Property Tax Programs Focused on Forest Resources: A Review and Analysis

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by

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Contents

Page

Contents (continued)

Page

Contents (continued)

Property Tax Programs Focused on Forest Resources: A Review and Analysis

PRIVATE FOREST RESOURCES

Extent, Ownership and Characteristics

Forests in the United States are one of our most ubiquitous and extensive natural resources, covering one-third of the country's land area, which amounts to 747 million acres. Of this vast amount of forest land, more than half, 56 percent, is privately owned. Forty-nine percent of the forest land, 363 million acres, is owned by nonindustrial private landowners and 9 percent, 68 million acres, is owned by the forest products industry. Almost three-quarters of the privately owned forest land is in the eastern portion of the United States, consisting of 318 million acres (USDA 1997).

There are 9.9 million private forest landholders in the United States, of which 94 percent own parcels of less than 100 acres, with the average holding equaling 24 acres. Not only are the majority of forest and timber lands owned by nonindustrial private landowners, but an even larger percentage of removals are taken from these private lands. Nonindustrial private timberlands are 73 percent of the total timberland area, but removals from them account for 82 percent of all removals (Powell et al. 1993). This reliance on private lands for wood fiber is complicated by the fact that the reasons landowners give for ownership are rarely based on timber production, but are commonly owned for other purposes as speculation, as a home site, for recreation, and for aesthetics.

Benefits Provided and Major Challenges

Privately owned forest lands provide a wide array of benefits to society, both in a direct economic context and in a broader social context. Of direct economic significance is the forest products industry, which is a major force in the United States economy, employing more than 1.3 million people, paying more than 40 billion dollars in wages per year, and producing a value of shipments greater than 267 billion dollars per year (Congressional Information Service 2000). The industry supplies society with wood fiber for a wide range of goods including construction materials and paper products.

Private forest lands also provide a multitude of noncommodity benefits, most of which are difficult to value since they are seldom traded on the market or are traded in a limited capacity. An important example is the variety of recreational opportunities associated with forests including hiking, fishing, hunting, and camping. Private forests also have an influence on water quality and water yield, aiding in the maintenance of important biological cycles and processes that depend on water. Forested lands also help to foster biological diversity. Eighty-six percent of threatened and endangered species have habitats on private forest lands. Forests also provide an important balance or hedge against the addition of carbon dioxide to the atmosphere. The average annual

carbon sequestration on private forest land in the United States is estimated at 61 million metric tons (National Research Council 1998). Forests also provide and are a host to a myriad of aesthetic and cultural values, including cultural landscapes, standing structures, archaeological sites, cemeteries, and traditional use sites (Jaakko Pöyry 1994).

In light of the magnitude of private forest land in the United States and the wide array of benefits it provides, it is essential that forests be managed wisely and actively to ensure a continued or possibly increased flow of benefits. However, there are a number of concerns about the continued provision of benefits from private forest land, as there are continually growing voices advocating for competing uses of forests. Some see the forest mainly as producer of commodities (such as wood fiber), whereas others advocate that forests should be managed for recreation, wilderness, biodiversity, aesthetics, and the like. Fortunately, a growing number of landowners and policy makers acknowledge, understand, and advocate an integration of different uses. As the world's leading producer and consumer of forest products, the United States, in the face of forecasts of a doubling of demand for wood by mid-century, will continue to struggle with these issues (Beckwith 1996). Compounding forest land use issues is a trend of decreasing public access to private forest land, especially in the Northeast, as the more affluent control a larger portion of private forest land (Dennis 1992).

Forest fragmentation, both biologically and in parcel size, is also a major and increasing concern. DeCoster (1995) states that in 1978, 72 million acres of forest land were owned in tracts less than 100 acres and in 1994, 123.6 million acres were owned in tracts less than 100 acres. These smaller parcels decrease the profitability of management and harvesting in an economic context and increase the difficulty in managing for other nontimber benefits. Current levels of investment and management on these increasingly fragmented forests are considered low by many. At such low levels, expected increases in timber consumption and demand for nontimber benefits may not be met. The need for additional investments is thwarted in part by the fact that most of the nonindustrial private forest landowners must finance their investments in forests with nonforest income (DeCoster 1995).

PUBLIC PROGRAMS AND PRIVATE FORESTS

Reflecting the magnitude of private forest land area in the United States and the variety of benefits provided, public bodies have created a complex mix of education, regulation, and incentive programs directed at private forest landowners. These programs address concerns about provision of an adequate timber supply, recreational opportunities, and environmental benefits. Their justification is merited by a need for a correction in the market, often due to the production of externalities. In a survey conducted by Baughman et al. (2000) of nonindustrial private forest owners in the Midwest, landowners ranked their preferences for government-sponsored programs as follows (top five in descending order): property tax reductions, income tax deductions or credits, cost-share assistance, free or low cost technical assistance, and free or low cost educational materials. In a similar study by Megalos and Cubbage (2000) in the southeast, landowner preferences mirrored Baughman's study, as landowner likelihood to participate in

fiscal programs was ranked as follows: income tax relief, property tax relief, reforestation cost-share, Green IRA reforestation account, nontimber cost-share, and low-interest loan.

Technical assistance programs generally provide free or low cost technical advice by natural resource professionals on many forestry-related topics to landowners and natural resource related workers. They are designed to improve conservation, management, and production of forest resources (Cubbage et al. 1996) and tend to increase the probability of harvest, regeneration, price received per unit, and tax revenue (Benfield et al. 1988). They exist at the federal, state, and local levels and are operated cooperatively with educational opportunities for natural resource professionals and landowners. Technical assistance and educational programs have been successful in educating many landowners and professionals, but they have often had problems reaching more than a limited number of people (National Research Council 1998).

Financial assistance programs provide payments to landowners to fund or offset costs in the management of forests and are also administered at many governmental levels. Ranging from cost-sharing programs to loan programs, examples at the federal level include the forestry incentives program (FIP) and the stewardship incentives program (SIP). These programs are often based on the premise that forests provide social benefits which generally go unrealized to the landowner.

Tax incentive programs work much the same way in encouraging forest management. They include deductions for certain activities, reductions in the tax owed, or, as in many property tax programs, simply a preferential tax treatment resulting in lower taxes. Tax incentives may be constructed in multiple and complimentary ways as a function of the different forms of taxation, including income and capital gains taxation, property taxation, estate taxation, and sales taxation.

Regulatory programs, similar to those mentioned previously, are enacted and administered at all levels of government and are often viewed as the most heavy-handed approach to encouraging certain types of forest management. Thirty-eight states have at least one program regulating forestry practices on private lands (Ellefson et al. 1996). Unlike most of the other types of programs, these are not optional and are often accompanied by a penalty for noncompliance, and for those reasons are often felt by many to be an infringement on property or other rights. Examples of these types of programs at the federal level include the Endangered Species Act and the Clean Water Act.

A fourth type of governmental program involves the taking or purchasing by the government of certain or all rights to a property. Although not extensively used as a governmental policy tool in the United States, these programs take the form of easements and contracts. However, many private organizations are involved in buying easements and contracts to accomplish certain goals in forests.

PROPERTY TAX PROGRAMS AND PRIVATE FORESTS

As indicated above, there are many avenues down which governments proceed to affect the management of private forest lands. One of those most often used is the property tax. In the United States, the property tax is generally a local source of revenue, most often collected by the counties and distributed to the local units of government who impose the tax, such as counties, cities, townships, school districts, and 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 agencies. In 1994-1995, property taxes in the United States generated revenues totaling $193 billion, consisting of 28.6 percent of total revenue for local units of government (Skolow 1998). The property tax generally has one to three functions, depending on the specific design of the program. The first, true of most any tax, is to raise money for the taxing authority. The other two functions, sometimes questioned as theoretically sound or appropriate, are to redistribute income and wealth and to encourage certain types of behavior (Grayson 1993). These different functions and their relative magnitude are creatures of the tax program design. The design at its most basic level involves (1) the entity subject to the tax, (2) the methods of taxation, and (3) the use of the revenue collected. Though these basic design elements seem to shine with simplicity, the devil is most definitely found in the details.

The property tax, a carryover from European society, was originally established because land and other property was thought of as a reliable measure of one's wealth (Canham 1992). Canham's view of the property tax as an "outdated and inequitable means of raising revenue" has been a fairly common held view throughout the twentieth century, many noting the regressive nature of a tax on property. Many states have enacted measures to hedge against this regressive nature. Some offer reduced rates on certain properties up to certain levels. An example is Minnesota that taxes the first $76,000 of worth of a residential dwelling at a lower rate than the value exceeding $76,000. Some states also offer property tax refunds, often indexed or based on an individual's or family's income.

Historical Context

The property tax was first applied to forested lands in the United States in the early 1700s (Amacher et al. 1991). There have been many alterations to forest property taxation since the early 1700s, with a proliferation of change in the last one hundred years. A variety of special forest property tax programs have been established, maintained, and eliminated over this period, most often giving forest land some sort of preferential treatment to other land uses. The number and variety of new programs and alterations tend to reflect, often in a responsive mode, the many and varied problems facing both landowners and governments. The first preferential forest land tax programs in the United States created simple exemptions for certain types of forested land (Hickman 1982). They were initiated in the Great Plains and northeastern United States out of concern for future shortages of timber and other deleterious effects of deforestation. The time frame of the exemption law heyday was 1860-1910, with strangely or not so strangely, Nebraska instituting the first law in 1861. The following period saw the rise of the yield tax (1910-1960), viewed as a remedy to the previous problems developing from levying a tax on unrealized income.

The first forest yield tax was enacted in 1911 by the state of Michigan, quickly followed by a host of northeastern states. This period was followed by a proliferation of modified assessment laws (1960-present), the first law was initiated before this period by the state of Ohio in 1939 (Hickman 1982). The national survey of tax programs, presented later in this paper, sheds more light on current trends and future directions.

Appropriateness of Programs

Establishing and implementing tax programs with a focus on forest land, instead of the many other public policy tools and program options, is often a central question in debates over the design of public forestry programs. A valid, widely scoped, and frequently unasked or unanswered question is whether attempting to accomplish certain policy goals in addition to raising revenue by using property taxes as a vehicle is appropriate. In the past, many states, such as Wisconsin, have used special forest land tax provisions as their major tool to preserve forest land and increase productivity (Barrows and Rosner 1982). These states have, in effect, concluded that property tax programs are more effective (and efficient) than other types of programs for addressing private forest land issues. Furthermore, forest landowners prefer property tax incentives over other programs. Baughman et al. (2000), in a survey of nonindustrial private forest landowners owning parcels greater than twenty acres in Minnesota, found the landowner's first preference for management incentives to be property tax incentives and reductions. Dennis and Sendak (1996) found that landowners are often "uninterested or ignorant" regarding concepts and methods of forest management but are very aware of the amount of property taxes due each year. These reasons alone make the property tax an influential and important vehicle for management initiatives or other policy concerns on privately owned forest land.

Constraints on Programs

There are a variety of constraints on the formulation of an optimum property tax policy focused on forest land. For example, government is constrained in the revenue it can raise by the political realities of what type of policies can be enacted, and by what can be taxed. Furthermore, property tax programs may be designed in a vacuum but are most definitely not implemented in a vacuum. Additionally, with many governments involved in the business of policy design and tax collection, a competition for revenue can lead to "strategic behavior between governments which will lead to inefficient levels of forest taxes, and thus inefficient levels of harvesting and nontimber benefit production" (Amacher 1997).

Not only are there a number of political factors hampering the development of an optimum forest property tax program, there are also a number of constraining issues unique to forestry. One of the most discussed is the nature of forestry investment, i.e., the fact that the return on an investment may not be realized for many years. Contrasted with agricultural practices, which produce an annual income, an issue of equity in rural property taxation is raised. As discussed earlier, private forest lands provide a variety of goods, for both the public and private sectors. This leads to much of the colorful and intense debate regarding forest land taxes. Compounding the complexity of these issues is that these benefits are also often provided in conjunction with

public lands and vary depending on composition of the forest, age of the forest, and the intensity of management. Amacher (1997) points out additional compounding factors such as the dynamic nature of the forest resource, competition for factors of production with other sectors, and the global forest economy.

Standards of Appropriateness

The design of any government program is the key to its probability of success. The design of a property tax program with the intention of affecting private forest management is subject to constraints associated with all property tax programs as well as constraints that are unique to forest and forest landowner conditions.

General Taxation Principles

General principles or criteria used to judge tax programs may vary in specific definition, but all are based on the same premise (Salamone 2000; Klemperer 1988; Northern Forest Lands Council 1994; and Hickman 1992): equity, efficiency, simplicity, stability and adequacy, and visibility.

Equity. Tax programs should foster equity among individuals and sectors to which they are applied. Tax equity means many things to many people or as Salamone (2000) aptly reminds us "is in the eye of the beholder." Equity is most often considered a measure of fairness regarding the taxpayer's ability to pay. Tax equity can be divided into two types: vertical equity and horizontal equity. Vertical equity is evaluated by comparing across a spectrum, the tax paid by individuals or entities are compared with their differing amounts of tax base. Asking the question, if one has a greater ability to pay, should that individual pay a higher tax, both absolutely and by percentage, than one with lesser means. This criterion of vertical equity provides a tool for evaluating and labeling taxes as progressive, regressive, or proportional. Horizontal equity is an evaluation of how equal taxation situations are treated. For instance, does the same situation or set of circumstances produce the same amount of tax. Another measure of equity of great concern to many considers if the tax paid is equal or proportional to the benefits received. In the context of a forest land property tax, these measures of equity are often applied to specific situations such as equity between land parcels, industries, types of landowners, or even between other taxing jurisdictions and states. It is important to note that some further these concepts of equity to justify an after-tax rate of return from forestry as comparable to other endeavors. This seems a bit far fetched as different types of enterprises bring different returns on investments, which is what the free market system is predicated on. Often these different types or concepts of equity can be good descriptors for a specific tax program but are subject to one's values and often do not provide an objective criterion to judge program fairness, effectiveness, or viability.

Efficiency. Tax programs should be efficient, in that they accomplish the public interest with the least investment relative to other possible programs. Efficiency, not unlike equity, can be viewed in a number of ways. Efficiency, most importantly, is a measure of a tax program's affect on the market, sometimes referred to in the literature as tax neutrality. By definition, an efficient tax program does little to affect or distort market behavior or market decisions. In the context of

forestry, these market aspects include decisions relating to the optimum rotation age or harvesting period, the timing and completion of timber stand improvements, timber stocking levels, regeneration activities, and the shifting of land to other uses. A second aspect of efficiency relates to the administration of the tax. This includes such matters as the cost of tax collection and the tax compliance cost to the taxpayer. Note, increasing the efficiency of a tax may have a negative effect on tax equity.

***Simplicity*.** Tax programs should be simple to administer and easy to understand. A simple tax is desirable as it encourages open democracy and "breeds an increased sense of fairness, better compliance, and more accountability" (Salamone 2000). As with the principle of efficiency, the degree of simplicity most often has a negative effect on tax equity. Tradeoffs between simplicity and equity must be considered with the implementation of any tax program.

Stability, Adequacy, and Visibility. Tax programs should provide a stable income to governments and should be easily accessible and noticeable to persons subject to its application. The tax should be stable with a minimum amount of fluctuation. It must also be adequate to provide sufficient and predictable revenue to the taxing authority; otherwise, the tax is rendered a burden. The visibility of a tax is also important, not only for political accountability, but it is especially important for voluntary forest land tax programs that must attract substantial participation by landowners to achieve desired policy outcomes.

Forest Resource Standards

In addition to the generalized taxation standards or criteria used to describe and evaluate tax programs, there are criteria unique to a forestry setting. These standards are not universally considered or agreed to, but they are a reflection of the policy goals of various specialized property tax programs. These criteria are best illustrated as four major questions to be asked of a specialized forest property tax program.

1. ***Does the program maintain or encourage increased levels of forest productivity?***
   Forest productivity can be defined in a number of ways. It can be thought of simply as measure of wood fiber benefits, while in other cases it can be strictly discussed in terms of nonmarket or nontimber benefits. The vast majority view forest productivity somewhere between the previous two viewpoints. The productive potential of private forests represents a significant natural resource, in which by all measures, is being under invested. Public and private investments in forest management and protection practices can lead to higher levels of commodity outputs, increased biological diversity, improved soil conservation, and larger types and numbers of economic and social opportunities for the citizens of this country. By providing landowners with appropriate tax incentives, these benefits can be further realized. As forest productivity, in its most basic sense, is a function of site characteristics including the availability of light, carbon dioxide, water, temperature, and nutrients (Ek et al. 1998). Site matching, weed control, stand density management, harvesting mortality (Ek et al. 1998), and using certain harvesting methods

(Kershaw et al. 1996) can all help to make gains in forest productivity. A tax program's effect on the productivity of all these forest goods is an extremely important measure.

2. Does the program promote sound or sustainable forest management? Many property tax programs seek to promote and encourage sound forest management, often by requiring a written management plan or the adherence to specific management guidelines. It is thought that this will also aid in curbing the problem of under investment in forest maintenance and increase the number of professionals working in the field. For instance, since the beginning of the special forest property tax program in Vermont requiring a written management plan, the number of consulting foresters has increased from twelve to eighty (Borie 1987). An increase in forest maintenance and sound management will most definitely have a pronounced and positive effect on forest productivity.

3. Does the program discourage the conversion of forest land to other uses? Retaining land with forest cover and preferably in large parcels keeps timber harvesting economically viable and also aids in maintaining natural landscape-scale processes (DeCoster 1995). As forest fragmentation increases, forest land preservation becomes an important issue to the general public, as well as the forest products industry and the environmentalists. Across the nation, a widely held concern is fragmentation, parcelization, and loss of forest land. This is evidenced by the large amount of legislation in many states designed to encourage the stability of forest land. As urban areas expand and land holdings are subdivided, many have become concerned with the loss of forest land in its original condition. Gobster et al. (2000) note the concerns of a number of different interests regarding these issues in Midwestern states:

- Commodity concerns—reduced availability of timber and mining resources, greater extraction costs, higher levels of conflict with an increased number of adjacent landowners.
- Environmental concerns—loss of natural biodiversity, reductions in wildlife habitat, reduced air and water quality.
- Community concerns—overcrowding, conflicts caused by social and economic disparities between new and established residents, loss of unique identity and special places.
- Recreational concerns—loss of access to private lands, conflicts between new and traditional recreational activities, loss of opportunities for solitude.
- Governmental concerns—increased infrastructure costs and planning challenges.

4. Does the program protect and enhance wildlife habitat and other nontimber benefits? Last, the protection and enhancement of wildlife habitat and other nontimber benefits are also important criteria. Establishing programs for this purpose will not only provide biodiversity benefits, but also recreational benefits.

OBJECTIVES AND PROCEDURES OF REVIEW

Private forest management in the United States faces a number of important issues and challenges. Among them are problems dealing with the changing use of the forest, the low investment level in maintenance, and the reduced size of holdings. These concerns are in no way all encompassing, but are simply a share of the problems. Needed is an examination of these and other concerns through the lens of property tax programs. Within this context, the objectives of this review were to (1) develop an informed and comprehensive understanding of current property tax programs and their elements of design, to (2) evaluate the effectiveness of different programs, and to (3) make recommendations for improving current program design.

Although private forest land management can be affected by a wide range of government programs, the review was limited to the evaluation of property tax programs. There are many other types of policy tools that may be used to address private forest management as well, but the suitability of these varies according to the particular goals to be addressed. Property tax programs were examined and evaluated as to their effectiveness in achieving policy objectives. The review was limited to statewide programs and international programs.

The review and analysis were conducted by completing a thorough and systematic review of the literature. An assessment was made of national and international property tax programs, especially their effectiveness in achieving certain standards and criteria. An in-depth look at a number of state programs, which represent distinct programs in differing forested regions of the United States, was also carried out.

STRUCTURE AND ADMINISTRATION OF FOREST PROPERTY TAX PROGRAMS

Types of Programs

A multitude of property tax programs are used in the taxing of forest land in the United States. Categorization of forest land property tax programs is difficult because often the same terms are used with different intentions or meaning, or in other circumstances different terms are used to convey the same connotations or meaning. There is a distinct definition problem in the typing or categorizing of these programs. Generally the programs are classified into four to six categories, yet these categories may greatly vary by concept or title between authors as demonstrated in Table 1 (Chang 1996; Hickman 1992; Kelley 1998; Kilgore 1984).

For purposes of analysis, property tax programs were grouped into five types: ad valorem, current use, flat, yield, and exemption. The ad valorem category encompasses ad valorem programs and modified rate ad valorem programs, as the basis for valuation is still fair market value. For the purposes of this study, all programs that use an income capitalization formula for property valuation, programs that use legislatively or administratively determined use values, and programs that are solely based on annual growth are all grouped into the current use category. This includes the aforementioned productivity and site value categories. The flat tax programs are

easily identifiable, as they are simply a fixed value per acre. There is a yield tax category but not a severance tax category because, unlike a yield tax, a severance tax does not function primarily as a property tax, but more as an income tax. The exemption category is also easily identifiable and understandable as this describes programs which simply exempt forest land from taxation.

Table 1. Property Tax Programs Focused on Forest Resources, by Type of Program.

Types of Property Tax Programs			
Chang(1996)	**Hickman(1992)**	**Kilgore(1984)**	**Kelley(1998)**
Ad Valorem	Modified Ad Valorem	Exemption	Ad Valorem
Flat	Present Use	Modified Assessment	Modified Ad Valorem
Productivity	Productivity	Modified Rate	Productivity
Site Value	Yield	Rebate	Yield
		Severance Yield	Yield / Ad Valorem

Ad Valorem

The ad valorem property tax is based on the fair market or highest and best use value of the property. This is the type of property taxation with which most United States citizens are familiar, which should not be discounted as an important program benefit. Theoretically, this type of property valuation includes the value of the standing timber on the property, although some states have chosen to refer to their tax as ad valorem without including the value of the timber in the property valuation. In other circumstances, the value of timber is not included, often due to the time and money constraints on the part of the local assessor. Many states that employ an ad valorem tax actually use a modified ad valorem tax. This consists of a specific rate reduction from the fair market value. These rate reductions vary tremendously between states and programs.

Much has been written over the past sixty-five years about the regressive nature of this type of property valuation and tax and its unfair treatment of forested lands (Chang 1996; Conklin 1980; Fairchild 1935; Klemperer 1996). Among the most common complaints against the ad valorem tax is that the land and timber are taxed year after year, resulting in a multiple taxing of each year's timber growth. Another is the fact that the tax is levied against unrealized income. This issue of timing is not only inconvenient and costly to the landowner, but also forces the landowner to bear all of the risk of growing the timber while still providing revenue to the taxing jurisdiction. Regarding the high capital carrying cost, this tax policy may drive the less affluent owners out of forestry, as they cannot afford to wait for returns occurring far into the future.

There is also much conjecture about the equity considerations involving these carrying costs. These high carrying costs can create a bias in the type of timber grown or planted. The more immediate return of a short rotation pulpwood requires a much lower carrying cost than a long rotation of hardwood, thus making pulpwood a more attractive investment to the landowner. Also as the tax is based on fair market value, increasing the value of timber holdings through various management techniques may be discouraged, as this increases the landowner's tax liability. This fact may lead to shortened rotations or even to the conversion of marginal lands to other uses providing a more immediate income. However, Chang (1996) contends that rotations are generally only shortened by one or two years, as the ad valorem valuations are often not updated annually, failing to reflect the previous years' added value of growth.

The ad valorem tax is also very complex to administer, as each property should be valued every year, and often requires using expensive and insufficient data. Conklin (1980) notes a number of administrative deficiencies in ad valorem valuation:

- Sufficient sales to make the market analysis are not available.
- Properties entering the market are not comparable to the ones being assessed.
- Forest inventory and site quality data are incomplete, outdated, or unavailable.
- Market price is influenced by buyers who have no intention of using the property for timber production.

Not only do these deficiencies speak to a lack of efficiency or neutrality, but, in turn, demonstrate a lack of simplicity in the administration of an ad valorem tax. The ad valorem tax does, however, provide a fairly stable and predictable flow of revenue. The familiarity, noted earlier, of this type of property taxation aids in its relative visibility as compared to the other types of tax programs.

The ad valorem tax does not generally measure up well to the forest resource standards. Increasing the value of forest lands by increasing productivity and employing sound forest management, the tax increases. Therefore, these expenditures and activities go unrewarded or even penalized. As the landowner must also pay taxes for many years on unrealized income, there is a resulting incentive to change the land use to one that provides an annual or more regular income.

Current Use

Current use programs are often entitled "productivity," "modified assessment," or "site value" tax programs. All these programs use a valuation method other than fair market valuation. The tax on a property is based on the current use value, not the highest and best use, of the parcel in question with common valuation reductions of one-half to two-thirds of an ad valorem valuation (Borie 1987). Often, some types of current use tax programs are coupled with a yield tax.

A current use tax program generally employs one of two broad valuation mechanisms. Either the tax is based directly on the annual growth of the forest, or the tax is based on the gross or net mean annual income of the parcel as a function of average annual growth. The distinction

between the gross mean annual income and the net mean annual income is simply that the gross income does not include management costs in the capitalization equation whereas the net income does include management costs. This terminology and the accompanying valuation techniques can become especially confusing when some assessors and counties use an average gross or net mean annual income calculation to compute highest and best use values, similar to soil expectation values.

Site value tax programs are often similarly administered. The land is valued on its income producing potential. However, it is important to note that sometimes site value tax programs are based, solely or partially, on fair market values of bare land. Site value program uniqueness is its total exclusion of timber values in property valuation. All site value programs in the United States are coupled with a yield tax. With that said, the balance of this section will concentrate on the income capitalization method.

Income capitalization valuation is usually based on site characteristics such as soil and cover types and on stumpage values. The general valuation process is as follows:

- Land is classified into types by soil ratings, cover types, or other pertinent criteria.
- Values are arrived at to represent average annual growth amounts, stumpage prices, and management costs for each of the land use or land type classifications.
- Net income is then calculated and capitalized.

This form of valuation is often referred to as "current use" valuation and is a popular way to value land across the United States. As for most forest management activities, this type of valuation has little effect on timing or extent. Income capitalization valuation used for purposes of imposing the property tax has been shown to have little effect on the optimal rotation (Chang 1996), as the tax remains constant in relation to the other variables. Because this tax remains constant, this type of valuation may even encourage long-term and more intensive forestry investments. It also encourages immediate reforestation as the tax remains constant (Gaffney 1980), whether trees are growing or not. However, because the tax is constant, based on soil productivity values, different stocking levels would elicit the same amount of tax. This may raise questions about the equity of such a program. Current use valuation, in states such as Vermont, New Jersey, and Massachusetts, has been found to increase the intensity of forest management, strengthen the private consulting forester force, and upgrade forestry standards in general. However, other states, such as Tennessee and California, have seen little or no effect on forest management from current use programs (Borie 1987).

This method of valuation has been employed by many states as a land use planning tool, especially around urban areas. The benefits of current use valuation have been a subject of much disagreement. A study in Tennessee found that the forest property tax program, which was intended to hedge against land conversion around urban areas, was mostly concentrated on lands far away from metropolitan areas. It was also discovered that there was no meaningful difference between behavior of participating and nonparticipating, nonindustrial private forest landowners in regards to program objectives. The authors of this study have suggested that when development

pressures intensify, measures beyond property taxes are required to ensure a meaningful impact (Brockett 1999). Borie (1987) found the reduced valuations were not strong enough deterrents, by themselves, to prevent the conversion of forest land to other uses, and that often this temporary reduction in valuation simply encourages land speculation. Cook (1992) and Anderson (1993) also found that income capitalization or current use valuations only delayed eventual development and did not halt it, with the slowed rate dependent on the difference in values, both current use and converted use, and the property tax rate. Gayer et al. (1987) in his analysis observed that the cost savings provided by these types of programs are relatively small compared to the major costs of withholding the land from development and that this subsidy is simply often capitalized into the value of the land. In a study conducted by the Northern Forest Land Council, 12 percent of the lands enrolled in current use taxation programs in the New England states were found at risk of subdivision or conversion without the program and that 1 to 2 percent were dependent on the program in order to maintain ownership (Northern Forest Lands Council 1994).

In its favor, current use taxation is quite stable and predictable as tax amounts are fixed relative to a few variables. After an initial period, this type of tax is much simpler to administer than the ad valorem tax (Chang 1996). Visibility is most often a function of program publicity.

Flat tax

Flat tax programs levy property taxes at the same amount per acre regardless of the value of the land. Since the tax is not based on the value of the land or the timber and remains constant, it does not affect the optimal rotation age. Likewise, the tax does not discourage management activities or higher stocking levels. The flat tax is extremely efficient from an administrative standpoint, as there are no calculations or valuations to complete. It is easy to understand and provides a stable and predictable source of revenue. However, adequacy of the revenue is often a concern. This type of tax also has the pronounced effect of shifting a greater burden of taxation to the less productive land, and is not based on ability to pay or on income produced or anticipated. This tax, in relation to an income capitalization tax, provides a good example of the tradeoffs between simplicity and equity. States, such as Wisconsin and Michigan, that employ a flat tax, generally couple it with a yield tax.

Yield Tax

A yield tax is levied on the value of the timber when it is harvested. This tax can function to correct or compensate for some inequities and inconveniences present in the other taxing mechanisms, while magnifying other problems. The yield tax aids in evening out the tax burden, accounting for different levels of productivity or different stocking levels. It also shifts the tax to the time of income realization, which results in the sharing of risk of growing timber between the landowner and society. Risks, such as fire, insects, and windstorms, are then borne by both landowners and society. This can be a positive prospect but may also lead to a net waste of resources, as the incentives to reduce risks for the landowner are weakened (Gaffney 1980). A yield tax will not encourage low stocking levels but may increase the optimal rotation time, as the landowner may want to prolong the amount of time before paying taxes. The lengthening of the

rotation will also increase the production of nontimber benefits associated with older trees. The tax, in turn, may be viewed as compensation for a reduction in the provision of nontimber benefits and externalities, especially those associated with mature or older forests. Dennis et al. (1999) argue that this brings the private and social costs of harvesting into line. The yield tax may also discourage thinning as taxes would be paid on all items that are harvested, and may also discourage timber stand improvements late in the rotation (Gaffney 1980). Some states, such as Washington (Conklin 1980), have found this tax increases administrative efficiency, allowing for a more centralized administrative structure, reduced costs, and increased ease in using more currently compiled market data. Other states have found the administrative costs of this tax to be extremely high, even to exceed the revenue generated. The yield tax provides an unstable and unpredictable flow of revenue to the taxing jurisdictions. This may, however, be improved or corrected with the use of a revenue-smoothing scheme. States, which employ a yield tax, always use it with another taxing mechanism. The range of yield tax rates in various states is generally between three and 10 percent. Setting the yield tax rate can be extremely difficult, as an objective method generally gives way to a political solution. This difficulty has been well noted in the state of Washington, which has had to weather a number of lawsuits regarding the setting of the most appropriate yield tax rate (Conklin 1980).

Exemption

Exemption programs simply exempt certain types of land or land uses from property taxes. This may be for a limited time or in perpetuity. This type of program does little to discourage management, and in fact may encourage management. As there is no tax, many equity and efficiency considerations are of no concern. However, equity between forest landowners and nonforest landowners and the effects of this type of exemption in the marketplace are of great concern. Revenue adequacy for the taxing district is also a concern, and most often the burden is shifted to nonforest landowners. This type of program is relatively rare in the United States.

Program Goals

Forest land property tax programs are most often designed with a variety of goals in mind. These goals are generally reflection of a combination of some or all of the aforementioned tax program principles: equity, efficiency, simplicity, stability and adequacy, and visibility. However, the actual reduction of taxes on forest land and the promotion of the forest resource standards are often the truly intended policy goal of tax programs. Borie (1987) points out that one of the most common objectives of forest land property tax programs is simply to provide landowners with tax relief, in turn improving tax equity between landowners. Besides the forest landowners themselves, few would regard this type of tax relief as equitable. However, if the public has the notion that it is receiving something for the tax relief, it is much more likely the program will be viewed as equitable. The reduced tax liability can be viewed as compensation for improvements in the forest resource standards, such as increased investment and maintenance of forests leading to increased nontimber benefits and wood fiber production.

Program Administration

The design and administration of a tax program are as important to its effectiveness as the generic mechanism of property valuation and taxation. There are a number of program elements that are integral to achieving forest resource policy goals. These include program entry qualifications, administrative responsibilities, application of the taxing mechanism, and penalties for program withdrawal. All these elements can have a profound effect on the program viability and effectiveness. Each element must be meticulously designed with the larger policy goals in mind, to assure the desired outcome.

Entry Qualifications

These are a general set of conditions that must be met by the landowner, in order for the landowner to enroll in a specific property tax program or classification. These conditions vary widely from state-to-state and program-to-program. Ideally they should be a clear reflection of the program's particular goals. One of the most common program requirements is the size of the parcel. Most often, there is a minimum, or in certain programs a maximum acreage considered for program entry. Since different benefits and magnitudes of benefits are derived from different sized parcels, this consideration is important and should be in step with the goals of the program. The minimum size of the parcel should be designated according to the program goals. An effective minimum size improves program efficiency by minimizing the high costs of program administration and the ineffective economies of scale associated with very small parcels of forest land. There is a positive relationship between parcel size and enrollment (Dennis and Sendak 1996). Many programs also use a land use restriction. Most often the land is restricted to the growth of trees or timber. Some programs may also require evidence of past use, as to provide assurance of the landowner's intentions. These land use restrictions are especially helpful if the goal of the program is increased timber production, but even then they may prove counter productive if this requirement keeps many desired landowners from enrolling. Many programs require specific types of management or the establishment or continuation of a management plan. This often aids not only in increasing forest productivity, but also aids the landowner in applying proper management techniques, and in achieving other land use goals. Dennis and Sendak (1996) found in a study in Vermont that the management plan requirement triggered a first contact with a natural resource professional for 40 percent of the enrollees. Many programs have instituted a time-frame commitment period to their program. This commitment period allows for the delivery of goods, generally the nontimber benefits, over a long period, which are often not realizable in a short time horizon. The time frame must be designed with the desired landowners in mind, as too long of a commitment period may discourage some landowners from entry.

Administrative Responsibilities

Nearly all of the programs or special land classifications require the owner to apply for admittance or require certification. A few property classifications are simply designated by the county assessor. Most of the programs or special classifications are administered primarily by the local county assessor, but many states use other agencies or officials as administrators. These are the

governmental bodies or offices to which the landowner must apply and then receive some sort of certification or approval. One state property tax program even requires a public meeting before acting on applications. Some programs require annual applications or annual inspections. The specter of the cost of inspections is often raised but many programs are self-enforced or need little enforcement evidenced by the program in Vermont that found only six violations in six hundred inspections (Borie 1987). Other programs or classifications require only one-time agreements or designations that are not revisited unless there is a change in land use. Some designations, applications, or certifications are free, whereas some require a one-time fee, an annual fee, or a per acre fee.

Taxing Mechanism Application

Although the characteristics of each forest property tax program or classification are detailed and unique, the basic variables are fairly simple. Some variables are common to all of the property tax programs, while others are specific to the type of tax being employed. The first consideration, common to all of the tax programs or special classifications, is how land types or uses are classified. Some states do not make distinctions between any types of property, whereas others use complicated classifying schemes. Most states, however, are found somewhere in the middle with fairly simple classification systems. The other common variables are those of assessment ratios and tax rates, which vary tremendously between programs and classifications. While examining a current use or productivity tax, there is a host of areas that differ between states and programs, areas such as soil and land type classifications, the translation of these types into an amount/rate of growth/yield, the computation of stumpage prices, the treatment of management expenses, and the capitalization rate.

Withdrawal Penalties

Many states have instituted penalties for withdrawing from a special property tax program or classification. Some states differentiate in severity between voluntary landowner withdrawal and state forced withdrawal or cancellation. The penalties most often equal the difference between the owed taxes, with and without the special tax classification or program covering a specific number of years, plus interest at varying rates. Other penalties mandated by specific programs include: a percentage of the cash value of the timber, a percentage of the fair market value of the parcel, the total tax due without the classification for a specified number of years, or simply a specified dollar amount per acre. A study conducted by the Northern Forest Lands Council (1994) assessed two aspects of withdrawal penalties: the break-even point and the penalty versus profit. The use of these two measurements can show the effectiveness of imposing a penalty on program withdrawal. The break-even point is the point at which savings from the special tax classification equals the amount of the penalty. This point varies greatly by program ranging from just a few years to upward of 50 years. The study notes that a program with a short break-even period may be used to save money before conversion, yet a long period may discourage program entry. The penalty versus profit measure assesses something the break-even point misses, the significance of the amount of the penalty versus the amount of profit if the land is sold for

development. As the property tax owed is usually small when compared to land sales/profits, especially near urban areas, this can greatly diminish a penalty's effectiveness.

In summary, the elements listed above are crucial to a program's success, not only in addressing political realities, but also in achieving desired policy objectives. Entry qualifications must be targeted to the intended audience, excluding only those not desired. The administration of the program should be efficient and operated under the auspices of the most knowledgeable agencies. The application of the taxing mechanism should be tailored to a program's policy objectives. For instance, a yield tax should not be implemented if the goal is to encourage harvesting. Penalties for withdrawal should be constructed to meet program objectives yet at the same time keep in mind that penalties also affect those entering the program.

STATUS OF FOREST PROPERTY TAX PROGRAMS

National Review of State Programs

Types of Programs

A multitude of different property tax classifications and programs exist throughout the United States, applying directly or indirectly to forested lands. There are as many variations as programs. However, they are of only a few basic types: current use, ad valorem, flat, yield, and exemption. The bulk of the variation is in the details. The yield tax is generally and always in the United States, accompanied with one of these four types. Keeping in mind that all of the tax programs or classifications do not always fit neatly into these categories is important since the programs can vary in a number of profound ways and in a number of more subtle ways. After examining 66 programs or classifications from across the country, the following program frequency was determined: current use—36, ad valorem—15, flat tax—9, and current use/ad valorem programs—3 programs. It is important to note that at least one of these 66 programs or classifications exists in each state (see appendices A and B). A yield tax category was not used at this point, as it is always in addition to another tax type and could be added to all of the categories. Current programs which are being phased out and denying new entrants were not included in this summation.

Current Use Programs

Current use programs are the most popular in the United States. They constitute more than half the programs. They include those programs that use income capitalization formulas for valuation, administrative or legislative determined land use values, and simply the value of growth for valuation and taxation. Of these, the income capitalization formulation is by far the most popular with over three-fifths of the current use programs using it. This type of formulation values the land according to the income it can produce. Most programs based on income capitalization use a range of soil and land productivity classes. The number of classes in different states varies from three to fifteen, five being the most common and an average of just more than six classes. These soil or land productivity classes are in turn translated into yield information. This yield figure is multiplied by a determined average price, often an average over a number of years, and then

management costs are deducted. Not all states deduct management costs when capitalizing land income. For those that do deduct management costs, there are a number of different methods employed in calculating them. Many states simply determine some value of average management costs over the years of a rotation and distribute these costs as if they are occurring evenly annually. Other states, such as Alabama, deduct 15 percent of the yield multiplied by the average price, the result giving a rough estimate of income less the costs. Yearly management costs used for income capitalization, for programs that published estimates, ranged from less than five dollars per acre to more than twelve dollars per acre. After the management expenses are deducted, the amount is divided by a capitalization rate. These rates are often tied or indexed to certain federal or state bank rates. The capitalization rates in the national survey varied from 4.5 percent to 13 percent, with an average of 9.9 percent. The choice of the rate is generally determined by a political decision, as an objective rate is not known. This rate affects the formulation, and setting it is often a highly charged political decision.

Current use programs include not only those using an income capitalization formulation for valuation. They also may 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 published or set, generally, by state agencies or state boards. In a few instances, counties determine these values and rarely, even state legislatures. Since the seeming 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. The formulation they use is annual growth multiplied by an average price that is then reduced by a legislatively determined percentage. This type of program is uncommon and Minnesota is examining the elimination of its program.

Ad Valorem Tax Program

The second most popular type of program is the familiar ad valorem tax system. Today, most of the 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 of these programs reduce the fair market value by some percentage. Most often it is reduced further than if the land were not in a forested condition. Many states using this approach do not contain much forest land and simply lump it into an agricultural classification. Other states have a special forest classification under which the 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

The flat tax program is another, but less popular, program, with nine programs currently open to enrollment, four of which are in one state. These programs tax all lands in the program at the same rate, although some are accompanied by a yield tax. The 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
The fourth main type of program is a property tax exemption program, where certain forest lands are exempted from property taxation for a limited or indefinite amount of time. These programs are relatively rare in the United States, occurring only in Alaska, Delaware, and Iowa.

Three other state programs use hybrids of the above basic types of programs. They all are a combination of an income capitalization valuation mechanism and an ad valorem or modified ad valorem valuation mechanism. These programs, present only in Georgia, Kentucky, and Tennessee, 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.

Some states levy an additional tax on forested property besides the normal property tax. Generally, these taxes are for such management activities as fire protection or discouraging land use change. However, they may also include severance taxes that are sometimes levied against processors as well as producers. These taxes include the Privilege Tax (Alabama), Special Timberland 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).

Administration of Programs

Property tax programs vary considerably in terms of the manner in which they are implemented. Important elements of program administration are eligibility, application procedures, responsible administrators, penalties and additive taxes.

Eligibility
There are generally sets of conditions that must be met by the landowner, in order for the landowner to be eligible for enrollment in a specific property tax program or classification. These conditions vary widely from state to state and from program to program. The most common eligibility requirement is the size of the parcel. Forty-two of the 66 programs mandate a minimum parcel size, ranging from one acre to 50 acres. The average minimum is just more than 12 acres; the most common minimum is ten acres. A few programs specified a maximum acreage. These maximums ranged from 20 to 5,000 acres, with an average of more than 1,000 acres.

There are numbers of other eligibility requirements for entry into these special tax programs or classifications. Five programs require evidence of past use, with two years of past use as forest land being the most common standard. Some programs require the land be able to produce either a specified amount of growth, 15-20 cubic feet per acre per year, or a certain amount of income per year. Sometimes programs will waive the minimum acreage requirement if the land can produce a certain level of income. Some programs require the land contain an established stocking percentage or a specified number of trees per acre. These stocking percentages range from 10 to 40 percent, and the number of required trees per acre range from 20 to 1,200. One

program requires a minimum 40 percent canopy cover. Sixteen of the programs require the owner to procure a management plan for the parcel in question. These are generally monitored for quality and compliance by state agencies. There is a host of other less common requirements of forest tax programs, such as public access to the parcel, the existence of specific species, certification of the forest land, maximum land value, compliance with state forest practice laws, proper zoning, and evidence of previous harvesting. Although this list is extensive, it is not exhaustive. Other eligibility criteria can be found in Appendix B.

Application Procedures

Most of the programs or special land classifications require the landowner to apply for admittance or certification. Some classifications are simply designated, most often by the county assessor. The vast majority of programs require a one-time application. However, some programs require an application every certain number of years and some require re-application annually. A few of the programs charge a fee that varies from a fixed amount fee, to a per acre fee, to a fee based on a percentage of the property valuation. One state property tax program, as mentioned earlier, requires a public hearing before acting on applications. Some programs also require annual inspections to certify eligibility requirements. Many of these programs are administered as a contract or covenant between the landowner and the taxing authority. The period of the contract varies from one to 50 years. These periods can be either fixed or "rolling" in nature. A rolling period means the contract is generally renewed annually, but is of a duration of a number of years. This type of rolling contract is thought to aid in safeguarding land from development by encouraging an increased rate of participation, due to a shorter contract period and ease in terminating participation. The average contract period is slightly more than 15 years, with ten years being the most common.

Responsible Administrators

Nearly all of the programs are administered at both state and county levels. The bulk of the administrative duties is usually conducted by the county assessor. State agencies dealing with natural resources, environment, and tax revenue also carry out many of the administrative responsibilities. In 34 programs examined regarding their administration, the county assessor was the main administrator of 16, or just under half the programs. A state agency, such as a department of natural resources, was the chief administrator of 11 programs. The balance was administered by the county board, the state forester, the county appraiser, the county commission, or the county auditor. It is important to note that administrative duties for many of these programs are often shared between county and state officials and agencies.

Penalties

Many states have instituted penalties for withdrawing from a special property tax program or classification. Some states differentiate in severity of the penalty between voluntary landowner withdrawal and state-forced withdrawal or cancellation, the latter commonly due to the noncompliance with eligibility requirements. Most often, the penalties levied equal the difference between taxes with and without the special tax classification or program going back a set number of years. This penalty is often accentuated by a charge of interest on this difference at varying rates. Most programs refer to this as a rollback tax. Over one-third of the forest land tax

programs have a rollback tax penalty. The rollback periods range from one year to the unlimited number of years the land has been enrolled in the program. The average rollback period, throwing out the unlimited penalty, is just more than six years. Interest on these penalties varies between 6 and 9 percent for programs that use or specify these rates. In some programs, other penalties, instead of or in addition to a rollback tax, are mandated. A few programs charge 20 to 30 percent of the fair market value of the land. Another penalty levied for noncompliance is a percentage of the stumpage value. Wisconsin levies this type of penalty at 5 percent of the stumpage value. Other penalties include the total tax due without the classification for a number of years or simply a fixed dollar amount per acre.

Additive Taxes

Although a yield tax was discussed earlier as a type of tax with its own unique set of merits and pitfalls, the yield tax is used in the United States as an additive tax, meaning in addition to another form of property taxation. Some programs employ a severance tax. The main difference between the two is that the yield tax usually operates as a general property tax revenue producer, whereas the revenue from a severance tax generally remains in forestry related programs. This particular definition, as with many others in the realm of property taxes, is not adhered to by all. Of the 66 programs identified in the United States, 31 or nearly half were accompanied by a yield or severance tax. Using the above definition, 20 would be considered yield taxes. Most yield taxes are easily levied, as they are a simple percentage of the value of the timber harvested. These percentages ranged from 0.13 percent to 10 percent. The average rate was just more than 5 percent, and the most common was also 5 percent. A few programs charged a certain amount per thousand board feet, ranging from $0.15 to $3.19. Severance taxes are generally broken down into categories, in which different rates are charged for different species or different products. The number of categories varied from two to 14 and averaged just fewer than seven.

Case Example Review of Programs

Five states were selected for further analysis, namely California, Georgia, New Hampshire, Minnesota, and Wisconsin. They were selected using the following criteria: (1) each state represents different types of tax structures with unique design elements, (2) each program has been proclaimed as at least partially successful in achieving policy objectives, and (3) each represents different areas of the country.

California

California real property is assessed at its full cash value, however, three special taxation programs may be applied to specified forested lands: the Enforceably Restricted Land Program, which establishes Timberland Production Zones (TPZs); the Agricultural Preserve or Open-Space Program; and the Timber Yield Tax. The first two programs are exclusive of each other, while the third applies to all forest lands. Note that the program involving TPZ is a zoning program whereas the Open-Space Program is a more traditional current use program.

Requirements. TPZ land is designated by the county board. It must be devoted to timber production, and be capable of growing 15 cubic feet of wood fiber per acre per year. The

zoning designation requires a management plan and adherence to the state forest practice rules. To be considered for the Open Space program, forest land must be in an agricultural preserve with its use restricted for a minimum of ten years. State forest practice rules are mandatory, but there is no requirement for a management plan.

Administration. The TPZ designated land is administered by the local zoning authority, with a range of taxable values for TPZ land set by the state. The Open-Space program is chiefly administered by the local tax assessor.

Valuation Technique. The methodology for TPZ land valuation is mandated by statute and the values are assigned for three regions, each containing five site classes. The statute concerning land values is updated based on changes in five-year average stumpage values. Open space forest land is valued using an income capitalization method. All forest land is currently subject to a 2.9 percent yield tax in California. The yield tax is not applied if the harvesting is for personal use or the value of the harvesting in any fiscal quarter is less than $3000.

Withdrawal Penalties. The TPZ program is a ten-year rolling program. The owner may request rezoning, which results in no penalty, however it requires county board approval and a ten-year period before the use of the land can change. If the landowner requests immediate re zoning with land use change, upon approval, the landowner must pay a tax recoupment fee that is in excess of the difference in annual taxes. There is no penalty for nonrenewal of the Open-Space program ten-year contract, however, if the landowner cancels the contract there is a cancellation fee of 12.5 percent of the fair market value of the parcel, and a tax recoupment fee similar to the TPZ fee.

Assessment. According to the Northern Forest Land Council's Forest Taxation Project, state officials claim administration of the program is efficient. The TPZ program improves long-term economic viability of forest management, but may well transfer or increase development pressures onto non-TPZ land. Teeguarden (1976) noticed that the TPZ program substantially reduced the incentive to harvest timber. Romm et al. (1987) observed that a high percentage of nonindustrial private forest lands had been excluded form the TPZs, lessening the incentives on these lands for forestry investment.

Georgia

Georgia classifies land into ten categories. Forest land is generally classified as agricultural property, conservation use property, or environmentally sensitive property. Forest land may be valued for taxation purposes in a few different ways. Forest land may qualify for the preferential assessment program or it may qualify for current use valuation, if it qualifies as conservation use property or environmentally sensitive property.

Requirements. All three programs or classifications have a maximum acreage limit of 2,000 acres. Unlike most other states, this limit applies to the owner not the parcel, meaning the owner cannot enroll more than a total of two thousand acres of land into the program. All three

programs also require the applicant to be a natural or naturalized citizen. The preferential assessment program requires 80 percent of the owner's income to come from farming. Environmentally sensitive land must be certified by the Georgia Department of Natural Resources before classification. To qualify as conservation use land, the land must be used primarily in the production of timber, yet the law allows up to 50 percent of the land to lie dormant at any one time.

Administration. The program is generally administered on the local level with applications for programs directed to the respective local board of assessors. However, land valuation estimates and the determination and certification of environmentally sensitive lands is made by state agencies.

Valuation Mechanism. Property under the preferential assessment program is valued at 75 percent of its fair market value. This is instead of the standard valuation at 100 percent of fair market value. Conservation use and environmentally sensitive lands use a "current use" valuation in determining an assessment. This valuation is a combination of an ad valorem valuation and an income capitalization valuation. Sixty-five percent of the value is based on a five-year weighted average of per acre income from both hardwood and softwood in the state. Thirty-five percent of the valuation is based on market studies of sales data of comparable lands. These values are determined annually at the state level for nine productivity classes in nine regions. Standing timber is exempt from property taxes, but is assessed at 100 percent of its fair market value at the time of harvest or sale.

Withdrawal Penalties. The conservation use and environmentally sensitive property upon approval of application is entered into a ten-year agreement. If the land use changes, or other requirements of eligibility are violated, the county will levy a penalty consisting of rollback taxes, interest, and depending on time of withdrawal, additional penalties. This penalty applies to the total parcel, even if the violation only involves a portion of the parcel.

Minnesota

Minnesota employs a combination of taxes that apply to forest lands. These include an ad valorem tax, a productivity tax, and a flat tax with a yield tax. Minnesota has a unique property tax system that is meant to hedge against the general regressive nature of a property tax. First, Minnesota has a multi-tiered property tax rate structure, meaning different land types or land uses are taxed at different rates and certain amounts of value are also taxed at different rates. For instance, the first $75,000 of market value of a residential homestead is taxed at 1.0 percent, whereas the market value that exceeds $75,000 is taxed at 1.7 percent (Pay 2000). This, at least in theory, is to correct for the regressive nature of the property tax, as the property tax is not well based on the taxpayer's ability to pay. Second, the tax is complimented by a progressive property tax refund system. Within this system, the refund amount to the taxpayer is equal to the amount that their property tax exceeds a certain percentage of the landowners' or renters' income. Minnesota taxes forest land under three programs: ad valorem taxation, the Auxiliary Forest Tax, and the Tree Growth Tax.

Classification-2b. The most common and well-known property tax type in Minnesota is the ad valorem tax. Different rates, established by state statute, are applied to different classes of property. The 2b classification is that for timberland, however timberland may be classified as 2a if it is part of a farm. Currently, more than 1.8 million acres of property are enrolled in the 2b classification. The law, which governs the classification system, states that real estate in class 2b must be used exclusively for the growing of trees. Though this definition seems fairly clearcut, it was found that there is much room left for interpretation by assessors as to how land is classified. The class rate for 2b land is 1.2%. This rate, which is determined by state statute, is then multiplied by the market value of the land. The market value of each parcel is determined by the county assessor annually, basing the valuation of the parcel on recent sales of similar property. Once the class rate is multiplied by the market value, this product is multiplied by the local tax rate. The local tax rate is the sum of all tax rates from the districts that contain the specific parcel. This is determined by the county auditor who divides the dollar amount of the levy by the total taxable valuation. The ad valorem tax formulation is as follows: Estimated Market Value x Class Rate x Local Tax Rate = Tax Payable.

While county assessors use Minnesota Department of Revenue guidelines when classifying land, similar appearing properties may be classified differently by different assessors. This often depends on judgements made about primary use and interpretations of class definitions. Some county assessors may require a management plan, though this is not a requirement of the law (Baughman 2000).

In addition to the 2b and 2a classification, forested land is also included in other property classes such as: 1a residential homesteads, 4bb nonhomestead residential or farm, or 4c as either commercial seasonal recreational residential or noncommercial seasonal recreational residential.

Auxiliary Forest Tax. This property tax program was enacted by the legislature in 1927, however, it is being phased out. New auxiliary forest contracts or extensions have been prohibited by law since 1974. In 1999, there were still 34,189 acres enrolled in the auxiliary forest tax program. These remaining contracts are set to expire within the next five years. Qualifications for entry in this program included "land suitable for the planting, culture, and growth of trees for the production of timber or forest products" (MN Department of Revenue 2000). The land was designated upon application by the owner after approval by the county board. There exists a provision in the law that, where possible, when the auxiliary forest contract expires, the land is to be automatically enrolled in the Tree Growth Tax program (discussed in the next section). The auxiliary forest tax is $0.10 per acre per year plus a yield tax of 10 to 40 percent of timber value, which varies by the year of harvest as compared to the year of enrollment.

Minnesota Tree Growth Tax. The Minnesota tree growth tax, similar to the auxiliary forest tax, is in lieu of the ad valorem property tax. This tax is based on the value of the annual timber growth on a parcel of land. Currently 712,615 acres are enrolled in the program.

Individual counties may choose to adopt this program, although some are currently closed to new enrollments. Currently ten counties have adopted the tree growth tax program: Becker, Carlton, Cass, Crow Wing, Hubbard, Itasca, Koochiching, Morrison, St. Louis, and Wadena county. The program requires that a parcel be a minimum of five acres and that the landowner must submit an application to the county board including the following items:

- A legal description of the property
- A map of the forest types present on the parcel
- A statement of intention to reforest temporarily nonproductive land
- A signed and sworn statement that the land will be used exclusively for growing continuous forest crops in accordance with sustained yield practices and will be open to the public for fishing and hunting.

Most counties who have adopted the law have proceeded to tack on additional qualifications (Baughman 2000).

Commercial Forest Types. After the parcel meets the above requirements, it is classified into one of three categories provided in the law: a commercial forest type, a temporary nonproductive forest type, or as permanently nonproductive land. The commercial forest type category is defined as able to produce at least three cords of pulpwood or sawlogs per acre or that the parcel contains 500 stems per acre. Tax for this classification is calculated at 30 percent of the value of the estimated average annual tree growth for each forest type contained on the specific parcel. The growth rate for each forest type is determined by the local county board every ten years and is based on Minnesota Department of Natural Resources and US Forest Service survey data. The stumpage value is calculated biennially, in the even years. This value is based on timber sales receipts on state land in the specific county over the previous two years. The formulation is as follows: Growth Rate (cords/acre) x Stumpage Value/Cord x 0.30 = Tax Payable

Temporarily Nonproductive Forest Type. This classification is defined as capable of producing, but does not presently contain sufficient volume to be classified as a commercial forest type. The land is taxed at a flat rate of $0.05 per acre per year. The tax is levied with the stipulation that the owner must agree to reforest within ten years. If the owner fails to reforest within the ten-year period, the owner is then levied a tax of $0.15 per acre per year. This classification also provides for a tax credit of $0.50 for each acre planted and maintained with a minimum of five hundred trees. This credit may be taken annually for up to ten years. Many counties require landowners to sign an agreement relinquishing their right to this credit (Baughman 2000).

Permanently Nonproductive Land. This classification is defined as unsuitable for growing commercial forest types. The tax for this classification is $0.05 per acre per year.

Other Provisions. Should a landowner decide to withdraw from the tree growth tax program a penalty of the difference in taxes between the ad valorem system and the tree growth program is assessed for up to ten previous years of enrollment. In comparing the ad valorem system and the tree growth tax program, for payable 1998 figures, the state average tax for the 2b timberland classification was $3.53 per acre, whereas the state average for the tree growth tax program was $2.18 per acre. It is important to note that these are averages and that in Becker and Hubbard county the average tree growth tax exceeded the average 2b tax. This was due in large part to the high tax figures for Norway and White pine. These species types were taxed at an average of $8.62 per acre statewide (Baughman 2000).

Assessment. There are a number of problems with the forest taxation programs in Minnesota. Administratively, the counties may choose to adopt the Tree Growth Tax Law, and given the chance, only ten counties have chosen to do so. Complicating matters, these ten counties have all added additional requirements or closed the program to new entrants. This results in a lack of equity in the taxation of forest land on a statewide basis. Another problem is that the Tree Growth Tax Law, which is supposed to provide a tax reduction to qualifying forest property owners, in some cases actually results in higher taxes than the normal ad valorem classification would. This is due to the steep increases in stumpage prices over the last ten years. There are currently plans afoot to address these problems and other concerns such as increased investment in forests and the preservation of forested properties.

New Hampshire

The property tax programs affecting forests in New Hampshire are governed by the Current Use Law and the Timber Tax Law. The Current Use law provides for the valuation technique for forested land and the Timber Tax Law is a yield tax law.

Requirements. In order to have land considered under the Current Use Law for reduced valuation, the parcel under consideration must be greater than ten acres, able to produce an annual gross income of at least $2500, or be designated as a Certified Tree Farm. A management plan is not required but is often used as documentation of "responsible land stewardship." This additional classification of practicing responsible land stewardship reduces the "current use" value by about 50 percent. New Hampshire also allows a 20 percent reduction in land valuation if the landowner allows year-round nonmotorized public access.

Administration. The landowner applies to the local assessor for current use assessment. The Current Use Board, a statewide entity, annually establishes a schedule of taxable current use values. The Department of Revenue Administration administers and enforces all other aspects of the program.

Taxing Mechanism. The land is valued according to a schedule of taxable values set by the Current Use Board. These values are based on an income capitalization method for timber

production. These values are broken down into four cover type classifications. Each classification is given two values, one reflecting the added costs of "responsible land stewardship." The value may then be further reduced if the landowner allows public access. This value is then subject to the local property tax rate. This law is accompanied by a yield tax of 10 percent of the stumpage value.

Penalties. If the owner is changing the land use to a nonqualifying one, the penalty due is 10 percent of the fair market value of the parcel.

Assessment. An assessment of certain program elements was documented in interviews conducted by the Northern Forest Lands Council (1994) forest taxation project. Most persons interviewed found the program weak in promoting good forest management, ineffective as a deterrent to land conversion, and a problem in that there is no direct reimbursement mechanism from the state to county governments.

Wisconsin

Wisconsin forest land has, in the past, been eligible for enrollment in one of three different property tax programs. The Managed Forest Land tax program is the only one now open to enrollment, and therefore, the only one discussed herein. This program is different from others discussed in that it establishes a tax burden rather than setting taxable values. In addition, there is also a yield tax of 5 percent of the stumpage value.

Requirements. The minimum parcel acreage allowed is ten acres with 80 percent of that land required to be suitable for timber production. The program requires a management plan and public access, of which 80 acres may be exempted from the public access requirement by the landowner for an additional cost. The landowner must enter into a 25- or 50-year contract.

Valuation Mechanism. The land is taxed at one rate set by state statute. The current rate is $0.74 per acre per year. An extra $1.00 per acre per year is paid for land closed to public access.

Withdrawal Penalties. The penalty for withdrawal is the greater of: (1) the difference in what taxes would be owed according to the ad valorem system and taxes actually paid while enrolled in the managed forest land program multiplied by the number of years since entry into the program, or (2) 5 percent of the stumpage value. Fifty percent of any penalty paid is disbursed to the Wisconsin Department of Natural Resources and 50 percent is given to the county containing the parcel.

Assessment. The Managed Forest Land tax gives landowners substantial tax savings and promotes the management of forested lands. The yield tax has become an administrative nightmare, costing the state two and a half times what it brings in. Studies by Barrows and Rosner (1982) and Stier (1992) found the most frequent reason for not enrolling in the program was the public access requirement, but this was amended to allow 80 acres for exemption

of public access. However Stier (1997) found that after seven years of the new public access exemption, there was no increase in enrollments. This may be attributable to the fact that as more lands are enrolled there are smaller amounts from which to draw. Other reasons given for a lack of enrollment included the fact that benefit has been small, a lack of information, and concern about the penalty, which can exceed the actual land value. This is seen as a strong disincentive to participation.

In summary, there are a variety of forest land property tax programs, each designed with specific goals and interests in mind. Despite this diversity, only a handful of forest land property tax programs or classification types are used by the states. The basic elements of the programs consist of eligibility requirements, administration, taxing or valuation mechanisms, and penalties for withdrawal. Another variability not evaluated in this review is the effect of the program on local revenue generation. Often states will design methods of providing lost revenues to local governments, but ignoring these local revenue interests has thwarted many efforts in forest land property tax design and reform. Most of the forest property tax programs are in a constant state of evolution. Similarly to the world of natural history, this evolution seems to proceed in fits and starts, with certain types of programs gaining or losing popularity over time. It is interesting to note that there are distinctive regional similarities in forest land property tax programs. In the west, which includes California, Oregon, and Washington, there is a tax on bare land values, complimented by a yield tax. Most of the southern states use an income capitalization valuation accompanied by some sort of yield or severance tax. Tennessee, Kentucky, and Georgia are the only states to use a combined ad valorem and income capitalization valuation. Many northeastern states, Delaware, Maryland, New Hampshire, New Jersey, Rhode Island, and Vermont, use a determined use value program.

Foreign Country Programs

As discussed previously, the taxing of property is not unique to the United States, and did not originate here. Many countries impose property taxes and it is instructive to examine some of the European property tax programs, from which our system is derived, along with others throughout the world. Their variety and evolution have been rich. Not unlike the United States, many countries have a slate of tax programs, as well as other fiscal programs, which affect forest land. None of these programs work in isolation, but are used as compliments to other programs. In comparing property tax programs of other countries with those in the United States, one must also examine income taxes, as these often mimic types of property taxes in the United States. For instance, many European countries impose an income tax on a measure of annual growth, just as in the United States, many property tax programs are based on an income capitalization formulation. Many of these tax programs can be categorized using the same descriptors as the programs as in the United States.

Exemption

Turkey and Poland each mandate a 50-year exemption on forest land. Forest land is exempt from property taxes from the point of planting, continuing through 50 years of growth (FAO 1988). Finland exempts forested property for up to 25 years. France also uses forest property tax

exemptions, but within a more complex scheme. The exemptions vary by species planted: poplars are exempt for ten years; conifers are exempt for 20 years; and broad-leaved trees, excluding poplars, are exempted for 30 years. As in Poland and Turkey, the exemption begins at planting. France also employs an income tax based on annual growth and an inheritance tax that may be avoided by obtaining a management plan.

Current Use

France, Belgium, Germany, and Finland base some part of their forestry taxation on an income capitalization formulation. Belgium levies an income tax on forested land based on an annual yield. Germany employs both an income tax and a land tax on forest property that is based on income capitalization. Finland also levies an income and property tax on forest land based on annual yield, which is in turn added to the owner's nonforest income to compute the tax (Ovaskainen 1992).

Ad Valorem

Japan taxes forest land on an ad valorem basis. However, profits may be set aside, tax free, for reforestation or afforestation costs. Planning costs can be taken as a deduction. Income from forests is treated separately from other income, meaning it is not added to other nonforest income and possibly increasing the tax rate (Iwai 1988). Indonesia uses a modified ad valorem tax, with values based on five species types and three productivity classes (Schlabrendorff 1992). Sweden also bases taxes on market value. Although Sweden has no property tax, there is a "forest fee" which is based on a reduced market value, similar to our modified ad valorem tax.

Estate Taxes

Britain and Ireland have no income or property taxes on forest land, but each country has an inheritance tax with special forest land provisions. Britain taxes the value of the bare land at the time of inheritance, but the value of the timber is only taxed at the time of harvest. In Ireland, the inheritance tax is substantial, but is much reduced if the person is a farmer (Grayson 1993). It is important to note that Britain and Ireland offer incentives for management such as restocking, improvements, and planning through direct grants or cost shares rather than building in mechanisms within property tax programs or the tax codes.

Trust Fund Program

In Norway, there is no property tax, but, as in much of Europe, there is an income tax based on an annual yield. Norway also has a "Forest Trust Fund," established in the 1930s, which requires all private forest landowners to contribute to the fund 5 to 25 percent of the gross value of timber sold. This percentage is determined by the amount of tax paid by the landowner, the landowners' financial status, and the landowners' past history of caring for the forested property. Money can then be withdrawn from the fund and applied only to the areas in which it was raised. It may be used for silvicultural activities, forest road construction and maintenance, forest planning, professional education, forest drainage, fertilizing, and activities to enhance environmental goods and cultural heritage. As the landowner earns no interest on the money in the fund, there is a strong incentive to use it quickly. The average turnaround of the landowner's money in the fund

is about one and a half years. The government uses the accrued interest to support national forestry programs and efforts (Framstad 1997; Oistad et al. 1992).

In summary, countries around the world employ a variety of policy tools and taxing schemes. Many countries, just as in the United States, provide tax incentives for private forest land. Most commonly, especially in Europe, management is encouraged by using direct grants, however tax policy is also used to achieve policy objectives. In many countries, forest land taxes are structured a bit differently from those in the United States, but there are some parallels. Many countries, especially in Europe, use tax exemptions for newly established or replanted forest lands. These exemptions can range from ten to fifty years. A number of countries, including some that offer exemptions, also tax forest lands based on their ability to produce income. Some of these countries consider this a property tax, as it is in the United States, while other countries add this amount to their taxable income. Inheritance taxes are present in many countries, affecting the taxation level on forest lands. Ad valorem or modified ad valorem property taxes on forest lands exist in other parts of the world. These are primarily concentrated in Asia. Norway's Forest Trust Fund is a unique tool used in the place of property taxes that creates excellent incentives for management.

ALTERNATIVES TO PROPERTY TAX PROGRAMS

Property taxes are not the only types of taxes or fiscal instruments affecting forestry and forested lands. A number of other tax programs provide incentives or disincentives to certain forest management activities, which work in conjunction with, or at odds with, established property tax programs.

Tax Program Options

Taxation programs other than property include income and capital gains taxes, estate taxes, and sales taxes. Income and capital gains taxes, both at the federal and state level, can be significant determinants of land management incentives and abilities. A variety of deductible credits and capital expenditures are directed toward forestry. These most often include planting and reforestation expenses, road building expenses, costs of timber cruises, taxes, and depreciation. It is important to note that income tax deductions are targeted at activities that will provide future income. As future income may not be a primary or even a secondary management goal of a landowner, other programs need to be looked at to provide incentives for these types of landowners.

Estate and gift taxes can place a great burden on landowners. This tax is levied at the time the property is inherited or gifted. These taxes only apply to noncorporate holdings, which has in the past made them of little concern to the forest industry. However, as the demand for wood fiber from nonindustrial private land increases, the forest industry has become increasingly engaged. If the landowner has failed to conduct some planning before inheritance, this burden may prove to be too much for the inheritor, forcing sale and the possible conversion of forest land to other uses.

This may be another avenue that could be used to create incentives toward policy goals. Other taxes that affect forestry activities include sales and excise taxes

Fiscal-Regulatory Program Options

Development Rights and Conservation Easements

The transfer of development rights or establishment of conservation easements is another policy tool that can be used in complimenting property tax programs. A conservation easement is generally a "permanent deeded restriction, voluntarily placed on the forest land by the landowner. Its terms define and limit the kind of development and use that can take place on the property" (Greene 1997). The purpose of the conservation easement, in a forestry context, is to keep the land in forest cover, reduce the land's taxable value, or both. The second purpose has obvious property tax ramifications. In 1996, there were 750,000 acres in the United States under conservation easements (Best and Wayburn 1996). As these easements are a relatively new phenomenon, occurring in the last 20 to 30 years, many of the landowners that have obtained the easements still hold the land. Once these lands turnover on a large scale, there may be new concerns about conservation easements. However, easements not only stop land conversion and lower property values but often help to minimize public conflict as these transactions only take place between willing buyers and sellers (Dennis et al. 1999). Conservation easements, if donated, are often tax deductible and may reduce or eliminate any estate tax by lowering the owner's land values. Boelhower (1995) found, in a New England survey, that those owners with conservation easements tended toward high quality management of their forest lands. Ninety percent utilized professional foresters and 70 percent had obtained management plans. On the downside for landowners, conservation easements reduce the value of the property, a not so positive attribute when a landowner decides to sell. Conservation easements are also often very costly to implement, with high purchase prices, high negotiation fees, and high administrative costs.

Public Benefit Rating Systems

Another alternative or compliment to property tax programs as a policy tool is something referred to as a public benefit rating system. This type of system is currently used by a handful of counties in the state of Washington. These programs assign points to certain property attributes, such as critical wildlife habitat or allowance for public access. These points are totaled and the greater number of points obtained, the greater percent reduction in market value. This type of program seems promising but the administrative burden may be cumbersome.

Green Accounts

Another alternative to traditional fiscal policy tools is a concept forwarded by DeCoster (1996) called "Green Investment-Reinvestment Arrangements." This type of arrangement allows the landowner to invest pretax dollars to be used in the future for forest maintenance. This system is similar to the Norwegian forest trust fund discussed earlier. DeCoster touts this type of program

because the money would earn interest, it could only be spent on forest management activities, banks could administer it, and the concept is familiar and simple. A study conducted by DeCoster found that these types of accounts would increase federal tax receipts by 12 percent and increase cash flow to landowners by 20 percent. Greene (1997), also, examined something very similar called "Green Savings Accounts" which tend to mimic the Norwegian program a bit more closely.

A few other alternatives to traditional policy tools include land banking and the development of forest districts. Land banking involves the purchasing of land by public entities to be leased or resold in accordance with planning objectives. Forest districts use a similar planning approach by making certain areas subject to special treatment. This policy is not far from California's zoning approach.

In summary, there are many ways to fashion tax policy to meet public goals pertaining to forested property. Property taxes are not the only vehicles, nor the only tax relating to forested property. Income and capital gains taxes, and inheritance and gift taxes also play an important role in land use decision making. Some policy goals may be better addressed in an income or inheritance tax program rather than in a property tax program. Other policy tool alternatives may, in conjunction with tax policy, be better suited in reaching public goals. Conservation easements or the purchase of development rights are well-suited policy tools in aiding maintenance of a forested land base while simultaneously reducing taxable values. A public benefit rating system may also be used to compensate landowners for their provision of nontimber benefits. This type of program can also be tailored to a specific area's needs or desires. Other alternatives, not directly affecting property taxes, include Green Investment-Reinvestment Arrangements and Green Savings Accounts. These tend to reflect the principles and goals of the Norwegian trust fund. Other possible policy tool options include land banking and the creation of forest districts.

SUMMARY AND RECOMMENDATIONS

Context of Tax Programs

Many policy instruments are used to affect private forest land and private forest management. They include technical assistance programs, educational programs, regulatory programs, financial assistance programs, and tax incentive programs. Tax incentive programs are integral to this mix of policy tools that affect private forest lands. The property tax is one of the most influential among these taxing mechanisms, and one of the most debated in regards to encouraging or discouraging forest land management.

Historically, property tax programs have been designed to accomplish many public policy goals, including timber production, preservation of forest land, provision of recreational benefits, and the provision of environmental benefits. Many states have used property taxes as their primary tool in striving to attain these goals. The history and continued use of property tax programs indicate their probable future use, as well as, appropriateness and importance in encouraging and achieving policy goals. Landowners have listed them as their number one preference for management incentives within the property tax system. While concepts and methods of management and

sustainability are foreign to many forest land owners, property taxes are familiar and visible to every landowner. This visibility adds to the effectiveness of property tax programs, as other technical and fiscal assistance programs often lack the visibility of a property tax program.

Property tax programs are generally constructed as voluntary and incentive-based programs. As most landowners prefer this method to the more heavy-handed approach of regulatory programs, they can be more politically palatable. Property tax programs can be used through careful design to encourage the use of technical assistance or educational programs. Such property tax programs may also aid in creating equity in taxation between landowners, raising awareness of the important benefits provided by private forest land.

Program Design Standards

Property tax programs should be designed to be a reflection of the problems to be addressed, meaning program goals should mirror current problems. The level of clarification of program goals may be directly related to the level of program effectiveness. Goals should be firmly tied to the program design, including the land valuation mechanism. The higher the number of goals, the more difficult it is to design a program. In addition to having clear goals manifested in the program design, coordinating the design of a program with other existing programs at all levels of government is imperative. As revenue-producing programs are of special interest, competition between levels of government may decrease efficiency. It is important to coordinate tax revenue programs with other programs to minimize duplicative efforts while maximizing the potential use and benefits of complimentary programs. In the evaluative stage, it is important to remember that there is usually a long lag, in the forestry policy sector, from implementation to results, and that program needs and actions can change as a result of new problems before a current program can be objectively evaluated. Last, acknowledging the need for a well-designed method of transition from the current property tax program to a new one is extremely important. Not only is this need often overlooked or given little attention, but lack of attention to it may prove to be the undoing of a new program.

General Tax Perspective

A variety of standards or criteria can be used in designing and evaluating property tax programs. These cover evaluative and descriptive characteristics as related to tax policy, regardless of its application. These standards include equity, both vertical and horizontal, which concerns fair treatment under taxation policy. A second standard is efficiency, both in an administrative sense and a neutrality sense. This means evaluating the program as to the degree in which it is efficiently administered and the degree to which it affects market-based decisions. The other tax standards, simplicity, stability and adequacy, and visibility, are also very important in the design of a tax program.

Forest Tax Perspective

A number of standards or criteria unique to the forest resource also can be used in designing and evaluating property tax programs. These are generally a function of the goals of a particular program and will vary from program to program. Forest productivity is one of the most common goals which most often refers to the production of wood fiber. The application of sound and sustainable forest management practices is another common goal as well as a useful evaluative measure. The preservation of forest land in size and character is also another commonly held goal, but is difficult to achieve. The production of nontimber benefits, really a subset of productivity, is also a common goal, although often treated as a secondary concern.

Program Types

There are multiple methods and combinations of methods in which states and foreign countries tax forest property. These methods can be generally categorized into five categories: ad valorem, current use, flat, yield, and exemption. The most popular program in the United States, current use taxation, can take a number of forms, but generally uses a reduced valuation often based on the income producing capacity of the forest land. Ad valorem tax programs are also popular. Mostly of a modified nature, properties are valued at a reduced market value or taxed at a reduced rate.

Ad Valorem

Ad valorem taxation involves taxing property at its fair market value. Most states that employ ad valorem taxation on forest land modify it by reducing the rate of taxation or the property valuation. This type of taxation performs poorly when measured against accepted taxation standards and worse when applied to the forest resource standards. Ad valorem taxation does have the distinct advantage of familiarity with the citizenry. This goes a long way, as change tends to come slowly and incrementally in the world of policy.

Besides the power of familiarity, ad valorem taxation is generally considered an unwelcome apparition of the past. In regards to the general taxation standards, it performs poorly. Taxes based on fair market value include the value of timber. This may be of little consequence in areas of urban development, which have a much different set of land use problems, but means that each year all of the previous years' growth is taxed. This continual taxation, up to more than a hundred years, of a good in progress is unheard of in other industries or endeavors. Not only does this create an incredibly high carrying cost, but also the timing of the taxes is poor in regards to income realization. Unlike in agriculture where income from the land is realized annually, forest income is realized only periodically. The fairness of this especially high carrying cost of annual ad valorem taxes is often brought into question. Since values are continually changing due to market activity and tree growth, the valuation of forest land is a burdensome administrative activity, rarely carried out with accuracy.

These same issues relate to the forest resource standards. As increases in productivity and management from activities such as thinning or other timber stand improvements increase the value of the trees, landowners have a disincentive to carry out such improvements because of the resulting increase in taxes. This may also lead to a shortened rotation to recover the excessive carrying costs. Defenders of this tax maintain that due to the administrative difficulties associated with ad valorem taxation of forest land, that these problems are rarely realized and would only shorten the optimal rotation period by a year or two. The problem of the high carrying cost of forest property taxes may encourage a change in land use, threatening the forest land base in a state. This type of taxation performs rather poorly in regards to taxation standards and should probably be avoided in new program design. Taxing all property this way may appeal superficially to needs for apparent equity, but falls short when its equity is measured across different types of ownerships and uses.

Current Use

Current use property taxation is the most common property tax program aimed at forest land in the United States and is used in some form in many countries around the world. This type of tax is based on the value of the current use of the parcel instead of its fair market value, which may or may not be different. These programs use one of three types of property valuation. The most common is the income capitalization valuation, second are administratively or legislatively set valuation schemes, and third are valuations based on annual growth. This type of program tends to measure up to the standards a bit better than the ad valorem taxation method. Current use taxation tends to promote equity between uses, by reducing the substantial carrying cost of ad valorem property taxes. However, current use taxation still creates equity questions when land with different stocking levels is taxed identically, particularly when bare land is taxed identically as fully stocked or harvestable land. These equity concerns may be corrected or minimized by simultaneously employing a yield tax. Additionally, current use taxes provide a stable source of revenue, and, after the initial start-up investment, are much easier and cheaper to administer than an ad valorem system. Concerning other efficiency or neutrality issues, current use taxation should not affect the optimal rotation period and provide no disincentive for management.

Regarding the forest resource standards, current use taxation presents a mixed bag. Productivity increases are not encouraged except in regards to providing an incentive for immediate reforestation or planting after harvest, as taxes remain the same for bare land as stocked land. Some states claim success in increasing forest management through current use taxation programs, while others note little change. This is because these changes, or lack of changes, are often more a reflection of administrative qualities of the program, such as entry requirements, than of the taxing mechanism. Although this type of taxation is often touted as an effective land use planning tool, it generally is not because the small incentives created in property taxation programs cannot measure up to the large amounts of capital realized upon sale or conversion of the land. Development may be delayed, but is rarely avoided. Current use property taxes are not an appropriate or effective vehicle to be used to hedge against the loss of forest land.

Flat tax

The flat property tax, levied at the same amount per acre regardless of value or land characteristics, appears equitable on the surface generally. However the tax burden is shifted to the less productive lands, as is also true with current use property taxes. From an efficiency standpoint, flat property taxes do not affect optimum rotation periods and provide no incentive or disincentive for management. This type of tax provides a stable and predictable amount of revenue but the adequacy of the amount is often a concern. In practice, most flat tax rates are relatively low. This attribute, often unmentioned, does, however, aid in correcting the timing problem between payment of taxes and realization of income. The tax has a high degree of administrative efficiency, as it involves few variables and may be combined with a yield tax that can help correct some of its inequities.

Yield tax

The yield tax, levied on timber at the time of harvest, equals a percentage of the timber sale value. It is always applied, in the United States, in conjunction with other taxes as it can aid in correcting some inequities present in other taxation methods. For example, when attempting to give similar parcels equal treatment, it can be used in an accounting for different stocking levels. Also, it shifts the tax burden to the time of income realization, giving relief from the typical high carrying cost of property taxes. This shift spreads the risks in timber production across a wider base. This is good for the landowner who must otherwise face such damaging risks as fire or insects, risks beyond their control, while paying taxes on a yet unrealized product. The yield tax does, at the same time, carry its own set of negative baggage. Without careful program planning, the landowner's incentive to minimize these risks may well be reduced. The equity of this tax may be questioned if a loophole is left in the tax program for those who do not plan to harvest. However, this concern may be quelled with the use of a mandatory period for paying a yield tax, whether or not there was an actual harvest. From a tax efficiency standpoint, the yield tax may increase the optimal rotation age, while landowners put off payment of the taxes. This can have a positive effect on the provision of nontimber benefits that accrue to older or mature trees. Negatively, a yield tax may discourage thinnings, as taxes are paid on any product harvested. Other timber stand improvements may be discouraged late in the rotation as well, as they may be seen as adding to the value of the product harvested with little time to capitalize on the improvements made. The jury is still out on the administrative efficiency of these taxes. Some states claim great successes and other states are screaming about added costs. The yield tax, standing alone, is most definitely the least stable and predictable source of property tax revenue, but with revenue smoothing schemes these effects can be eased. This type of tax has little impact on the forest resource standards other than creating some incentives and some disincentives for management activities. The other forest resource standards are simply governed by the level or rate of tax.

Exemptions

Exempting forest land from taxation is more a European than United States practice, but a few programs do exist in a handful of states. These programs exempt specified forest land from

property taxation for a stipulated period. Serious equity concerns exist regarding this type of program. These are not between different owners of forest land, but between owners of forest land and other landowners to whom an added tax burden is often directly or indirectly shifted. Obviously, without a level of taxation, there are minimal efficiency concerns to deal with.

In summary, no tax type or combination of tax types works best in all situations. Each situation has its own requirements as well as particular political conditions which must be dealt with. Taxing mechanisms must be in line with the program goals; for instance, a productivity tax should not be used with a goal of promoting recreational opportunities. Each type of property tax has its strengths and weaknesses, making program design a situational event. Some programs may work well in combination or conjunction with other program types, or some programs may best function utilizing some of the discussed alternative programs.

Each of the tax programs has serious but different equity considerations. The palatability of different equity concerns is most often a function of the current political climate. Some of these concerns can be allayed by combining forms of taxation, most often by adding a yield tax. Other combinations exist and can have similar complimentary effects. In dealing with the standard of efficiency in both the neutrality and administrative aspects, one finds, similarly, that each type of program has unique advantages and disadvantages, and combining the programs may ease the problems. From an administrative efficiency viewpoint, the types of tax programs exist on a continuum. After the yield tax that can vary greatly, the ad valorem is the next most costly to administer, followed by the current use tax, then the flat tax, and last exemptions. In providing revenue stability, the current use and flat taxes are the more reliable while the ad valorem and most especially the yield taxes can be highly variable. Revenue adequacy is a concern but is really only a function of tax rates. Visibility of tax programs is in large part a function of publicity, but the familiarity with the ad valorem system is an advantage.

When addressing the forest resource standards, the different types of taxation vary as to efficiency, as well. Ad valorem taxes may be a disincentive to increasing forest productivity, causing an adverse effect on promotion of sound forest principles. Depending on tax rates or amounts, some programs may be more or less effective in discouraging the conversion of forest land. Although current use taxation is often touted as an effective tool in this regard, it rarely measures up. Preservation of forest land is probably best left for other types of programs. Use of the yield tax may help to protect and enhance the provision of non-timber benefits slightly more due to extended rotation period. All of the above types of tax programs have an effect on the forest resource standards, but generally the brunt of the effect is developed in the administrative qualities of the tax program.

Program Administration

The administrative qualities of a tax program often have a much greater influence on the successful application of the taxation standards, especially the forest resource standards than the type of property taxation employed. Major administrative program elements include eligibility requirements, administrative responsibilities, the application of the taxing mechanism, and

withdrawal penalties. Other considerations that may seem trivial but can be crucial design items include local government revenue reimbursement and public access requirements.

Eligibility Requirements

Almost every forest property tax program has a general set of requirements or conditions which must be met before a parcel can be considered eligible. These requirements must be designed to meet the intent and needs of the particular program. They are often invaluable, not only in giving direction to a program, but also in creating and fostering political support for a new program. The eligibility requirements often reflect the rights or options which the landowner trades or forgoes for a reduction in taxes. They may also reflect larger societal goals.

These requirements, as discussed in the national survey, are common and are highly variable. The size of the parcel is the most common requirement, generally with a minimum acreage standard. It is important that the parcel be tailored to the goals of the program. If the goal is to encourage as many enrollees as possible, the minimum size may be set very low. If, what may be seen as high administrative costs are a problem, the minimum size should be set so that the tax income is not reduced to an unacceptable level. If the goals of the program are closely tied to timber production, there is a minimal parcel size at which harvesting and management is not very economically viable.

Another common requirement is a management plan. This requirement can serve a variety of purposes and goals for a program. From an educational standpoint, it often fosters a landowner's first contact with a natural resource professional. Additionally, landowners apparently prefer this mode of education. Study have shown that the attainment of a plan, not only educates the landowner, but also increases the likelihood of harvesting, of timber stand improvements, of reforestation, and of a higher sale price received for timber. Commonly, a landowner is required to adhere to a set of management standards or practices. This can have a positive effect on the provision of nontimber benefits and the future productivity of the land. Productivity standards and stocking percentages are geared toward wood fiber production and often required for eligibility as well.

The bundle of eligibility requirements can be the most important and most contentious element of a special property tax program. These requirements should be designed as a function of the program goals. As these requirements often supply the political momentum to institute a new program, the design is extremely crucial.

Administrative Responsibilities

The manner in which a program is administered can have major effects on program viability and effectiveness. The agency with the most knowledge of the program should have primary administrative responsibility. This can also often aid in the centralization of program administration. Detailed aspects of the program such as the application process, accompanying fees, and logistics are important administrative elements. Every detail can have intended as well

as serious unintended consequences. It appears that enforcement of contracts and management plans can be left to a minimum, according to a study in Vermont (Dennis and Sendak 1996) showing only six violations in six hundred checks. The administration of most programs provides for a contract period. This period should be designed to balance elements such as enrollment numbers and the provision of nontimber benefits. The length of this period, often a symbol of providing benefits over a long period, may have implications on political viability of the program.

Application of Taxing Mechanism

These elements of a program involve the actual functioning of taxation mechanisms. They include the setting of tax rates, of discount rates, the treatment of management costs, and the setting of stumpage values. Generally decisions on these matters have been made in the political arena. However, even if some of these elements continue to be left to the political process, a few considerations may bolster the program's effectiveness and livelihood. For example, elements such as discount rates or stumpage rates should be indexed to some existing or determined rate. This can minimize the political rancor surrounding what can often be an annual revisiting of discount rates or stumpage values.

Withdrawal Penalties

Withdrawal penalties are another important element of special forest property tax programs. There are many different types of withdrawal penalties that can be used including payment of rollback taxes, payments of percentages of a parcel's market value or percentages of stumpage value, and a set per acre fee. Penalties must be scrutinized as to their effect on the taxation and forest resource standards and should be designed in accordance with the goals of each particular program. A penalty to be effective must be of significant cost to the landowner (i.e., the tax savings for a number of years). If the program is to discourage conversion of forest land, the penalty must be appreciable as compared to the profit an owner could expect from conversion.

Incidence and Access Issues

A few other important elements merit attention. The issue of who bears the brunt of a newly created tax incentive is foremost in the minds of many. Often dealing with this issue involves a careful balancing act. Local governments, generally, need some form of reimbursement for tax revenue lost. This can be justified by the fact that many of the defined benefits provided are enjoyed statewide. Also, local governments may find losing taxing authority unattractive and be reticent to put their income at the mercy of the annual state budgetary process. However, a statewide refund program may help to alleviate many local government concerns about tax shifting and the loss of revenue generation autonomy.

Public access to private forest lands is another issue often raised in the administration of forest property tax programs. This is especially salient in the Midwest and the eastern United States, where public land is at a minimum and access to private land is decreasing. Programs in the Midwest have been hampered in attracting enrollment due to public access requirements. Studies

in Wisconsin and Minnesota have cited this requirement as the number one deterrent to enrollment by potential participants in forest property tax programs. This problem is heightened by worries about an increased vulnerability to lawsuits by landowners. Depending on the program and geographic area, this may be an area where an extra incentive may help to assuage concerns of many while in turn encouraging enrollment.

Alternative Programs

Traditional property tax program designs are not always the most efficient or effective means for achieving taxation and forest resource goals. However, staying within the general realm of taxes, a number of other taxing vehicles may be better suited to achieving policy goals. The use of income tax credits or deductions may serve the function of encouraging management activities better than a property tax program. Adding incentives within the estate tax structure may be an effective means of preserving forest land.

A number of less common but very intriguing options exist or are being developed for use as forest policy tools. Conservation easements and the transferring or sale of development rights is an alternative of increasing popularity. This is especially appealing to those aiming to improve ecological values of their land and to preserve forest land. The sale of easements, not only gives the landowner an often substantial immediate income, but serves in reducing the taxable value of the land, in turn reducing ad valorem taxes. Conservation easements are not without problems, as they generally involve very high purchase prices and administrative costs. This may deter governments from using this as an extensive policy tool. Another option is the use of a public benefit rating system. This system functions as nontimber benefits are rated and the sum of these ratings then equates to a reduction in the taxable value of the land. The relationship is positive, the higher the rating, the higher the reduction in taxable value. This is one of the few programs that does a good job of rewarding landowners for the provision of nonmarket benefits, although the administrative costs may be inhibiting. Green Investment-Reinvestment Accounts and Green Savings Accounts would generally use the incentive of using pretax dollars for forest management activities. These would require little administration, as private institutions could handle the activity. These accounts also have the advantage of a ring of familiarity, but would be of little use as a land use planning tool. Finally, forest districts or land banking are a more heavy-handed land use approach, utilizing land sales, land swaps, and zoning regulations. These may be used as very effective land use planning tools, but would undoubtedly raise the ire of many a politician.

Recommendations

The design and implementation of forest land property taxation programs are important and can have long-term effects, intended or not. In order to achieve intended results the following components should be integrated into the design of special forest property tax programs.

Focus Tax Programs on Clearly Articulated Goals

Program design should be preceded by a robust discovery and clarification of goals. These goals should be a direct reflection of the forest resource and related issues to be addressed.

Select Tax Programs When a Clear Advantage Is Demonstrated

It must be recognized that often other policy tools are more appropriate for addressing certain forest resource problems or goals. This may include other taxes, including income or estate taxes, or other types of programs, such as technical assistance or regulatory programs. The design should never be limited to any one type of program from the outset.

Design Tax Programs to Compliment Other Program Types

In recognition of the fact that other programs may, in many cases, be more effective in achieving certain forest policy goals, property tax programs should be designed to compliment these other programs, thus increasing the total effectiveness of all policy tools. A forest land property tax program should take advantage of the benefits provided by other programs, while shoring up weaknesses. Coordination should take place not only horizontally, but should be integrated into all levels of government. Such coordination will work toward minimizing competition between governments while increasing the program efficiency.

Assure Tax Programs Are Internally Consistent in Structure

Valuation mechanisms, eligibility requirements, withdrawal penalties, and commitment periods should be designed to reflect program goals directly and should not work at cross-purposes. For instance, a program designed to increase wood fiber productivity would appropriately include an income capitalization valuation technique, a minimum acreage reflecting economically viable management and harvesting, a management plan, and a commitment to follow certain management guidelines. A program designed to increase nontimber benefits might appropriately include a yield tax with discounts for public access and conservation easements. It is important to remember that increasing the number of goals increases complexity and decreases the likelihood of achieving those goals. Withdrawal penalties and commitment periods should be tailored to program goals as well.

Promote Administrative Consistency of Tax Programs

Tax programs are often victims of random political or economic events that severely deter from their long-term effectiveness. By reducing the amount of political decisions that are to be revisited regularly, the program will be less likely to fall victim to one of these events. Consideration should be given to such things as setting or indexing the discount rate of an income capitalization equation to a specific federal or bank rate instead of leaving it to an administrative or legislative decision.

Directly Link Tax Program Funding to Client Group Being Served

Who funds the program, as well as how it is funded can have major implications on program viability and effectiveness. For example, if one of the program goals was the provision of nontimber benefits such as increased water quality and protection of endangered species, it would be appropriate for the entire state to provide the funding. Shifting the taxes to other landowners will likely create new animosities and disagreements. Local governments can be very sensitive to a loss of taxing authority and autonomy, making a direct landowner reimbursement from the state, the most appropriate vehicle of funding.

Employ an Effective Transition Plan When Changing Tax Programs

Even the best-designed program may fall victim to a poorly conceived transition period. A well-designed transition however, will increase landowner and taxpayer confidence in the program. This will in turn decrease the likelihood of program termination or adjustment before initiation.

Encourage Continuing Evaluation of Tax Program Efficiency and Effectiveness

Most any property tax program is difficult to evaluate, thus difficulty is heightened by the nature of the forest resource itself. A lack of substantial or definitive research regarding property tax program effectiveness, as related to valuation mechanisms and individual design elements, has fostered a program design process riddled with uncertainties. This void makes it difficult to evaluate program design easily or quickly. As policy tools are applied, there is an extremely long lag before results occur, due to the extended period of a rotation. So that policy priorities may change before a program can be evaluated as to its true effects on the forest.

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APPENDICES

Appendix A

State	Program	Type	Eligibility Requirements						Modified Ad Valorem						
			Min. acre	Max. acre	History	Min income	Man. plan	% stocked	Min. growth	Mod. rate	Orig. rate	Prod. classes	Price	Cap rate	Costs
Alabama	Class III	Income Capitalization								10%	20%	4	set by agency	4.50%	15% of Y*P
Alaska		Exemption													
Arizona	Class 1	Modified Ad Valorem								25%					
Arkansas		Income Capitalization								20%	20%		10 yr avg	12%	y
California	Timberland Productio Zones	Income Capitalization							15 cu ft./ac			15			
Colorado	Agricultural Land	Income Capitalization	40				y	10%		29%	29%			13%	
Connecticut	Forest Land	Income Capitalization	25											12.40%	
Delaware	Forest Use Land Commercial Forest Plantation	Determined Use Value Exemption	10 10		2 yrs	$1,000/yr	y								
Florida	Agricultural Purposes	Income Capitalization										7	$37-50/cd	12.60%	$12.85/ac
Georgia	Agricultural Preferential Assessment Conservation Use	Modified Ad Valorem Income Capitalization/Ad Valorem		2000 2000						75%	100%	9			
Hawaii	Tree Farm Property	Determined Use Value	10				y								
Idaho	Forest land < 5 acres Forest Lands Tax Forest Products Yield Tax	Ad Valorem Income Capitalization Bare Ad Valorem	 5 5	5000								12	5 yr avg.		
Illinois	Other Farmland Vegetative Filter Strip	Income Capitalization Modified Ad Valorem	 66 ft. wide				y			16%	33.30%	4			
Indiana	Classified Forest Land Woodland Windbreaks Wildlife Habitats Filter Strips	Flat ($1/ac) Modified Ad Valorem Flat ($1/ac) Flat ($1/ac) Flat ($1/ac)	10 50 ft. wide 15 20 ft. wide	75 ft. wide				50% canopy		33.33%	100%				
Iowa	Forest Reservation Agricultural Real Estate	Exemption Income Capitalization	2					200 trees/ac						7%	
Kansas	Agricultural Use	Income Capitalization								30%					
Kentucky	Agricultural Land	Income Cap/Ad Valorem	10												
Louisiana	Timberland	Income Capitalization	3 or			$2000/yr						4		10%	$6.53/ac
Maine	Forest Land	Productivity	10				y								
Maryland	Agricultural Use	Determined Use Value	5				y								
Massachusetts	Forest Land Recreation Land	Modified Ad Valorem Modified Ad Valorem	10 5				y	16.70%		5% of fmv 25% of fmv					
Michigan	Private Forest Reservation Commercial Forest Reserves	Flat ($1/ac) Flat ($1.10/ac)		160			 y	1200 trees	 20cu.ft/ac/yr						
Minnesota	2b Timberland Tree Growth Tax Law	Modified Ad Valorem Productivity	 5							1.20%					
Mississippi	Agricultural Use	Income Capitalization								15%		5		>10%	
Missouri	Forest Croplands	Flat ($3.00/ac)	20												
Montana	Forestland	Income Capitalization	15									5			
Nebraska	Agricultural Land	Modified Ad Valorem								80%					

State	Program	Type	Eligibility Requirements						Modified Ad Valorem						
			Min. acre	Max. acre	History	Min income	Man. plan	% stocked	Min. growth	Mod. rate	Orig. rate	Prod. classes	Price	Cap rate	Costs
Nevada	Agricultural Use	Modified Ad Valorem	7									5			
New Hampshire	Forest Land	Determined Use Value	10												
New Jersey	Agricultural Use	Determined Use Value	5		2 yrs		y					5			
New Mexico	Agricultural Use	Income Capitalization	1												
New York	480-a Forest land	Modified Ad Valorem	50				y			80%	100%				
North Carolina	Forestland	Income Capitalization	20											9%	
North Dakota	Forest Stewardship Tax	Flat ($0.50/ac)	10												
Ohio	Current Agricultural Use Value Ohio Forest Tax Law	Income Capitalization Modified Ad Valorem	10 10		3 yrs	$2500/yr	y			50%	100%				
Oklahoma	Timberland	Modified Ad Valorem													
Oregon	New Program	Ad Valorem													
Pennsylvania	Forest Reserves	Income Capitalization	10											9.50%	$4.71/ac
Rhode Island	Forest Land	Determined Use Value	10				y								
South Carolina	Agricultural Use Assessment Law	Income Capitalization	5									6			
South Dakota	Agricultural Land	Determined Use Value										5			
Tennessee	Forest Land	Income Cap/Ad Valorem					y								
Texas	Timberland	Income Capitalization			5of7yrs							4			
Utah	Agricultural Use	Determined Use Value	5		2 yrs							6			
Vermont	Manage Forest Land	Determined Use Value	25				y								
Virginia	Forest Use	Income Capitalization	20					40%						8.58%	
Washington	Classified Forest Land Designated Forest Land Open Space Timber	Determined Use Value Determined Use Value Determined Use Value	20 20 5	20											
West Virginia	Managed Timberland	Income Capitalization	10				y	40%				3			
Wisconsin	Managed Forest Law	Flat ($0.83/ac)	10				y		20cu.ft/ac						
Wyoming	Agricultural Land	Income Capitalization												7.67%	

State	Administration			Penalties					Sev. or Yield Tax			Other	
	Application	Fee	Agency	C. period	Rollback	Interest	% of fmv	% of stump	% or set	% or set	# of cat.	Priveledge tax	50% of sev.
Alabama	one-time		c. assessor		3 yrs.				sev	set	14	Exemption	standing timber
Alaska									sev	local			auxiliary state forests
Arizona									sev	set	2		
Arkansas									sev	set	2	Special Timberland Tax	$0.15/acre for fire protection
California			c. board		up to 10 yrs				yield	2.90%		Exemption	standing timber
Colorado			s. agency						none				
Connecticut	y		s. forester						yield	2-10%		Conveyance Tax	1-10% of sales price
Delaware	y y		c. assessor s. agency		1 yr. y				none none			Exemption	Commercial
Florida	one-time		c. appraiser						none				
Georgia									yield yield	 % of fmv			
Hawaii	y		s. agency	20 yrs.	y				none				
Idaho				 10 yrs. 10 yrs.					none none yield	 3%			
Illinois									yield yield	4% 4%			
Indiana	y y y y y		dnr dnr dnr dnr dnr						none none none none none				
Iowa			 c. assessor						none none				
Kansas									none				
Kentucky									none				
Louisiana	y		p. assessor	4 yrs.					sev	2.25-5%	6	Forest Protection tax	$.08/ac
Maine					5 yrs. or		30%		none				
Maryland	y	0.55% of assessment	dnr	15 yrs.					none				
Massachusetts	every 10 yrs		s. forester		y	y			yield yield	8% 8%			
Michigan	 y	 $1/ac	c. assessor		 7-15 yrs + $1/ac			5%	yield yield	5% 5%			
Minnesota					 10 yrs	 y			none none				
Mississippi			c. assessor						sev		12	Forest Acreage Tax	$.09/ac
Missouri	y				y	y			yield	6%			
Montana									sev	$0.15/mbf			
Nebraska									none				
Nevada	y		c. asssessor						none				

State	Administration			Penalties					Sev. or Yield Tax			Other	
	Application	Fee	Agency	C. period	Rollback	Interest	% of fmv	% of stump	% or set	% or set	# of cat.	Priveledge tax	50% of sev.
New Hampshire									yield	10%			
New Jersey	annual		s. agencies		3 yrs				none				
New Mexico	y		c. assessor						sev	0.13%		Resource Excise Tax	0.375% for processing timber
New York	annual		c. assessor	10 yr rolling					yield	6%			
North Carolina	y		c. assessor		3 yrs	y			sev		4		
North Dakota	y		c. commission	5 yr					none				
Ohio	annual y	$25 $50	c. auditor		3 yrs				none none				
Oklahoma									none				
Oregon									yield	$3.19/mbf			
Pennsylvania	y		c. board		7 yrs	6%			none				
Rhode Island	y		s. agency						none			Land Use Change Tax	1-10% fmv
South Carolina	y				6 yrs.				sev		4		
South Dakota									none				
Tennessee	y		c. assesor						none				
Texas	y		c.appraiser		5 yr	7%			none				
Utah	y		c.assesor		5 yr				none				
Vermont	y			10 yr			20%		none				
Virginia	y		c.assesor		6 yr				sev		11		
Washington	 y y		c. assesor c. assesor c. assesor		10yr 10yr 7 yr				yield yield yield	5% 5% 5%		Forest Fire Protection Tax Forest Fire Protection Tax Forest Fire Protection Tax	
West Virginia					5 yr	9%			yield	3.22%		Woodland Tax	$2/parcel
Wisconsin				25 or 50	unlimited or			5%	yield	5%			
Wyoming									none				

APPENDIX B: National State Detailed Summary

Alabama

-Current Use Tax
- -All taxable property is divided into four classes
- -Class III includes all agricultural, forest and residential property, and historic buildings and sites
- -Forest property valued at fair and reasonable market value unless owner requests current use valuation
- -No taxes are due on land designated as an auxiliary state forest

-Severance Tax
- -different amounts are levied in categories: pine; hardwood, cypress, and all other species; pulpwood; cross ties and switch ties; Pine Ore Mine Props: Hardwood Ore Mine Props; Pilings and Poles; Turpentine; Stumpwood; and Pulpwood Chips.
- -does not apply to owners cutting timber for their own use

-Privilege Tax
- -levied against processor of forest products equal to 50 percent of tax of severer
- -collected from instate and out state companies

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Current Use Value	-none	-file application with county tax assessor -application must include soil types	1.assessor determines soil productivity rating 2.rating translated into annual yield by Dept. of Revenue 3.yield is multiplied by average pulpwood price 4.15% subtracted for management expenses 5.figure divided by avg. annual effective interest rate on new federal loans 6.rate is reduced by the lesser of 4.5% or difference between rate and 2% 7.value multiplied by number of acres in each productivity class 8.class III land is then multiplied by 10% 9.Pertinent tax rate is then applied	-taxes based on fair market value or sales price are due for the three preceding years

Alaska

-Exemptions: most private forest land is exempt from property taxes

Arizona

-Ad Valorem Tax
-Property is classified into eleven classes
-Class I is mining/timber to be combined with utilities and commercial/industrial in 2001
-Assessment ratio is 25 percent
- -25 percent multiplied by the full cash value equals the assessed value
- -assessed value multiplied by the appropriate tax rate equals the property tax

-Severance Tax: different rates for ponderosa pine and non-ponderosa pine

Arkansas

-Productivity tax
-All property is taxed at same rate, 20 percent of its' assessed value
-Timberland is valued upon timber productivity, use, and soil productivity (use value)
-Current use x 20 percent = assessed value
-Special Timberland tax
    -$0.15/ac on all timberland to assist in defraying cost of statewide forest fire protection program
-Severance Tax
    -Different rates for pine timber and all other species

California

-Site Value tax
-Standing timber is exempt from tax unless land is not zoned as timber production area, then timber may be assessed on their esthetic
    or amenity value
-Severance Tax
    -in 2000, the timber yield tax rate was 2.9 percent
    -exemptions for own use if value is under $3000

Special Property Tax Classifications and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Enforceably Restricted Timberland	-land restricted to use for production of timber -ability to produce 15 cubic ft/ac/yr of wood fiber	-zoning designation by the county board	-land is valued considering comparable lands with similar restrictions -uses 5 site quality classifications for 3 regions -state statute sets specific value/ac for all site qualities within each region -this value x .01 = tax amount	-tax recoupment fee
"Open-Space" Land Treatment	-use restricted to production of timber		-tax based on present worth of future income from harvest and compatible uses	

Colorado

-Productivity Tax
    -Property classified into 10 classes
    -All property (except residential) is assessed at 29 percent of actual value
    -Productive forest lands fall under agricultural classification
-No severance tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Agricultural classification	-greater than 40 acres -10% stocked -used to produce wood products -subject to a forest management plan -not a farm or ranch	-determined by yearly inspection from state forest service	-earning or production capability value x .29 = tax liability	-none

Connecticut

-Productivity Tax
-No special classifications except for agricultural land, timber land, and open-space land
-Yield Tax: varies on time of classification, becomes greater as time goes on

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Timberland Classification	-greater than 25 acres -value of land, excluding timber, does not exceed $100/ac	-application submitted to the state forester for approval	-based on current use -timber value included	-conveyance tax is levied if land is sold within 10 years of original classification

Delaware

-Exemptions
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest Use Classification	-devoted to use for 2 successive years -greater than 10 acres and sales and entitlements from land is greater than $1000 in past 2 years -less than 10 acres and sales and entitlements from land is greater than $10000 in past 2 years	-application to assessor of taxing district	-current use valuation	-roll back taxes
Unimproved Land in Agricultural Preservation Districts			-exempt from taxes	
Commercial Forest Plantations	-must have forest management plan -greater than 10 acres	-application approved by state forester	-30 yr. property tax exemption	-difference in taxes paid with and without program

Florida

-Productivity tax
-All land is classified as agricultural or nonagricultural
-Agricultural classification includes forest land
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Agricultural classification	-considerations 1.length of time land has been utilized 2.whether use has been continuous 3.purchase price 4.size 5.management practices 6.is there a lease	-must apply with property appraiser	-value based on current use -value based on avg. annual growth potential -assessment based on present value of future income or sites productive value -basic formulation current value = (yield x price) – costs/capitalization rate -current value then divided by local millage rate to determine liability	-none

Georgia

-Productivity and Site value taxes
-10 property classifications
-Severance tax
  -standing timber is taxed following its' harvest or sale at 100 percent of fair market value
  -basic formula: tax liability = 100 percent fmv x local millage rate
  -in sale, tax is based on purchase price(timber not taxed if not to be harvested within 3 yrs. of sale)

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Conservation Use Assessment for Timberland	-maximum 2000 acres -property must remain devoted to qualifying use (up to 50% may lie dormant) -owner must be natural or naturalized citizen -must have certified soil map	-must apply with county assessor -10 year agreements	-based on current use valuation -65% based on future income/ 35% based on market value -current use values vary with soil productivity classes -current use tables established by state -40% of current use value x local millage rate = tax liability	
Conservation Use Assessment for Environmentally Sensitive Lands	-maximum 2000 acres -owner must be natural or naturalized citizen -types of eligible land: crests, summits, ridge tops, wetland areas, groundwater recharge areas, undeveloped barrier islands, habitats containing endangered or threatened species, and river corridors	-10 yr. agreements	-same as above	

Hawaii

-6 classes of property classification
-timberland is included in agricultural classification
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Tree Farm Property Classification	-minimum 10 acres -zoned for commercial forest use -must manage in accordance with a management plan	-application to Board of Land and Natural Resources -approved during public hearing -agreements for minimum of 20 yrs	-based on current use -considers rent, productivity, nature of use, location, accessibility, topography, quality of soil, water privileges, availability of water and cost, easements, and opinions considered to have special knowledge of land values	
Dedicated Lands Classification		-10 or 20 yr commitments	-based on current use -taxed at 50% of assessed value	

Idaho

-Productivity tax
-No property classification
-Taxation based on size of parcel
-Land parcels less than 5 acres are assessed and taxed as other real property using market valuation
-Land parcels between 5 acres and 5000 acres are subject to either the Forest Lands Tax or the Forest Products Yield Tax
-Land parcels greater than 500 acres are subject to the Forest Lands Tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest Lands Tax	-land parcel greater than 5 acres -land must be primarily used for continuos growing of trees		-value determined by income approach which capitalizes value of annual net wood production minus expenses -capitalization rate is interest rate for the farm credit bank + .85% -stumpage values based on last 5 yrs	
Forest Products Yield Tax	-acreage between 5 and 5000 acres -land primarily used for continuos growing of trees		-property taxes reflect “bare land value” -yield tax = 3% of stumpage value -recapture of deferred taxes	

Illinois

-Productivity tax
-Forest land falls under farm land classification
Yield Tax: 4 percent of purchase price or value of harvested timber

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Farm Land Classification – Other Farm Land	-2 yrs of continuos use -must have forestry management plan	-management plan approved by the state Dept. of Conservation	-based on soil productivity -uses 5 yr net income for each soil rating -net income is divided by avg. Federal Land Bank mortgage interest rate to yield "agricultural economic value/ac" -the assessed value is 33 1/3% of ag econ value -tax = 1/6 x (ag econ value x 33 1/3%)	-none
Vegetative Filter Strips	-located between farm field and area to be protected -must be at least 66 ft in width		-same as above	-none

Indiana

-Flat/Ad valorem tax
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Classified Forest Land Classification	-parcel at least 20 acres -can be classified either as a plantation or as native forest land	-designation must be approved by state forester	$1/ac	-none
Woodland Classification	-land supporting trees capable of producing wood products -has a minimum of 50% canopy cover		-assessed value x 33 1/3% x state tax rate	-none
Windbreak Classification	-abuts fence or property line on arable land -owner consults with DNR -minimum of 50 ft wide	-need to apply to DNR	-$1/ac	-none
Wildlife Habitats and Riparian Land Classification	-contains vegetation capable of supporting wildlife -owner consults with DNR -minimum of 20 acres -contains less than 10 acres of woodland	-need to apply to DNR	$1/ac	-none
Filter Strips Classification	-land is adjacent to water -between 20 and 75 ft wide	-need to apply to county surveyor	-$1/ac	-none

Iowa

-Tax exemptions
-Forest land classified under agricultural real estate
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest and Fruit Trees Reservations	-must be at least 2 acres -must contain at least 200 trees/ac -not more than 20% may be removed in any one year -no grazing	-application is filed with county assessor -period of 8 yrs	-exempt from property taxes	-taxes of previous five years
Native Prairie and Protected Wetland	-must be certified by DNR	-apply to county assessor	-exempt from property taxes	-none
Land Certified as a Wildlife Habitat	-must be certified by the DNR	-apply to county assessor	-exempt from property taxes	-none

Kansas

-Productivity tax
-Real property has 7 classifications
-Agricultural use includes forest growth
-Tax based on income or productivity attributable to current use
-Productivity calculated for all land classes in each county
-Land is assessed at 30% of appraised value
-The assessed value is then multiplied by the mill rate in a specific county
-No severance or yield tax

Kentucky

-Ad valorem tax
-Growing timber is classified as an agricultural use
-Parcel must be a minimum of 10 acres
-Valuation based on income producing capability and comparable sales
-State sets a rate each year (i.e. 1999 – $0.148/$100 of valuation)
-No severance or yield tax

Louisiana

-Productivity tax
-Timber lands are assessed at 10 percent of "use value" rather than fair market value
-Severance tax
    -trees and timber = 2.25 percent current stumpage value
    -pulpwood = 5 percent of current stumpage value
-Exemptions
    -local taxing jurisdictions are prohibited from taxing standing timber

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Timberland Classification	-must be at least 3 acres or produce at least $2000/yr in avg. annual income	-must apply with parish assessor -apply every four years	-net income is calculated using growth x timber value – management costs (this is done for four categories of timber land) -value is determined by dividing net income by the capitalization rate and multiplying by 10% -Tax = use value x local millage rate	-none
Forest Protection Tax		-to aid in fire protection	-$.08/ac	

Maine

-Productivity tax
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Tree Growth Tax Law	-land must be primarily used for the growth of trees -parcel is greater than 10 acres -must craft management plan every 10 yrs	-application to assessor	-state tax assessor determines valuation for each "forest type" by county or region -valuation = annual net wood production x capitalization rate	-difference in taxes plus the total amount of taxes for previous five years plus interest

Maryland

-Productivity or Ad valorem tax
-2 categories of woodland
    1.woodland associated with a farm
    2.separate tracts of woodland
-Property is eligible for agricultural use assessment if owner obtains a management plan
-Agricultural use assessment = 50 percent of current use value
-No special assessment = 40 percent of fair market value

Massachusetts

-Ad valorem tax
-Special provisions for forest property and recreational lands
-Refer to taxing formula for yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest Land Classification	-minimum of 10 acres -at least 16.7% stocked with 7.5 sq. ft of basal area/ac -or formerly had tree cover and is not developed for non-forest use	-apply to state forester -owners must provide notice of all cutting	-assessed and taxed on value of products removed from land and 5% of fair cash value of land -land tax = fair market value x 5% x local rate -forest products tax = 8% of stumpage value of all forest products cut	-difference in taxes and amount paid in taxes for past 5 yrs

Michigan

-Flat tax
-2 different provisions for assessment
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Private Forest Reservation	-50% of land devoted to agriculture -up to 25% of land may be designated -1200 trees/ac	-assessor qualifies land	$1/ac	5% of cash value of timber on the stump
Commercial Forest Reserves	-not less than 20 cubic ft/acre/yr of growth -economically valuable trees -commercial stand -requires management plan	-$1/ac for application	$1.10/ac	$1/ac with a minimum of $200 and a maximum of $1000

Minnesota

-Ad valorem and productivity tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Ad Valorem Tax			-tax liability = market value x class rate x local tax rate	
Tree Growth Tax	-sign agreement of intent -parcel open to public use	-application to county board	-calculated using avg annual growth rates and stumpage values -commercial forest type lands tax = 30% of value of estimated annual growth -temporarily and permanent nonproductive land at $.0.05/ac -for each acre planted with 500 commercial species, owner receives credit of $0.50/ac on other lands until plantation is 10 yrs old	-rollback taxes and penalties up to previous ten years
Auxiliary Forest		-no new contracts since 1974	-$0.10/ac -yield tax at 40% for first year up to 10% in 30 yrs	

Mississippi

-Productivity tax
-Forest land classified as agricultural use land
-Forest land assessed at 15 percent of current use value
    -appraisal includes: soil types, soil productivity, and other criterion
    -annual schedule of "use values" based on net income of acre capitalized at 10%
    -5 soil productivity classes for forest land
-Forest acreage tax: all counties are required to levy $.09/ac in addition to property tax
-Severance tax
    -different rates for these categories; timber, lumber, poles, piling, posts, timber products, pine pulpwood, stumpwood, and turpentine crude gum

Missouri

-Flat tax
-Classified as agricultural/horticultural land (assessment rate = 12 percent)
-Can receive special classification as forest cropland
-Yield Tax
    -6 percent of value
    -firewood exemption

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest Cropland Classification	-exclusively devoted to growing wood -greater than 20 acres and valued at less than $125/ac	-must apply to state forester	-$3.00/ac, if before 1974 $1/ac	-if canceled: back taxes + 10% interest -if withdrawn: back taxes + 5% interest

Montana

-Productivity tax
-Class 10 property is forest land
-Severance tax
    -$0.15/mbf

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest Land Classification	-greater than 15 acres -had timber removed -not incapable of yielding wood products -not dedicated to any other use		-state is divided into 5 forest valuation zones -tables are created with productivity class for each zone -taxed at .79% of forest productivity value	

Nebraska

-Modified tax
-Forest land is classified as agricultural land
-Valued in reference to other agricultural land and assessed at 80 percent of market value
-No severance or yield tax

Nevada

-Forest land is classified as agricultural use
-Must apply with county if greater than ten acres and state if less than ten acres
-withdrawal penalty is 20 percent of back taxes
-Assessment is 35 percent of its value for ag use
-No severance or yield tax

New Hampshire

-Flat tax
-Forest land assessed on basis of current use
    -must be greater than 10 acres or a certified tree farm
-Forest land classification
    -white pine, hardwood, and all other
-Assessment based on classification and amount of documented stewardship
-Yield tax
    -10 percent of stumpage value at time of harvest

New Jersey

-Productivity tax
-Forest land falls under Farmland Assessment Act
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Farmland Assessment Act	-greater than 5 acres -devoted to use for 2 yrs -clear evidence of anticipated income -must develop a woodland management plan	-annual application	-based on current use -different rates for appurtenant or non-appurtenant woodland	-3 yrs of rollback taxes

New Mexico

-Productivity tax
-Using land to produce forest products is an agricultural use
-Forest land not meeting qualification for agricultural use taxed on market value at rate of 33 1/3%
-Severance tax
    -tax on the value of cut timber
        -exceptions include: Christmas trees, firewood, and transplanting
    -1/8 percent or 0.125 percent

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Agricultural Use Classification	-greater than one acre	-one time application with county assessor	-production capacity determined from income or possible income -capitalization rate divided into annual "income" per acre for valuation	-none

New York

-Property is taxed at 100 percent of full value
-Partial exemption for eligible forest tracts
-Severance tax: 6 percent of stumpage value

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Eligible Forest Tracts	-greater than 50 acres -dedicated to production of forest crops -must be certified by Dept. of Environmental Conservation -must have management plan	-must file with Dept. of Environmental Conservation	1.Multiply assessment by 80% 2.Multiply equalization rate (i.e., 65%) for individual town by $40 and subtract from assessment 3.Take the lesser of steps 1 and 2 and subtract from the assessment, this is the tax	-none

North Carolina

-Site Value tax
-Certain forest land is designated as a special class of property
-Standing timber is excluded from taxation
-Severance tax: different amounts for different categories

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest land Classification	-minimum of 20 acres -actively engaged in the growing of trees -must be owners place of residence or if business, current owner must own parcel for past four years	-must file with county assessor	-present use valuation -valuation based on 6 major land classifications -5 income schedules are derived for each classification -100% assessment is applied to these values	-deferred taxes, interest, and penalties

North Dakota

-Flat tax
-Owner of qualified forest land may pay a "forest stewardship tax" in lieu of other property taxes
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest Stewardship Tax	-greater than 10 acres or 5 planted acres	-must file application with county commission -5 yr. contract	-$0.50/ac (in lieu of ad valorem taxes)	-none

Ohio

-Flat tax
-Property classified by principal use
-No other exemptions
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualification	Administration	Taxing Formula	Withdrawal Penalties
Ohio Forest Tax Law	-minimum 10 acres -must be managed for timber production	-one time fee -requires management plan approved by the state forester	-50% reduction in real estate tax	-none
Current Agricultural Use Value	-minimum 10 acres -land devoted exclusively to timber growth	-must reapply annually -one time application fee	-reduced taxes based on production capacity of soil -values set by market values of similar uses	-penalty of tax difference for previous three years

Oklahoma

-Ad valorem tax
-Property tax law makes no provision for forest land
-All property assessed annually at a specified percentage of its' fair market value
-Managed timberland is assessed at its' current value for that use
-No severance or yield tax

Oregon

-Site and Productivity tax
-Forest land is classified in 3 ways
    -Forest land, Western Oregon Small Tract Optional Tax, and Farm use Woodlot
-Forest land is divided into:
    1.Western or Eastern 2.Highest and Best Use or Designated Forest
-Land is classified by assessor or on application
-Severance tax (all harvests are subject to one or two of three severance taxes)
    1.Western Oregon Privilege Tax
        -subject to all harvests except:
            -lands in small tract program, Christmas trees, and hardwood fiber farms
        -rate is 3.2 percent of stumpage value
        -ex. (total mill price – logging cost) x 3.2% = tax
    2.Eastern Oregon Privilege Tax
        -rate is 1.8 percent
        -similar to calculation in Western version
    3.Forest Products Harvest Tax
        -tax on timber cut in all land in OR
        -2000 rate is $3.19/1000bf

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Western Oregon Specially Assessed Forest land	-greater than 2 acres -contains marketable species at approved stocking level	-application or designation by assessor	-utilizes existing site classifications for each 40 acre tract for productivity -DOR creates value schedule -site value is multiplied by 20% to get assessed value	-none
Western Oregon Small Tract Optional Tax	-parcel greater than 10 acres but less than 5000 acres -trees less than 8 in diameter or less than 40 yrs old -minimum stocking requirement -management plan	-must apply directly to OR Dept. of Forestry	-site value arrived at same as above -not reduced -tax payer therefore is paying full ad valorem taxes and does not pay the severance tax -still subject to forest products harvest tax	-none
Eastern Oregon Specially Assessed Forest land	–greater than 2 acres -contain marketable species at an approved stocking level	-requires application or designation by assessor	-all site classes assessed at same value -forest value x 20% = assessed value	-none

-Changes occurring this year and beyond
    -Owners of parcels greater than 5000 acres

Year	Western OR Privilege Tax	Eastern OR Privilege Tax	Percent land value taxed
1999	3.2%	1.8%	20%
2000	1.9%	1.1%	75%
2001	1.9%	1.1%	75%
2002	1.4%	0.8%	75%
2003	0.0%	0.0%	100%

-Owners with less than 5000 acres

-may opt into above program or may stay the same until 2003 when the above will take effect

Pennsylvania

-Productivity tax

-Can apply under Forest land Assessment Act for assessment of use value not market value

-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Special Forest land Assessment	-greater than 10 acres -stocked by trees able to produce timber or wood products	-application to County Board of Assessment Appeals	-state Dept. of Ag determines land use categories and use values for each category	-penalty of difference in taxes for up to the past 7 yrs + 6% interest

Rhode Island

-Special classification of forest land

-No severance or yield tax

Special Property Tax Classification or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Special Forest Land Classification	-minimum of 10 acres -parcel contains dense growth or planted at 500 trees/ac -must have 5 year management plan	-must submit form to assessor -state Forestry Committee sets special tax rate	-based on current use -rate set by state Forestry Committee	-land use change tax -% of market value which decreases as year of classification is earlier
Exemption	-trees are planted on at least one acre -trees are planted at 500 trees/ac -parcel is less than 300 acres	-must apply	-exempt from property taxes for 15 years	

South Carolina

-Productivity tax
-Land used to grow timber is classified as agricultural use land
-Severance tax
  -tax levied on processors to provide money for landowners to increase productivity on privately held land and conservation measures
  -4 different rates: softwood sawtimber, hardwood sawtimber, softwood pulpwood, hardwood pulpwood

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Agricultural Use Classification	--at least 5 acres or land produces $1000 of income in 3 of every 5 years -assessor also considers: nature of terrain, density of marketable product, past usage, and other pertinent information	-must apply with assessor	-ag use land us assessed at 4% of fair market value, land without classification is assessed at 6% -value is based on potential yield by soil capabilities -uses table of site indexes and cords/ac -yield/ac x price/cord –management costs x .04 x local millage rate = tax liability	- difference in taxes for previous 5 years

South Dakota

-Productivity tax

Tennessee

-Ad Valorem tax
-Farm property is classified as those growing crops including trees and timber
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Farm Property Classification	-under a program of sustained yield or greater than 15 acres with quality and quantity to signify a forest -not more than1500 acres	-to assessor -one time application	-based on current use -2 x (land use) value + land schedule value / 3 -use value based on estimated annual agricultural income -land schedule based on farm sales	-roll back taxes

Texas

-Productivity tax
-Special tax treatment for certain timber lands
-No severance or yield tax

Special Property Tax Classification an/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Open Space land devoted to timber production	-devoted to timber production 5 of past 7 yrs.	-file application with chief appraiser	1.Classify land into 3 types: pine, hardwood, mixed 2.classify timberland into 4 soil types 3.estimate avg. annual timber growth 4.convert timber growth into units for estimating gross incomes 5.estimate avg. annual timber prices 6.estimate avg potential gross income of timber growth 7.estimate avg annual costs of producing timber 8.estimate net income of timber growth 9.capitalize net income by statutory rate to develop per acre timber values 10.apply timber values to acreage	-difference in taxes for past 5 years at 7% interest
Restricted Use Timberland	-parcel must be in an aesthetic management zone, critical wildlife habitat zone, or streamside management zone		-same as above, except appraisal is then halved	

Utah

-Productivity tax
-forest land may fall under Farmland Assessment Act, assessing land at use value not market value
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Farmland Assessment Act	-minimum 5 acres -devoted to use for at least 5 years		-state committee recommends values to be approved by the property tax division	-rollback tax -difference for past 5 years -avoid rollback if land qualifies for conservation easement

Vermont

-Productivity tax
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Managed Forest Land Classification	-greater than 25 acres -under active long term management plan	-must apply to the Director of Property Valuation and Review -management plan must be renewed every 10 years	-flat rate based on current use -rates determined by Current Use Advisory Board	

Virginia

-Site Value tax
-Real estate devoted to forest use is eligible for special tax treatment
-Severance tax
    -11 categories with different rates
    -optimal rates for certain manufacturers and severers

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Forest Use Classification	-minimum 20 acres -growing commercial crop or parcel is in a planned timber management program	-must submit application	-land is categorized into 3 categories which have estimated yields -Dept. of Forestry determines avg. annual stumpage prices and management costs -land use values are than calculated for each county	-difference in taxes for previous 5 years

Washington

-Site Value tax
-Forest land can be classified into one of three categories, based on current use
-Forest Fire Protection Tax
    -if owner fails to provide adequate fire protection
    -flat fee of $14.50 + $0.22/ac after 50 acres
-Yield Tax
    -5 percent of stumpage value
    -different methods of calculation for small and large harvesters

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Classified Forest Land	-minimum 20 acres	-determined by assessor	-use value of bare land, does not include timber -forest land values determined by state Dept. of Revenue and vary mainly on productivity of soil -7 land grades with 4 classes	-difference in taxes up to 10 years
Designated Forest Land	-minimum 20 acres -must be in compliance with state forest practice laws	-must apply to assessor -assessor may requirea management plan	-same as above	-same as above
Open Space Timber Land	-minimum 5 acres and maximum 20 acres		-same as above	-may not change for 10 years -after 8 yrs. difference in taxes for previous 7 yrs. -before 8 years, difference in taxes + 20% penalty

West Virginia

-Productivity tax
-No special provisions, however managed timberland can be assessed at use value
-Woodlands tax
    -$2/yr for each parcel payable to the sheriff
-Severance tax
    -3.22 percent of gross value of timber

Special Property Tax Classifications and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Managed Timberland	-minimum of 10 acres -devoted primarily to forest use -management plan in accordance with state BMPs		-value is based on potential of land to produce future income -future income discounted to present value to obtain appraised value	-if fail to notify change in use or in noncompliance with management plan: difference in taxes + 9% interest for a maximum of previous 5 yrs.

Wisconsin

-Flat tax
-Productive forest land is subject to property taxes under one of three programs

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties	Other
Forest Crop Law (closed to enrollment)	-land must be at least a quarter-quarter section -highest and best use is growing forest crops -no more than 20% of parcel is nonproductive	-contract with the DNR -allows public access -25 or 50 yr. contracts	-rate calculated every 10 years -latest period = $0.83/ac	-difference in taxes + 12% interest	-severance tax of 10% -when contract expires severance tax equivalent is paid
Woodland Tax Law (closed to enrollment)	-minimum of 10 acres	-15 yr. contract	-15 yr. exemption from property taxes but must pay acreage payment directly to counties -latest payment was $1.67/ac	-1% x avg. value per acre x # of acres x # of yrs. in program	-no severance tax
Managed Forest Law	-minimum of 10 acres -minimum of 80% capable of producing 20 cubic ft./ac/yr.	-landowner signs 25 or 50 yr. contract and must follow a forest management plan -must allow public access	Current tax is $0.74/ac	-difference in taxes or 5% of stumpage value	-yield tax of 5% of stumpage value -closure fee: able to close public access up to 80 acres for $1/ac

Wyoming

-Forest land falls under the rangeland category which is valued as agricultural land
-No severance or yield tax

Special Property Tax Classification and/or Property Tax Programs	Qualifications	Administration	Taxing Formula	Withdrawal Penalties
Agricultural Land	-used for purpose for previous two years -must be used for profit		-land valued according to capability of production -land value = (yield x net value per AUM)/ capitalization rate -assessed value = 9.5% of rangeland value	