Appendix II.
Annotated bibliography of selected studies

Bailey, P.D., H.L.J. Haney, D.S. Callihan, and J.L. Greene. "Income tax considerations for forest landowners in the South: a case study on tax planning." *Journal of Forestry* 97, no. 4 (1999): 10-15.

Income Tax

Federal and state income taxes are calculated for hypothetical owners of nonindustrial private forests (NIPF) across 14 southern states to illustrate the effects of differential state tax treatment. The income tax liability is calculated in a year in which the timber owners harvest $200,000 worth of timber. After-tax land expectation values for a forest landowner are also calculated to illustrate the effects of tax planning on returns to a timber investment over time. Landowners who fail to take advantage of the many tax provisions can lose a third or more of their timberland revenues to income taxes.

Bettinger, Pete, H. L. Haney, and W. C. Siegel. "The Impact of Federal and State Income Taxes on Timber Income in the West Following the 1986 Tax Reform Act." *Western Journal of Applied Forestry* 6 (January 1, 1991): 15-20.

Income Tax

1988 federal and state income tax liabilities for a hypothetical nonindustrial private forest landowner case were calculated for 13 western states. The state portion of the total income tax liability for the passive case (without timber sale revenue) ranged from 15% to 25% for the medium income level. The state portion for the active case (with timber sale revenue) ranged from 12% to 21%. Federal income tax deductions, capital gain exclusions, and tax rates are the most important state provisions affecting state income tax liability. Timber sale revenue was spread over a 2-year period to reduce the amount of taxable income subject to higher marginal rates. In the Oregon hypothetical case, the landowners who elected to use the installment sale method would save $1,240 and $616 at the medium and high income levels, respectively.

Brockett, Charles D., and Luke Gebhard. "NIPF Tax Incentives: Do They Make a Difference?." *Journal of Forestry* 97 (April 1, 1999): 16-21.

Property Tax

Survey research is used to evaluate how property tax reductions affect the land-use practices and attitudes of nonindustrial private forest landowners in rural Tennessee. The comparison between participants and nonparticipants in the Tennessee Greenbelt program provides a basis for evaluating the effectiveness of such incentives. No meaningful differences in the reported behavior relevant to the objectives of the program were found between the two groups, even in the area facing the strongest development pressures.

Chang, S.J. "US forest property taxation systems and their effects." In *Learning from the Past: Prospects for the Future*, 318-325. Washington, DC: St. Paul: University of Minnesota Extension Service., 1996.

Property Tax

Before it ceased publication in 1984, the Timber Tax Journal annually published an update of changes in forest property taxation legislation in various states., Since then, many states have revised their legislation iii forest property taxation. To keep abreast of the changes, some studies have been carried out to document the forest property tax systems in the United States. These studies, however, are often limited in their coverage and descriptive in nature (see, for example, the study by the Oregon Forest Industries Council 1993, Greene

1994). In this paper we report results from a recent survey of forest property taxation in all 50 states. After the individual state forest property taxation systems were classified, the effects of these taxation systems on fiscal neutrality, tax burden, revenue stability, and administrative simplicity were analyzed.

Cushing, Tamara, L. “A Comparison of the Relative Reduction in Land Expectation Value Due to Taxation of Private Forest Land in the United States.” Dissertation, University of Georgia, 2006.

Property, Income, & Severance Taxes

Forestland owners in the United States are taxed at the local, state and federal level. Depending on the state, landowners may be subject to property, severance, yield, and income taxes or some combination. The objective of this study is to examine the cumulative effects of each and all of these taxes as they are imposed by the various government entities. We calculate an estimated land expectation value (LEV) for a typical management regime in 22 states using state specific price and output data. The results allow for a ranking of states by the total tax burden incurred by landowners. The total relative reduction in land expectation value after all taxes ranged from 19 to 51% for individual landowners.

Dennis, Donald, F. “An Empirical Study of Enrollment in Vermont’s Use Value Appraisal Property Tax Program.” *Canadian Journal of Forest Research* 22(9): 1209-1214.

Property Tax

A probit model was used to analyze the relationship between the probability of enrollment in Vermont's Use Value Appraisal property tax program for forest land and characteristics of the parcel, owner, and surrounding community. The results suggest that continued fragmentation of the forest and population growth will have a negative effect on enrollment, but these effects may be mitigated by increases in the education level of landowners and by increases in assessed values and property tax rates.

Eckhoff, Mike, Kurt Mackes, and Tim Reader. “Assessing State-Sponsored Tax Incentive Programs for Nonindustrial Private Forest Landowners in the Western United States.” *Western Journal of Applied Forestry* 22 (October 2007): 253-260.

Property Tax

Property tax programs affecting nonindustrial private forestland in the western United States were examined. Of the 11 contiguous states, 18 distinct programs were cataloged. Although these programs hold a number of rudimentary features in common, most notably lowering a property owner's tax bill in exchange for land-management activities, further analysis should provide in-depth quantitative analysis.

England, Richard W, and Robert D. Mohr. “Land Development and Current Use Assessment: A Theoretical Note.” *Agricultural and Resource Economics Review* 32 (April 2003): 46-52.

Property Tax

This paper jointly models a landowner’s decision to develop a parcel and the option to enroll that parcel in a current use assessment program. The analytical results highlight different factors that influence the effectiveness of a current use program in delaying development. The results also underscore the difficulty a local government might have in influencing the behavior of the landowner.

Fortney, Jennifer, Kathryn G. Arano, and Michael Jacobson. "An Evaluation of West Virginia's Managed Timberland Tax Incentive Program" *Forest Policy and Economics* 13 (2011): 69-78

Property Taxes

Preferential property tax treatment of forested land is part of legislative policy in all 50 states. West Virginia's Managed Timberland program is designed to retain private forest land in forested use. In West Virginia, although private forest land owners hold 9.7 million acres of forest land (83% of forest land), Managed Timberland enrolled acres have remained at approximately 2 million acres since 1998. This lack of enrollment may be a cause for concern regarding the success and benefits of the program. This study evaluates the Managed Timberland program, examines the factors that influence forest landowners' decision to participate in the program, and proposes strategies for increasing enrollment and improving the program. The data for this study were collected from a mail survey of participants and non-participants of the program conducted in the fall of 2008 on West Virginia forest landowners. Significant factors influencing enrollment were age, income, place of residence, county location of the enrolled property, and perceived benefits of the program.

Gamponia, Villamor, and Robert Mendelsohn. "The Economic Efficiency of Forest Taxes." *Forest Science* 33 (June 1, 1987): 367-378.

Property & Yield Taxes

The forest taxation literature has focused on measuring "tax burden," the present value of the difference between untaxed forest income and net after tax income. Although interesting, tax burden will often fail to measure whether one tax is more efficient than another. This paper measures one component of excess burden, the magnitude of the rotation age distortions caused by property and yield taxes. Collecting equivalent revenue, yield taxes actually do outperform property taxes but provide only a small quantitative advantage.

Greene, J.L., S.H. Bullard, T.L. Cushing, and T. Beauvais. "Effect of the Federal Estate Tax on Nonindustrial Private Forest Holdings." *Journal of Forestry* 104, no. 1 (2006): 15-20.

Estate Tax

Data for this study were collected using a questionnaire mailed to randomly selected members of two forest owner organizations. Among the key findings is that 38% of forest estates owed federal estate tax, a rate many times higher than US estates in general. In 28% of the cases where estate tax was due, timber or land was sold because other assets were not adequate. In 29% of the cases where land was sold, it was converted to a more developed use.

Greene, John L., Thomas J. Straka, and Robert J. Dee. "Nonindustrial private forest owner use of federal income tax provisions.." *Forest Products Journal* 54, no. 12 (December 2004): 59-66.

Income Tax

Seven provisions of the federal income tax provide incentives for nonindustrial private forest (NIPF) owners to follow sound management and reforestation practices. NIPF owners in South Carolina were surveyed by mail to determine whether they were aware of these tax provisions, whether they had made use of them, and their reasons for using or not using each one. Information also was collected on the owners' demographic characteristics, to test for differences between users and non-users of the provisions. Owner awareness and use was highest for long-term capital gain treatment of income and annual deduction of

management costs. Owner awareness was lowest for the ability to exclude qualifying reforestation cost-share payments, at 42 percent; owner use was lowest for loss deductions, at 23 percent.

Haney, Harry L., Hoover, William L., Siegel, William C., and Greene, John, L. *Forest Landowners' Guide to Fed Income Tax, 2001*, 2001.

Income Tax

Updates & expands Forest Owners' Guide to the Federal Income Tax. Incorporates tax legislation passed and administrative changes promulgated since 1994. Provides a framework for analyzing forest management investments and a chapter on tax planning.

Hibbard C.M., Kilgore M.A., and Ellefson P.V. "Property Taxation of Private Forests in the United States: A National Review." *Journal of Forestry* 101, no. 2003(3) (2003): 44-49.

Property Tax

Property taxation incentives are an important tool for influencing the management of the nation's private forests. In 2000, 50 states administered 66 programs that provided preferential tax treatment to forest landowners. A survey of state administrators of private forestry programs reveals that forest tax programs are only modestly conforming to standards commonly used to judge tax policy, and only modestly accomplishing the objectives for which they were created.

Hibbard, Calder M., Michael A. Kilgore, and Paul V. Ellefson. "Property Tax Programs Focused on Forest Resources: A Review and Analysis," January 2001. Staff Paper Series Number 150, Dept. of Forest Resources, UMN

Property Tax

This is the comprehensive project report from which the JOF 2003 study above came.

Jacobson, Michael G., Thomas J. Straka, John L. Greene, Michael A. Kilgore, and Steven E. Daniels. "Financial Incentive Programs' Influence in Promoting Sustainable Forestry in the Northern Region." *Northern Journal of Applied Forestry* 26 (June 2009): 61-67.

Property Tax

Selected forestry officials in each of the 20 northern states were surveyed concerning their opinions on the public and private financial incentive programs available to nonindustrial private forest owners in their state. The officials were asked to name and describe the programs and to assess forest owners' awareness of each one, its appeal among the owners aware of it, its effectiveness in encouraging sustainable forestry and enabling owners to meet their objectives, and the percentage of program practices that remain in place and enrolled acres that remain in forest over time. The forestry officials' suggestions for program improvement centered largely on program visibility and availability, increasing and ensuring long-term consistency in program funding, and simplifying the application and approval processes.

Jacobson, Michael G., John L. Greene, Thomas J. Straka, Steven E. Daniels, and Michael A. Kilgore. "Influence and Effectiveness of Financial Incentive Programs in Promoting Sustainable Forestry in the South." *Southern Journal of Applied Forestry* 33 (February 2009): 35-41.

Property

State forestry officials responsible for forestry incentive programs in each of the 13

Tax southern states were surveyed concerning their opinions on financial incentive programs available to nonindustrial private forest owners. The forestry officials' suggestions for program improvement centered largely on improving program visibility and availability, increasing and ensuring long-term consistency in program funding, and simplifying the application and approval process.

Jacobson M., and McDill M. "A Historical Review of Forest Property Taxes in Pennsylvania: Implications for Special Forestland Tax Programs." *Northern Journal of Applied Forestry* 20 (June 2003): 53-60.

Property Tax Pennsylvania's current property tax law allows for current use assessment for farm and forestland. This program, known as Clean and Green, is intended to protect open space. Although there were 2,350,123 ac of forestland in 29 counties enrolled in the Clean and Green program in 2000, and in spite of changes made in the late 1990s, concerns remain about the effectiveness and fairness of the program. Attempts to modify both past and current programs have failed to address the program's most significant problems. Perhaps it is time to rethink our entire approach to forestland taxation.

Kilgore, Michael A, John L Greene, Michael G Jacobson, Thomas J Straka, and Steven E Daniels. "The Influence of Financial Incentive Programs in Promoting Sustainable Forestry on the Nation's Family Forests." *Journal of Forestry* 105, no. 4 (June 2007): 184-191.

Income Tax Financial incentive programs were evaluated to assess their contribution to promoting sustainable forestry practices on the nation's family forests. The evaluation consisted of an extensive review of the literature on financial incentive programs, a mail survey of the lead administrator of financial incentive programs in each state forestry agency, and focus groups with family forest owners in four regions of the country. The study found that financial incentive programs have limited influence on forest owners' decisions regarding the management and use of their land. Family forest owners viewed one-on-one access to a forester or other natural resource professional to "walk the land" with them and discuss their management alternatives as the most important type of assistance that can be provided. Recommendations for increasing the effectiveness of financial incentive programs in promoting sustainable forestry are discussed.

Koontz, MA, and WL Hoover. "Tax incentives to promote environmental management by nonindustrial private forest owners." *Proceedings of the Society of American Foresters, 2000 National* (2001): 128-134.

Income Tax Under the current provisions of the Internal Revenue Code recovery of management expenses requires the production of income. As landowner's management goals and practices expand to include environmental goods and services they bear an increasing financial burden. Many of these environmental goods and services are not marketable, however, society benefits from their production. A mix of financial incentives, such as cost share payments, and tax deductions and credits can be used to correct this market failure. We believe that current mix does not adequately address the needs of nonindustrial private forest owners and society. We propose five alternatives, each based on the Internal Revenue Code as the primary delivery system.

Newman D.H., Brooks T.A., and Dangerfield C.W. "Conservation use valuation and land protection in Georgia." *Forest Policy and Economics* 1 (December 1, 2000): 257-266.

Property Tax

This paper analyzes the first 5 years of the implementation of the Conservation Use Valuation (CUV) program in Georgia. This program provides for current use tax assessment for land dedicated to selected uses for a period of 10 years. Using a sample of counties from the north Georgia region where the program has been most heavily utilized, we analyze the economic and land use impacts of the program. We show that while there is substantial variability in enrollment across counties, the average land area per enrolled covenant is 27.6 ha. If we use this average value for the entire region, then over 22% of the eligible land in north Georgia is currently enrolled in the program. The fiscal impacts are also varied, with some counties showing a substantial reduction in property tax revenues while others showed only a marginal impact.

Peters, D. M., Harry Haney, and John L. Greene. "The effects of federal and state death and gift taxes on nonindustrial private forest lands in the midwestern states.." *Forest Products Journal* 48, no. 9 (1998): 35.

Estate Tax

Summarizes federal estate and death taxes in the Midwestern states that apply to forestry and related land uses. Provisions of the Economic Recovery Tax Act of 1981 (ERTA); Estate taxation rates; Discussion on gifting; Effect of the 1997 Taxpayer Relief Act provisions on federal estate and gift taxes; Basic state death tax system in use.

Rathke, D.M.a.B.M.J. "Influencing nonindustrial private forest management through the property tax system." *Northern Journal of Applied Forestry* 13, no. 1 (1996): 30-36.

Property Tax

Minnesota currently offers property tax relief to private woodland owners through the 2b timberland class in the state's modified ad valorem tax system, and through the Tree Growth Tax Law (TGTL), a fixed rate, productivity tax. A mail survey of nonindustrial private forest landowners found that participants in the TGTL generally pay much lower taxes than those in the ad valorem tax classes, and TGTL lands appear to be more intensively managed for timber. However, the TGTL's incentive for timber management may be its criteria for enrollment, not the tax rate. This study makes a strong case for requiring a management plan in order to be eligible for a lower tax rate.

Siegel, William C.; Haney, Harry L.; Greene, John L. "Estate Planning for Forest Landowners: What Will Become of Your Timberland?" Gen. Tech. Rep. SRS-112.   Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station 180 p.

Estate Tax

The purpose of this book is to provide guidelines and assistance to nonindustrial private forest owners and the legal, tax, financial, insurance, and forestry professionals who serve them on the application of estate planning techniques to forest properties. The book presents a working knowledge of the Federal estate and gift tax law as of September 30, 2008, with particular focus on the unique characteristics of owning timber and forest land. It consists of four major parts, plus appendices. Part I develops the practical and legal foundation for estate planning. Part II explains and illustrates the use of general estate planning tools. Part III explains and illustrates the use of additional tools that are specific to forest ownership. Part IV describes the forms of forest land ownership, as well as the basic

features of State transfer taxes and the benefits of forest estate planning. The appendices include a glossary and the Federal forms for filing estate and gift taxes.

Siegel, William C., Harry L. Haney, Daniel M. Peters, Pete Bettinger, and Debra S. Callihan. “The Impact of Federal and State Income Taxes on Timber Income in the Northeast and Midwest Following the 1986 Tax Reform Act.” *Northern Journal of Applied Forestry* 13 (March 1, 1996): 8-15.

Income Tax

The structure and provisions of state income taxes are detailed for timber owners in 19 states of the Northeast and Midwest. Using 1994 federal and state income tax rules, the tax liability for a hypothetical married couple with timber sale income was calculated for two federal income tax rate brackets (medium and high income levels) for states in the Northeast and Midwest that impose an income tax. The provision most significantly affecting state income tax liability was the tax rate schedule. Installment sales provide an alternative tax planning strategy for those timber owners who qualify as investors rather than a business and who are in the lowest federal tax bracket. Several states also impose taxes other than an income tax when timber is harvested. For example, Minnesota and New Hampshire both impose a minimum 10% yield tax on the timber's stumpage value. These levies significantly affect the total tax liability on harvest income.

Smith, Nathan R., Phillip Bailey, Harry Haney, Debra Salbador, and John Greene. “The Impact of Federal and State Income Tax Liabilities on Timber Investments in the West.” *Western Journal of Applied Forestry* 23 (April 2008): 121-126.

Income Tax

Federal and state income taxes are calculated for hypothetical forest landowners in two income brackets across 13 states in the West to illustrate the effects of differential state tax treatment. The income tax liability is calculated in a year in which the timber owners harvest $200,000 worth of timber. State income taxes range from highs of $19,693 for middle-income and $34,993 for high-income landowners in Oregon to no income tax in Alaska, Nevada, Washington and Wyoming. After-tax land expectation values for a forest landowner in Oregon are also calculated to illustrate the importance of tax planning on returns to a timber investment.

Smith, Nathan R., Philip Bailey, Harry Haney, Debra Salbador, and John Greene. “The Impact of Federal and State Income Tax Liabilities on Timber Investments in the Midwest and Northeast.” *Northern Journal of Applied Forestry* 24 (December 2007): 245-251.

Income Tax

Federal and state income taxes are calculated for hypothetical forest landowners in two income brackets across 23 states in the Midwest and Northeast to illustrate the effects of differential state tax treatment. The income tax liability is calculated in a year in which the timber owners harvest $200,000 worth of timber. State income taxes ranged from highs of $13,427 for middle-income landowners and $18,527 for high-income landowners in Maine to no tax burden in New Hampshire and South Dakota. Calculated state and federal income taxes are based on 2004 tax regulations and rates. After-tax land expectation values calculated for a forest landowner in the Northern Lower Peninsula of Michigan illustrate the importance of tax planning on returns to a timber investment. The results support the need for adequate tax accounting.

Stier, Jeffrey C., and Sun Joseph Chang. "Land Use Implications of the Ad Valorem Property Tax: The Role of Tax Incidence." *Forest Science* 29 (December 1, 1983): 702-712.

Property Tax

The impact of an unmodified ad valorem property tax on land and product values is examined for forestry and annual yield enterprises under the assumptions of (i) full tax capitalization, (ii) full tax shifting, and (iii) shared tax incidence. The models have been extended to include annual management costs and to differentiate between one-time initial investments in capital improvements versus recurrent reforestation expenditures. The two types of investments are shown to have quite different tax consequences. The property tax is biased against capital intensive forms of land use, regardless of the length of the income cycle. The myriad investment situations that can occur within as well as among land uses make it difficult to formulate practical tax policies that would be equitable in all circumstances. This problem is further compounded when the incidence of the tax is shared between land and commodity markets. It is demonstrated that if some of the tax can be shifted forward in the form of higher product prices, certain types of intensive agricultural crop production may be quite insensitive to the level of the property tax. Public tax policies that are formulated on the assumption that all property taxes are fully capitalized ignore the differential effects that can occur within as well as among types of land use and could have quite unintended consequences.

Straka, TJ, RJ Dee, and JL Greene. "Reasons for use or nonuse of federal income tax incentives for timber production by nonindustrial private forest landowners." *Proceedings of the Society of American Foresters, 2001 National* (2001): 446-451.

Income Tax

NonIndustrial private forest (NIPF) landowners have access to seven major federal income tax provisions that are intended to encourage timber production. This study describes the tax provisions and identifies the level of knowledge and use of these provisions. When the provisions were not used, the reasons for nonuse were identified. Over three-quarters of NIPF landowners were aware of the capital gains treatment for timber and the expensing of management costs, but only 42 percent were aware of the provisions affecting cost-share payments.

Straka, TJ, and JL Greene. "Reforestation tax incentives under the American jobs creation act of 2004." *Southern Journal of Applied Forestry* 31, no. 1 (February 2007): 23-27.

Income Tax

The American Jobs Creation Act of 2004 made significant changes in the reforestation tax incentives available to private forest owners. To assess the financial benefit the new incentives provide to forest owners, the authors developed spreadsheets that calculate after-tax Bare Land Value (BLV) for a representative southern pine management plan under three tax situations: no reforestation incentives, the incentives under previous law, and the incentives under the current law. They found that compared to no tax incentive, the current law chiefly benefits owners with high non-timber income, increasing BLV by an amount equivalent to a reforestation cost share of roughly 25 to 30% as opposed to 5 to 15% for owners with low or median income. These findings are significant as Congress likely intended that the new incentives continue to benefit primarly "small woodland owners" with modest incomes and forest holdings.

Wagner, J.E., C.J. Davis, D.E. Roczen, and L.P. Herrington. "Combining zoning regulations and property tax relief to retain forestland and promote forest management." *Northern Journal of Applied Forestry* 19, no. 2 (2002): 59-67.

Property Tax

Zoning and property tax relief are two mechanisms that may be used to influence the management of privately held forestlands. We use data from the Adirondack Park in northern New York to examine if tax incentives duplicate or complement zoning in (a) satisfying the goal of retaining forestland, and (b) promoting active management of privately owned forestlands. Within the Adirondack Park, the bulk of lands given forestland tax relief also have strict land use zoning. We conclude that the combination of zoning regulations with forest property tax relief is no more effective in achieving the goal of retaining forestland than the Adirondack Park zoning regulations by themselves. We also conclude that combining zoning regulations with forest property tax relief is not effective in meeting the goal of influencing active forest management on private forestlands.

Walden, John B., Harry L. Haney, and William C. Siegel. "Federal-State Death Tax Implications for Private Nonindustrial Forest Landowners in the Northeast." *Northern Journal of Applied Forestry* 5 (June 1, 1988): 135-141.

Estate Tax

This article examines key provisions of the federal death tax law, together with the death tax statutes of 13 northeastern states. A modal depicts the combined death tax levy--federal plus state--in these states for a specific planning strategy at the first spouse's death. A second model examines the total tax levy for three different strategies through the second spouse's death based on the property distribution at the first death.

Walden, John B., Harry L. Haney, and William C. Siegel. "The Impact of Recent Changes in State and Federal Death Tax Laws on Private NonIndustrial Forest Estates in the South." *Southern Journal of Applied Forestry* 11 (February 1, 1987): 17-23.

Estate Tax

The Federal Economic Recovery Tax Act of 1981 has significantly influenced the intergenerational transfer of assets. This article discusses recent changes at both federal and state levels. It also compares differences in total death tax burdens (federal and state) between two states with different taxing systems. The study shows that the tax burden in states with a taxing regime based on the federal system is generally less, at the first death in a typical family of four, than in states with other systems.

Williams, E. D., Gottfried, R. R., Brockett, C. D., Evans, J. P. 2004. An integrated analysis of the effectiveness of Tennessee's Forest Greenbelt Program. Landscape and Urban Planning 69(2-3): 287-297.

Property Tax

Concerns about the preservation of farm and forest land in the United States in the face of development pressures have led to many land preservation policies, including preferential, or use-value (UV), taxation of property. Use-value taxation permits landowners to continue deriving income from their land without having to pay the higher taxes occasioned by rising property values, which otherwise might force them to convert their land to other uses. Tennessee's Forest Greenbelt Program differs from many in that enrollment is voluntary and that it is targeted specifically to forest land owners. We developed a theoretical framework to examine the effectiveness of the program in protecting forested land as a function of

several criteria: (1) owners knowing about the program, (2) owners deciding to enroll once they learn about the program, and (3) owners deciding not to convert after enrolling in the program. In addition, the Greenbelt Program was considered cost-effective only if it primarily targeted those parcels facing conversion pressure. In an application of this framework using a probit analysis of landowner survey and tax data, we found that that the Greenbelt Program failed in protecting forested lands. Few knew about the program, and not all those who knew enrolled. Finally, the large majority of enrollees reported that the Greenbelt Program failed to affect their decisions to convert land in the future, and we found no evidence that those who reported some influence of the Greenbelt Program were influenced by the program's economic incentives.