of a large number of Federal fiscal incentive programs that encourage long-term investment in the management of forests (some of which were terminated by the 2002 Farm Bill and replaced with similar, but not identical, programs whose exact parameters have yet to be fully developed).

Forest Legacy Program (FLP). The Forest Legacy Program is designed to protect private forest lands from being converted to nonforest uses. Focusing on protecting environmentally sensitive forest lands, the FLP focuses on the acquisition of partial interests in privately owned forest lands using conservation easements. As a legally binding agreement that transfers certain property rights from one party to another, conservation easements restrict development while requiring practices that sustain forest values. Voluntary participation in the program is limited to private forest landowners. To qualify, landowners must prepare a multiple resource management plan that accompanies the conservation easement. The Federal government may fund up to 75 percent of program costs, with at least 25 percent coming from private, State, or local sources. In addition to gains associated with the sale or donation of property rights, many landowners also benefit from reduced taxes associated with limits placed on land use.

Table 4. Federal Programs Providing Financial Assistance to Public and Private Interests in Forests and Related Resources by Program, Resource Focus, Available Funding, and Administering Agency, 2002

Program	Resource Focus	Available Funds	Lead Administering Agency
Chesapeake Bay Grants Program	Water	\$15 million	U.S. Environmental Protection Agency
Coastal Zone Program	Wildlife	\$9 million	USDI Fish and Wildlife Service
Conservation Operations Program	Soil	NA	USDA Natural Resource Conservation Service
Conservation Reserve Program	Soil	\$250 million (est)	USDA Natural Resource Conservation Service
Conservation Reserve Enhancement Program	Soil	\$200 million (est)	USDA Natural Resource Conservation Service
Emergency Watershed Protection Program	Water	NA	USDA Natural Resource Conservation Service
Environmental Quality Incentives Program	Soil & Water	\$174 million	USDA Natural Resource Conservation Service
Farmland Protection Program	Land	\$10 million (est)	USDA Natural Resource Conservation Service
Forest Health Protection Program	Forests	NA	Forest Service
Forestry Incentives Program	Forests	\$7 million	USDA Natural Resource Conservation Service
Forestry on Indian Lands Program	Forests	\$38 million	USDI Bureau of Indian Affairs
Forest Legacy Program	Forests	\$60 million	Forest Service
Forest Stewardship Program	Forests	\$33 million	Forest Service
Land and Water Conservation Fund Grants Program	Land	\$40 million	USDI National Park Service
Nonpoint Source Implementing Grants Program	Water	\$200 million	U.S. Environmental Protection Agency
North American Wetlands Conservation Program (Act)	Wetlands & Wildlife	\$44 million	USDI Fish and Wildlife Service
National Coastal Wetlands Conservation Program	Wetlands	\$12 million	USDI Fish and Wildlife Service
National Estuary Program	Water	\$15 million	U.S. Environmental Protection Agency
Payments in Lieu of Taxes	Various	\$150 million	USDI Bureau of Land Management
Stewardship Incentives Program	Forests	(None)	Forest Service
Sustainable Development Challenge Grants	Land	\$5 million	U.S. Environmental Protection Agency
Economic Action/Rural Community Programs	Forests	\$15 million	Forest Service
Rural Community Fire Protection Program	Forests	\$2 million	Forest Service
Urban and Community Forestry Program	Forests	\$30 million	Forest Service
Wetlands Reserve Program	Wetlands	\$76 million	USDA Natural Resource Conservation Service
Wildlife Habitat Incentives Program	Wildlife	\$8 million (est)	USDA Natural Resource Conservation Service
Water Quality Cooperative Agreement Grants Program	Water	\$19 million	U.S. Environmental Protection Agency
Watershed Protection and Flood Prevention Program	Water	\$100 million	USDA Natural Resource Conservation Service
Wetlands Program Development Grants Program	Wetlands	\$15 million	U.S. Environmental Protection Agency
Wildlife Conservation and Appreciation Program	Wildlife	\$ 1 million	USDI Fish and Wildlife Service

Note: Annual funding level presented. Where "NA" occurs, information is not readily available.

The Forest Service administers the FLP in cooperation with State Foresters. The State grant option allows States a greater role in implementing the program. The FLP also encourages partnerships with local governments and land trusts, recognizing the important contributions landowners, communities, and private organizations make to conservation efforts (Forest Service 2001b). In 2001, \$60 million was appropriated to the FLP (Table 5).

Table 5. Funding Levels of Selected Federal Fiscal Incentive Programs Focused on Private Forests, 1993–2001

Fiscal Year	Forest Stewardship Program (dollars)	Stewardship Incentives Program (dollars)	Forest Legacy Program(dollars)	Forestry Incentives Program(dollars)
1993	23,280,000	17,847,000	9,915,000	12,446,000
1994	25,791,000	17,932,000	6,948,000	12,820,000
1995	25,908,000	18,283,000	0	6,625,000
1996	23,378,000	4,500,000	3,000,000	6,325,000
1997	23,378,000	4,500,000	2,000,000	6,325,000
1998	23,880,000	6,500,000	4,000,000	6,325,000
1999	28,830,000	0	7,012,000	16,325,000
2000	29,833,000	0	29,933,000	5,376,000
2001	32,782,000	0	59,868,000	6,811,000

Source: Forest Service 2001b and USDA Natural Resource Conservation Service 2001.

Forest Stewardship Program (FSP). The Forest Stewardship Program provides resources to assist private forest landowners in developing plans for the sustainable management of their forests. Using FSP funds, professional advice and assistance is provided to landowners in preparing detailed natural resource management plans reflecting both landowner objectives and broader society-wide interests in private forests. These forest management plans provide guidance for the production of timber, wildlife habitat, watershed protection, recreational opportunities, and other benefits. While there are no ownership restrictions, recipients of FSP-funded plans typically own less than 1,000 acres of forest land. Participation is available to individuals and noncommercial landowners who agree to manage their forest land (as specified in a plan) for at least 10 years. FSP is not a cost-share program; rather it provides technical and planning guidance, encouraging multiresource management. Completion of a forest stewardship plan is required of landowners seeking eligibility for cost-share assistance through the Stewardship Incentives Program. Approximately \$33 million was appropriated for this program in FY 2001 (Forest Service 2001b) (Table 5).

Stewardship Incentives Program (SIP). Established in 1990, the Stewardship Incentives Program provides financial assistance to private landowners to carry out forest stewardship plans and also supports implementation of forestry practices by other Federal and State agencies through their land conservation programs. The planning and evaluation requirements of the FSP, combined with the broad range of management activities that the SIP program supports, encourage landowners to undertake a variety of forest enhancement and protection activities that might not otherwise be accomplished. The SIP supports a wide range of forest management activities that, when implemented as part of a comprehensive forest stewardship plan, have the capacity to contribute to a healthy forest ecosystem. These include development of stewardship plans, reforestation and afforestation, forest and agroforest improvement, windbreak and hedgerow establishment, maintenance, and renovation soil and water protection and improvement, riparian and wetland protection and improvement, fisheries' habitat

enhancement, wildlife habitat enhancement, and forest recreation enhancement. SIP participants generally own less than 1,000 acres with waivers up to 5,000 acres on lands with potential for significant public benefit. The Federal Government may reimburse the landowner up to 75 percent of approved expenses, to a maximum of \$10,000 per year per landowner, in exchange for landowner agreement to maintain and protect SIP-funded practices for a minimum of 10 years. No Federal appropriations were made for this program in 2001 (Forest Service 2001b) (Table 5).

Forestry Incentives Program (FIP). Since its inception in 1973, the Forestry Incentives Program has supported three principle forest management practices: tree planting, forest stand improvement, and site preparation for natural regeneration. In all three instances, the principal goal is to build or restore the timber productive capacity of nonindustrial private forest lands. Besides timber production, the program recognizes that healthy productive forests also provide many other public goods, such as watershed protection, wildlife habitat, aesthetics, and recreational activities. Participation is limited to nonindustrial private forest landowners, whose properties meet selection criteria designed to assure that the most productive forest land receives funding. Participants generally own less than 1000 acres of forest. The Federal Government may pay up to 75 percent of approved expenses, to a maximum of \$10,000 per year per landowner, in exchange for landowner agreement to maintain and protect funded practices for a minimum of 10 years. In 2001, \$6.8 million was appropriated to the FIP (USDA Natural Resource Conservation Service 2001) (Table 5).

Conservation Reserve Program (CRP). The Conservation Reserve Program encourages farmers to convert highly erodible crop land or other environmentally sensitive agricultural land to vegetative cover (for example, tame or native grasses, wildlife habitat planting, trees, filter strips, or riparian buffers). Farmers receive an annual rental payment for the term of a multiyear contract that can be of 10 to 15 years duration. Cost sharing is provided to establish the vegetative cover practices. The Federal Government may pay up to 50 percent of cover crop or tree establishment costs, and rental payments of up to \$50,000 per year per landowner during the 10-year rental period. CRP tree planting contracts exceeded 2.6 million acres as of the end of 2001 (USDA Farm Services Agency 2002, USDA Natural Resource Conservation Service 2001).

State Government Capacity

State governments have also seen fit to establish significant legal and institutional capacity involving tax and fiscal incentives important to forest sustainability. The following describes selected State tax and fiscal incentive capacity focused on forest sustainability.

Taxation Provisions

State tax programs offered to private forest landowners for purposes of encouraging forest sustainability are generally of three major types, namely income, estate, and property taxes. The latter are unique to State and local governments and are implemented in a myriad different ways when applied to the taxation of forest land. As for the frequency of State tax programs focused on forest sustainability, in 1992 such tax programs occurred in all States and were especially common for promoting reforestation (16 States) and protecting water quality (14 States) (Table 6). As might be expected, programs focused specifically on forest wildlife habitats, tax incentives offered to private landowners by State wildlife agencies in 1985 occurred in only 11 States (Wigley and Melchior 1987) (Table 7).

Income Tax. All but seven States impose income taxes on individuals, with marginal tax rates ranging from 0.5 to 12 percent. Only four States do not have an income tax on corporations (Deloitte & Touche LLP Website 2002). Of States with income tax codes for individuals and corporations, the vast majority use the Federal Tax Code as the basis for treating income and expenses for State income tax purposes. (Purdue University 2002). For example, most States use Federal adjusted gross income as the starting point for determining State income tax liabilities. Nearly all State income tax codes contain provisions that differ from the Federal tax code, some of which affect forest landowners. For example,

analysis of income tax laws in 14 Southern States revealed that the treatment of specific income tax provisions (for example, standard deductions, deductibility of Federal income taxes, exemptions, long-term capital gains exclusions) varied and could impact tax liabilities associated with forest land investment and management (Bailey and others 1999, Federation of Tax Administrators 2001).

Estate Tax Provisions. Twenty-nine States impose estate or inheritance taxes. The latter are often “piggyback” taxes, whereby a State takes a portion of the Federal estate tax as a State tax credit. The tax paid generally equals the difference between the estate tax credit allowed on the Federal estate tax return and the estate or inheritance tax imposed by the State government. The net result is no net increase in the taxpayer’s liability. Sixteen States impose an inheritance tax on heirs receiving the property, and five States tax the right of the decedent’s estate to transfer property (Peters and others 1998).

Table 6. State Government Fiscal and Tax Programs Promoting Best Forest Practice Standards on Private Forests by Forestry Activity, Region, and Type of Program, 1992

Major Forestry Activity and Type of Program	Number of States in Region Having Program Type									
	North-east	Lake States	Mid-Atlantic	Mid-Continent	South-East	South Central	Great Plains	Rocky Mountain	West	Total
Protect Water Quality										
	Tax Incentives	1	1	4	3	0	1	3	1	0
Fiscal Incentives	2	3	5	3	1	4	5	4	2	29
Promote Reforestation										
	Tax Incentives	2	3	3	3	1	1	0	1	2
Fiscal Incentives	5	2	5	3	4	5	5	5	3	39
Improve Timber Harvesting Methods										
	Tax Incentives	2	2	3	1	0	1	0	0	0
Fiscal Incentives	3	0	4	0	0	1	2	2	1	13
Protect from Wildfire, Insects and Diseases										
	Tax Incentives	0	1	3	2	0	0	0	0	0
Fiscal Incentives	1	1	4	2	1	0	2	4	2	17
Protect Wildlife & Endangered Species										
	Tax Incentives	0	0	1	2	0	0	0	0	0
Fiscal Incentives	3	2	5	3	2	4	5	2	2	28
Enhance Recreation & Aesthetic Qualities										
	Tax Incentives	1	1	1	2	0	1	0	1	1
Fiscal Incentives	4	1	6	2	2	4	2	3	1	25

Note: Regional groupings of States are Northeast -- CT, ME, MA, NH, RI, VT; Lake States -- MI, MN, WI; Mid-Atlantic -- DE, MD, NJ, NY, PA, VA, WV; Mid-Continent -- IL, IN, KT, MO, OH; Southeast -- AL, FL GA, MS, NC, SC; South Central -- AR, LA, OK, TN, TX; Great Plains -- IA, KS, NB, ND, SD; Rocky Mountain -- AZ, CO, MT, NM, UT, WY; West -- AK, CA, HI, ID, NV, OR, WA.

Source: Ellefson and others 1995.

Table 7. State Wildlife Agencies Offering Fiscal, Tax, and Technical Services to Enhance Private Investment in Forest and Related Wildlife Habitat, 1985

Region	Program Type Offered (number of States)		
	Fiscal Incentives	Tax Incentives	Technical-Educational
East	3	3	19
South	0	0	6
North	5	5	18
West	4	3	7
Total	12	11	50

Source: Wigley and Melchioors 1987.

Property Tax Provisions. Property tax is most often collected by counties and distributed to the local units of government who impose the tax (for example, counties, cities, townships, school districts, or other special taxing districts). Although the property tax is generally a local source of revenue, nearly every aspect of property taxes is controlled by State statutes and State agencies. In 1994-1995, property taxes generated \$193 billion, a sum that was 28.6 percent of total revenue needed by local units of government (Skolow 1998). Depending on the specific design of the program, the property tax generally has one to three functions, namely raise money for the taxing authority, redistribute income and wealth, and to encourage certain types of behavior (later two often questioned as theoretically sound or appropriate) (Grayson 1993). These different functions and their relative magnitude are creatures of tax program design that at its most basic level involves the entity subject to the tax, the methods of taxation, and the use of the revenue collected (Hibbard and others 2001, Purdue University 2002).

A wide variety of property tax classifications and programs exist in the United States, four of which have special relevance to forests and forestry (current use, ad valorem, flat, yield, and exemption). An examination of 66 programs (or classifications) determined this program frequency: current use—36, ad valorem—15, flat tax—9, and current use/ad valorem programs—3 (Hibbard and others 2001, Purdue University 2002) (Tables 8 and 9). At least one type of program exists in each State (yield tax not considered separately; always imposed in addition to another tax type and could be added to all of the categories).

- *Current Use Programs.* Constituting more than half of all property tax programs for forest land, current use programs are the most common form of property tax in the United States (Tables 8 and 9). Included within such programs are income capitalization formulas for valuation, administrative or legislative determined land use values, and annual measures of timber land growth value. Of these, the income capitalization formulation is by far the most popular (used by more than three-fifths of current use programs). This type of formulation values the land according to income it can produce. Most programs based on income capitalization use a range of soil and land productivity classes (varies from 3 to 15, 5 being the most common and an average of just more than 6 classes). These soil or land productivity classes are in turn translated into yield information, which is multiplied by a determined average price, often a multiyear moving average, and then management costs are deducted. Not all States deduct management costs when capitalizing land income. For those that do so, there are a number of different methods employed in calculating them. The capitalization rate used in current use valuation is often indexed to a Federal or State bank rate, with the current rate averaging 9.9 percent (varying from 4.5 percent to 13 percent). The rate selected is important and is often done in a highly charged political environment (Hibbard and others 2001, Purdue University 2002).

Table 8. State Forest Property Tax Programs by State, Program, Type, Eligibility, and Ad Valorem Characteristics, 2000

State	Program Name	Program Type	Eligibility Requirements						Modified Ad Valorem				Price	Capitalization Rate	Costs
			Minimum Acreage	Maximum Acreage		Minimum Income	Management Plan	Percent Stocked	Minimum Growth	Wooded Rate	Original Rate	Productivity Classes			
Alabama	Class III	Income Capitalization							10%	20%	4	Agency Set	4.50%	15% of Y*P	
Alaska		Exemption													
Arizona	Class I	Modified Ad Valorem							25%						
Arkansas		Income Capitalization							20%	20%		10 year average			
California	Timber land Production Zones	Income Capitalization						15 cubic ft/acre							

Colorado	Agricultural Land	Income Capitalization	40				Yes	10%		29%	29%			13%	
Connecticut	Forest Land	Income Capitalization	25											12.4%	
Delaware	a. Forest Use Land b. Commercial Forest Plantation	Determined Use Value Exemption	10 10		2 yrs	\$1000/yr	Yes								
Florida	Agricultural Purposes	Income Capitalization										7	\$30 to \$70/cord	12.6%	\$12.85/acre
Georgia	a. Agric. Preferential Assessment b. Conservation Use	Modified Ad Valorem Income Capitalization & Ad Valorem		2000 2000						75%	100%	9			
Hawaii	Timber Farm Property	Determined Use Value	10				Yes								
Idaho	a. Forest Landless than 5 acres b. Forest Lands Tax c. Forest Products Yield Tax	Ad Valorem Income Capitalization Bare Ad Valorem	5 5	5000								12	5 year Average		

Table 8 (continued)

State	Program Name	Program Type	Eligibility Requirements						Modified Ad Valorem				Price	Capitalization Rate	Costs
			Minimum Acreage	Minimum Percentage		Minimum Income	Management Plan	Percent Stocked	Minimum Growth	Modified Rate	Original Rate	Productivity Classes			
Illinois	a. Other Farmland b. Vegetative Filter Strip	Income Capitalization Modified Ad Valorem	66 ft.				Yes			16%	33.3%	4			
Indiana	a. Classified Forest Land b. Woodland c. Windbreaks d. Wildlife Habitats e. Filter Strips	Flat (\$1 per acre) Modified Ad Valorem Flat (\$1 per acre) Flat (\$1 per acre) Flat (\$1 per acre)	10 50 ft. <10 acs 20 ft.	70 ft				50%		33.3%	100%				
Iowa	a. Forest Reservation b. Agricultural Use	Exemption Income Capitalization	2					200 trees/ac.						7%	
Kansas	Agricultural Use	Income Capitalization								30.0%					

Kentucky	Agricultural Land	Income Capitalization & Ad Valorem	10												
Louisiana	Timber land	Income Capitalization	3			\$2000/yr					4		10%	\$6.53/ac	
Maine	Forest Land	Productivity	10				Yes								
Maryland	Agricultural Use	Determined Use Value					Yes								
Massachusetts	a. Forest Land b. Recreation Land	Modified Ad Valorem Modified Ad Valorem	10 5				Yes	16.7%		5% fmv 25% fmv					
Michigan	a. Private Forest Reservation b. Commercial Forest Reserve	Flat (\$1 per acre) Flat (\$1 per acre)		160			Yes	1200 trees		20 cu. ft/acre/yr					
Minnesota	a. Timber land (2b) b. Tree Growth Tax	Modified Ad Valorem Productivity	5							1.2%					

Table 9. State Forest Property Tax Programs by State, Administration, Penalties, and Severance-Yield Characteristics, 2000

State	Administration			Penalties					Severance or Yield Tax			Other Characteristics	
	Application	Fee	Agency	Contract Period	Rollback	Interest	Percent of Inventory	Percent of Stumpage	Type	Percent or Set	Number of Categories	Privilege Tax	Percent of Severance
Alabama	One-time		County Assessor		3 years				Severance	Set	14	Exemption	Standing Timber
Alaska									Severance	Local			Auxiliary State Forests
Arizona									Severance	Set	2		
Arkansas									Severance	Set	2	Special Timber land Tax	\$0.15/acre for fire protection
California			County Board		Up to 10 years				Yield	2.9%		Exemption	Standing Timber

Colorado			State Agency						None				
Connecticut	Yes		State Forester						Yield	2% to 10%		Conveyance Tax	1% to 10% of sale price
Delaware	a. Yes b. Yes		County Assessor State Agency		1 year 1 year				None None			Exemption	Commercial
Florida	One-time		County Appraiser						None				
Georgia	a. b.								Yield Yield	None Percent of fair market value			
Hawaii	Yes		State Agency	20 years	Yes					None			

Note: For program name and type refer to Table 8.

Table 9 (continued)

State	Administration			Penalties					Severance or Yield Tax			Other Characteristics	
	Application	Fee	Agency	Contract Period	Rollback	Interest	Percent of Inventory	Percent of Stumpage	Type	Percent or Set	Number of Categories	Privilege Tax	Percent of Severance
Idaho	a. b. c.			10 years 10 years					None None Yield	3%			
Illinois	a. b.								Yield Yield	4% 4%			
Indiana	a. b. c. d. e.		Dept. of Natural Resources						None None None None None				
Iowa	a. b.		County Assessor						None None				
Kansas									None				

Kentucky									None				
Louisiana	Yes		Parish Assessor	4 years					Severance	2.25% to 5%	6	Forest Protection Tax	\$0.08/ac
Maine					5 years				None				
Maryland	Yes		Dept. of Natural Resources	15 years					None				
Massachusetts	a. Every 10 years b.		State forester		Yes	Yes			Yield Yield	8% 8%			

Note: For program name and type refer to Table 8.

Table 9 (continued)

State	Administration			Penalties					Severance or Yield Tax			Other Characteristics	
	Application	Fee	Agency	Contract Period	Rollback	Interest	Percent of Inventory	Percent of Stumpage	Type	Percent or Set	Number of Categories	Privilege Tax	Percent of Severance
Michigan	a. b. Yes	\$1/ac	County Assessor		7-15 years plus \$1/acre			5 %	Yield Yield	5% 55			
Minnesota	a. b.				10 years	Yes			None None				
Mississippi			County Assessor						Severance		12	Forest Acreage Tax	\$0.09/ac
Missouri	Yes				Yes	Yes			Yield	6%			
Montana									Severance	\$0.15/mbf			

Nebraska									None				
Nevada			County Assessor						None				
New Jersey	Annual		State Agency		3 years				None				
New Mexico	Yes		County Assessor						Severance	0.13%		Resource Excise Tax	0.0375% for timber processing
New York	Annual		County Assessor	10 year rolling					Yield	6%			
North Carolina	Yes		County Assessor		3 years	Yes			Severance		4		
North Dakota	Yes		County Commissioner	5 years					None				

Note: For program name and type refer to Table 8.

Table 9 (continued)

State	Administration			Penalties					Severance or Yield Tax			Other Characteristics	
	Application	Fee	Agency	Contract Period	Rollback	Interest	Percent of Inventory	Percent of Stumpage	Type	Percent or Set	Number of Categories	Privilege Tax	Percent of Severance
Ohio	a. Annual b. Yes	\$25\$ 50	County Auditor County Auditor		3 years				None None				
Oklahoma									None				
Oregon									Yield	\$3.19/mbf			
Pennsylvania	Yes		County board		7 years	6%			None				
Rhode island	Yes		State Agency						None			Land Use Change Tax	1% to 10% fair market value
South Carolina	Yes				6 years				Severance		4		
South Dakota									None				
Tennessee	Yes		County Assessor						None				
Texas	Yes		County Appraiser		5 years	7%			None				
Utah	Yes		County Assessor		5 years				None				
Vermont	Yes				10 years		20%		None				
Virginia	Yes		County Assessor		6 years				Severance		11		
Washington	a. None b. Yes c. Yes		County Assessor		10 year 10 year 7 year				Yield Yield Yield	5% 5% 5%		Forest Fire Protection Tax	
West Virginia					5 year	9%			Yield	3.22%		Woodland Tax	\$2 per parcel
Wisconsin				25 or 50 years	Unlimited			5%	Yield	5%			
Wyoming									None				

Note: For program name and type refer to Table 8.

Income capitalization formulation for valuation is not the only approach used by current use programs. Other approaches include

valuations that are administratively or legislatively determined, as well as valuations and taxes based strictly on the value of annual growth. The determined use values are established, generally, by State agencies or State boards. In a few instances, counties determine the values and, rarely, even State legislatures. Since the seemingly more scientific method of income capitalization is really politically determined, determined values may not be of any greater or lesser value or objectivity than income capitalization values. The determined use value programs make up one-third of the current use programs with the balance being made up of programs using values of annual growth for taxation. Only two States, Maine and Minnesota, use the latter type of program wherein annual growth is multiplied by an average price that is then reduced by a legislatively determined percentage. This type of program is uncommon (Minnesota is examining the elimination of the program) (Hibbard and others 2001, Purdue University 2002).

- *Ad Valorem Tax Program.* Ad valorem tax systems are the second most popular type of property tax program for forest land (Tables 8 and 9). Most ad valorem forest land property tax programs are modified in nature, with very few utilizing a full fair market value as the basis for property valuation. Most programs also reduce the fair market value by some percentage (often reduced further than if the land were not in a forested condition). Ad Valorem programs in many States (especially those with very limited forest land area) simply combine forest land into an agricultural classification. In yet other States, a special forest classification is established, wherein forest land is taxed using a reduced fair market valuation. The differences in rate reductions are vast, with some States instituting a slight reduction in valuation and other States providing more than a 50 percent reduction in taxable value.

- *Flat Tax Program.* Flat tax programs tax all lands at the same rate, although some are accompanied by a yield tax (Tables 8 and 9). Nine such programs are currently open to enrollment, four of which are in one State. Flat tax rates vary from \$0.50 per acre to \$3.00 per acre, with an average charge of \$1.16 per acre.

- *Tax Exemption Program.* Property tax exemption programs, where certain forest lands are exempted from property taxation for a limited or indefinite amount of time, are the fourth main type of property tax program (Tables 8 and 9). They are relatively rare in the United States, occurring only in Alaska, Delaware, and Iowa.

In addition to the above four main types of property tax programs, there are three States (Georgia, Kentucky, Tennessee) that combine different aspects of the above programs. All are combinations of an income capitalization valuation mechanism and an ad valorem or modified ad valorem valuation mechanism. The programs value land by assigning a percentage of an income capitalization valuation plus a percentage of an ad valorem valuation to equal a full valuation. Georgia bases its full "current use" value on 65 percent of an income capitalization value and 35 percent of comparable market sales.

States governments can also levy an additional property tax on forest land. Generally, these taxes are for such management activities as fire protection or for discouraging changes in forest land use, although they may also include severance taxes that are sometimes levied against processors as well as producers. Examples of such tax programs are the Privilege Tax (Alabama), Special Timber land Tax (Arkansas), Conveyance Tax (Connecticut), Forest Protection Tax (Louisiana), Forest Acreage Tax (Mississippi), Resource Excise Tax (New Mexico), Land Use Change Tax (Rhode Island), Forest Fire Protection Tax (Washington), and the Woodland Tax (West Virginia) (Hibbard and others 2001, Purdue University 2002).

Fiscal Incentive Programs

Many States have developed cost share and other fiscal incentive programs to help private landowners, in a sustainable manner, manage forest resources (Bullard and Strake 1988, Ellefson and others 1995) (Table 6). In 1992, State fiscal incentive programs targeting reforestation existed in 8 of 10 States and fostered forest practices important to water quality in 6 of 10 States. Fiscal incentives were even common for purposes of promoting practices that enhanced forest recreation and aesthetic qualities, (25 States) and protecting wildlife and endangered species (28 States).

A variety of State agencies offer financial assistance to private landowners. For example, in 1985, 12 States reportedly had State wildlife agencies that provided fiscal incentives to private landowners for purposes of managing of forested habitats as required by various species of wildlife (Wigley and Melchiorrs 1987) (Table 7). In a broader context, 7 cabinet level units of State government and 29 subcabinet level units (first tier) implemented programs that in 2000 provided fiscal assistance to private landowners. Three governing or advisory bodies of State government were also so engaged. In addition, many agencies of State government also offered tax and fiscal incentives for purposes of economic development and business promotion in a forest resource context (in 2000, 47-cabinet level units, 46-subcabinet level units) (Ellefson and others 2001 and 2002).

Most State-initiated fiscal incentive programs are similar in scope to cost-share assistance programs administered by the Federal Government. Specific program objectives vary from State to State; many State fiscal incentive programs are developed, however, to complement Federal cost-share programs either through additional available funding or for specific resource needs not addressed by Federal cost-share programs (Table 10). As for the focus of State programs, most concentrate on reforestation and related activities that promote investment in healthy and sustainable forests. For example, the Wisconsin Forest Landowner Grant Program provides up to 65 percent cost-share assistance (up to \$10,000 per year) to private landowners within the State to develop land management plans and implement certain land management practices. The latter include tree planting and timber stand improvement measures such as crop tree release, crop tree pruning, and thinning. Such practices can be directed toward timber production as well enhancement of fish and wildlife habitat (Wisconsin Department of Natural Resources 2001). The State of Virginia's cost-share program provides 40 percent cost-share for restoration or management of pine and is funded by Virginia's forest industry with matching funds from the Virginia general fund (Virginia Department of Forestry 2001).

Table 10. Forestry Cost-share Programs Implemented by State Governments

Program Title and Description
<ul style="list-style-type: none"> • <i>Alabama Agricultural and Conservation Development Program</i> (1985): Sixty percent for tree planting, site preparation, and timber stand improvement; funding level – \$750,000 per year; funding source – general State revenue. • <i>California Forest Improvement Program</i> (1980): Seventy-five percent for site preparation, reforestation, stand improvement, planning and fish and wildlife habitat improvement; funding level – NA; funding source – revenue from sale of State forest timber. • <i>Illinois Forest Development Programs</i> (1983): Eighty percent for tree planting, site preparation and timber stand improvement; funding level – NA; funding source – 4 percent timber harvest fee. • <i>Iowa Woodland Fencing Program</i> (1985): Fifty percent for fencing of forest land subject to soil loss from grazing; funding level – NA; funding source – general State revenue. • <i>Louisiana Forest Productivity Program</i> (1998): Fifty percent for reforestation and timber stand improvement; funding level – \$4.1 million per year; funding source – timber severance tax. • <i>Maryland Woodland Incentives Program</i> (1986): Fifty percent for reforestation and timber stand improvement; funding level – NA; funding source – four to 5 percent tax on wooded lands transferred to nonagricultural use valuations for property taxes. • <i>Minnesota Forestry Improvement Program</i> (1985): Sixty-five percent for fencing and firebreaks and 50 percent for road construction; funding level – NA; funding source – general State revenue. • <i>Mississippi Forest Resources Development Program</i> (1974): Fifty to 75 percent for reforestation and timber stand improvement; funding level – \$3 million; funding source – timber harvest tax. • <i>Missouri Soil and Water Conservation Program</i> (1985): Seventy-five percent for tree planting and fencing; funding level – NA, funding source – one-tenth percent sales tax fee. • <i>New Jersey Farmland Preservation Program</i> (1986): Fifty percent for plantation establishment, site preparation and strand improvement; funding level – NA; funding source – State bond fund. • <i>North Carolina Forest Development Program</i> (1978): Forty to 60 percent for tree planting, site preparation and stand improvement; funding level – \$2.2 million per year; funding source – timber harvest tax and general State revenue. • <i>South Carolina Forest Renewal Program</i> (1981): Forty percent for reforestation, stand improvement and prescribed burning; funding level – \$660,000 per year; funding source – timber harvest tax and general State revenue. • <i>Tennessee Reforestation Incentives Program</i> (1997): Fifty percent for reforestation and timber stand improvement; funding level – \$160,000 per year; funding source – real estate transfer receipts. • <i>Texan Reforestation Foundation Program</i> (1981): Fifty percent for reforestation practices; funding level – \$350,000 per year; funding source – voluntary forest industry assessment on primary forest products. • <i>Virginia Reforestation Timber land Program</i> (1970): Forty percent for site preparation, tree planting and stand improvement; funding level – \$2.2 million per year; funding source – harvest tax and general State revenue. • <i>Wisconsin Forest Landowner Grant Program</i> (1980s): Sixty-five percent for land management plans, tree planting, stand improvement; funding level – NA; funding source – NA.

Source: Bullard and Straka 1988, Meeks 1982, Forest Service 2001b.

Summary of Conditions

Forest landowners in the United States have a long history of making long-term investments in forest land through reforestation and various silvicultural practices. Tax policies and fiscal incentive programs can influence the extent to which the Nation's private landowners invest in the management of their forests as well as maintain the land in a forested condition. In light of the background and current conditions presented, the following observations are made about the identification and measurement of the legal and institutional capacity to foster investment considered important to sustainable forestry.

- Taxation and fiscal assistance are two major ways by which Federal and State governments influence long-term investments in the use and management of private forests. These types of programs are important ways by which private forest landowners can obtain assistance in underwriting capital investments deemed necessary to provide for a variety of important benefits associated with forests.
- Taxation programs focused broadly (all citizens) or exclusively on owners of private forests are of various types and are implemented by local, State, and Federal governments. They include taxes on income, estates, and property, each of which can affect the efficiency and profitability of private investments in forest management.
- Federal income tax provisions involving forests (reforestation, silvicultural practices) help reduce forest owner overall income tax liability. However, with the exception of the reforestation amortization provisions and investment credit and ability to exclude reforestation cost-share payments from income, few of these provisions are designed exclusively to encourage investment in private forests. Reforestation investment credit provides taxpayers a direct offset against tax liability for reforestation activities. With a credit limit of 10 percent of qualified reforestation expenses up to \$10,000, the credit's annual impact is greatest on those taxpayers with modest annual reforestation investments.
- Federal and State estate tax laws can place significant burdens on the heirs of highly-valued forest properties. In order to satisfy death tax liabilities often associated with estate transfer, forest land may be sold or timber may be prematurely liquidated. Current estate tax laws do provide provisions (current use valuation, using conservation easements) that can significantly reduce forest land estate tax burdens upon their transfer.
- State income taxes alone provide very limited incentive for long-term investment in forest resources (marginal tax rates range from 0 to 12 percent for individuals and 0 to 12 percent for corporations), even though some State codes contain provisions that provide special benefits to owners of private forests. State income tax programs often use the Federal income tax program as a basis for establishing liability for State taxes generally.
- Forest land is taxed in a variety of ways by State and local units of government, most approaches involving special provisions that reduce net tax liability. Four major types of forest property tax programs relevant to private forests are current use, modified ad valorem, flax tax, and tax exemption.
- Financial incentive programs of the Federal Government are very common and are implemented by a variety of Federal agencies. They are designed to complement private investments undertaken to carry out a wide variety of forestry practices (for example, reforestation, timber stand improvement). In recent years, the scope of forest benefits and related management activities addressed by these programs has broadened considerably (for example, wildlife, recreation). Unfortunately, Federal forestry cost-share programs have over time varied in investment intensity (for example, the Forestry Incentives Program is currently funded at one-half its 1993 level).

- Financial incentive programs have also been established by State governments and are often complementary to Federal fiscal incentive programs. The focus of State programs and level of funding they offer to private landowners varies extensively among States.

Issues and Trends

The literature identifies a number of major issues and trends associated with investing in forest resources, and policy tools directed at such investments. Consider the following (Binkley and others 1996, Ellefson 1989, Gaddis and others 1995, Haney and others 2001, Hibbard and others 2001, Klemperer 1989, National Research Council 1998, Peters and others 1998, Forest Service 2001a and 2001c, Yin and Izlar 2001).

- Forests are increasingly looked to as a viable long-term financial investment strategy, especially among institutional investors. In the mid 1980s, only six timber land investment management organizations existed in the United States, with total assets less than \$100 million. By 1997, due in part to changes in tax laws, 11 investment companies held timber land assets in the United States estimated at \$6 billion. This rapid growth in institutional timber land investment suggests forest land is increasingly viewed as a competitive investment asset. Indeed, the average annual return for institutional timber land investments exceeded those of the S&P 500 index over a 10-year period ending in 1996.

- Economic and demographic factors have increased the influence that Federal and State estate and inheritance taxes have on forest conditions and management actions. The high marginal tax burdens associated with such taxes can alter long-term forest management goals and investment decisions. In extreme situations, these taxes can result in premature timber liquidation to satisfy associated tax liabilities. Certain Federal estate tax provisions for forest land (current use valuation and exclusion for conservation easements) can have a substantial impact on Federal and estate tax liability.

- The complexity of Federal and State tax laws requires owners of forest land to have a good understanding of the many provisions pertaining to forest ownership. Lacking such an understanding can dramatically affect the profitability of forest land investments. Recent analyses suggest failure to take advantage of the various income tax provisions can result in forest landowners losing more than one-third of their timber land revenues to income taxes.

- Land management practices eligible for cost-share assistance through Federal and State fiscal incentive programs have expanded in considerably in scope and are likely to expand even more in the future. Whereas the initial focus of such programs was largely on improving timber land productivity, cost-share programs today provide financial assistance for a wide range of forest and related management activities having wildlife, water quality, and environmental benefits.

- Conservation easements and property tax programs are increasingly looked to as tools to help protect forest lands from being converted to nonforest uses, especially where development pressure is great. When appropriately combined with other tax and fiscal incentives, conservation easements can apparently be useful tools to accomplish interests in forest sustainability.

- Constructive analyses of the efficiency and effectiveness of forest tax and fiscal incentive programs are very few in number. There exists significant uncertainty about the efficiency of such programs, the appropriate scale for their implementation, and the proper combination in which they should be applied (or delivered). The lack of such analyses is especially concerning for the various types of State and Federal forest tax programs.

Information Adequacy

Specification

The variables or combinations of variables that can be used to describe the economic climate that fosters the conservation and sustainable management of forests through long-term investment are numerous. Such a climate is the collective influence of market conditions, taxation, and investment laws and policies, trade policies, financial, and related assistance to forest landowners, and regulatory conditions have over the management and use of the Nation's private forest resources. In 1999, the National Association of State Foresters (1999) sought a better understanding of State forestry agency information concerning investment and tax policies. The association reported that only 8 States had access to such information while 42 had no data on the subject. Of the eight States with information, two indicated an abundant amount of information, four States had sufficient information, and the remainder had some but generally very little amounts of information. As for the quality of information about investment and tax programs, two States reported it was excellent, four adequate, and two reported poor quality information (National Association of State Foresters 2001).

Conditions contributing to the investment climate for forest management (for example, tax policy, cost-share programs) have been the subject of analyses and research and have resulted in periodic compilations and large-scale assessments of their condition and status. Unfortunately, comprehensive ongoing assessments of these factors, and their collective influence on the investment climate for forest resources management, are not occurring. Neglected is the centralized and systematic collection and analysis (on an ongoing basis) of information about Federal and State programs that are designed to encourage long-term investment in forest resources management. Currently, such information (program type, scope, and investment levels) is scattered among a variety of public and private organizations. Information gaps are especially noticeable regarding use (for example, forest landowner use of income tax provisions) and effectiveness (for example, public sector returns on investments) of various public policies and programs directed at forest landowners.

Consider the following information gaps regarding the investment climate for private forestry:

- *Measurement Information* – An assessment of what variables should be measured to describe and evaluate the overall investment climate of forest management has not been prepared (What are the variables that contribute to forest landowner interest in making long-term investments? How can they best be described and evaluated? Are certain variables more telling than others about changes in the investment climate for forest management?).

- *Cumulative Effect Information* – Information on the extent to which laws, policies, and programs foster, in an additive sense, a climate conducive to investing in forest resources has not been compiled. (How do the various taxation, incentive, and regulatory tools collectively influence forest investment extent and overall performance? What is the interdependence of certain combinations of laws, policies and programs? Do certain combinations of policy tools work to effectively encourage [or discourage] forest investment?).

- *Effectiveness Information* – Information on how various laws, policies, and programs have influenced forest investment decisions and performance is incomplete (Do certain policies really make a difference in the level of investment made in forest resources, or would such investment occur without their existence? Can efficiencies be gained by modifying the scale of programs designed to encourage landowner investment in forests? Do we understand the relative effectiveness of various policy tools in promoting investment in forests? Do we sufficiently understand the attitudes and perceptions of forest landowners toward which tax and fiscal incentives are directed?).

- *Participation Information* – Information on the rate of forest landowner participation in various programs designed to encourage forest investment has not been assembled (To what extent do forest landowners participate in various programs designed to encourage long-term forest investment? How many forest landowners take full advantage of various tax provisions available to them? Is current participation in various provisions to encourage forest investment a reflection of the policy tool's effectiveness or lack of landowner awareness and understanding?).

- *Investment Information* – Information on the magnitude of forest investment has not been compiled (What is the overall level of investment being made in forest land? How does forest investment vary within various groupings of private forest landowners [private versus corporate]? How do levels of private forest investment compare with that made in public forests? Are there regional variations in forest land investment? How does U.S. investment in forest land compare to other parts of the world? How have investment levels changed over time?).

- *Public Investment Information* – Information on public investments in private forests has been compiled for Federal expenditures, but similar information on State-level investments in private forests is incomplete (What current levels of public investment are made in the management of private forest resources? How has this level of investment changed over time? What levels of investment do State governments make in the management of private forests?).

- *Encouragement and Promotion Information* – Information about methods used to encourage private investment in forest land has not been assembled (What approaches are used to encourage private investment in forest land? What information is made available to them and how is it presented? What is the relative effectiveness and efficiency of the various programs in fostering landowner investment? Are certain types of forest landowners more apt to respond to certain information delivery methods? How do private forest landowners become aware of investment opportunities and assistance?).

Recommendations

The ability to influence the sustainability of the Nation's private forest resources will depend on an economic climate that encourages and rewards investment in forest resources as suggested by Indicator 58. The information deficiencies associated with describing this climate are substantial. As a means of addressing these information gaps, the following is recommended.

- *Comprehensive periodic reviews.* Comprehensive reviews of the economic climate that supports long-term investment in private forest resources should be periodically conducted. Guided by the above suggested information deficiencies, the reviews should give special attention to describing the various factors that contribute to (detract from) landowner investments in forest resources. Compiling information on the numerous programs (type, extent of use) available to private forest landowners to assist them in making long-term investments should be a central part of such an initiative.

- *Responsibility for conducting reviews.* At present, no single source of information exists that describes and assesses the myriad of tax laws, cost-share programs, and regulatory provisions affecting private forest investment. Responsibility for collecting and analyzing this information should be assigned to a specific unit within a Federal agency (for example, Forest Service State and Private Forestry), college, university, or nonprofit organization (for example, National Association of State Foresters). The organization assigned this responsibility should have substantial experience and expertise in conducting analyses and reviews of the investment climate for forest management.

- *Resources needed for reviews.* Invest sufficient resources needed to conduct reviews that will lead to increased understanding of the economic climate for investing in forest resources, factors contributing to this climate, private sector investment response, and needed policy and programmatic changes to more effectively promote sustainable forest management.

Indicator Appropriateness

Indicator Definition

Indicator 58 is an extremely broad statement that encompasses a variety of economic dimensions associated with forests. Especially troublesome is the lack of definition to the term “investment policies” as it relates to promoting sustainable forestry practices. Investment policies can include several components such as access to capital, investment performance, market access, and resource supply – the lack of specificity hampers analysis of information pertinent to the indicator. Additionally, there exists a host of other policies enacted for purposes other than forest investment, yet have a direct and oftentimes substantial impact on the investment climate. Specificity regarding the treatment of information about these policies and programs is needed.

The indicator incorporates a number of additional loosely related concepts, such as “nonmarket valuations” and “public policy decisions,” that further contribute to the indicator’s vagueness. A clearer understanding of these terms and their relationship to investment measurement is needed. Inclusion of the term “regulatory environment” is especially troubling, as Indicator 51 directly is intended to explicitly address regulatory laws and programs directed at forcing the application of sustainable forest management practices. And finally, Indicator 58 does not distinguish between public and private investment. While this review focuses primarily on private investment, presumed is that the indicator ignores investments made on lands that make up more than one-third of the Nation’s forest land base.

The ability to gather information regarding economic capacity suggested by Indicator 58 would be greatly enhanced if the indicator were better focused and the wording reduced or modified. One possible approach to a rewording of the indicator is as follows: “. . . *provides for policies and programs that promote the long-term flow of capital into and out of public and private forest sectors in response to changes in market and nonmarket forces.*”

Cross-Cutting Conditions

Crosscutting indicator issues involving Indicator 58 are numerous. Among the potentials for difficulty in this respect is Indicator 58’s relationship to Indicators 1 and 2 (extent of forest land), 5 (fragmentation), 12 (plantations), 14 (timber removals), 29, 30, 31, 32, 33, 34 (production and consumption), 38 (value of investment), 41 (rates of return on investment), 42 (area under management), 43 (nonconsumptive-use forest values), 44 and 46 (employment and community needs), 48 (property rights), 51 (best practice codes), 59 (trade policies), 60 (information and data), 64 (value integrative methods), 65 (new technologies), and 66 (human intervention impacts). Such are obvious sources of crosscutting implications for Indicator 58; there may be others.

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