

policy

Taxing Family Forest Owners: Implications of Federal and State Policies in the United States

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Taxes are a prominent policy tool and one of a number of factors that have the potential to influence the decisions of the millions of family forest owners across the United States. After a literature review, tax policies most relevant to family forest owners were catalogued, preferential property tax program administrators were surveyed, focus groups with family forest owners and forestry/conservation professionals were held, and results were synthesized with the aid of experts. The results suggest that tax policies, in and of themselves, are not causing forest owners to take unplanned actions such as prematurely selling their land or harvesting trees. However, in combination with other factors, tax policies, especially property tax policies, can influence ownership and forest management decisions. Preferential forest property tax policies exist across the United States, but a general lack of awareness, confusion, and misinformation about these programs and their often complicated and/or restrictive requirements are preventing them from reaching their full potential.

Keywords: family forest owners, nonindustrial private forest owners, forest taxation, forest policy, property tax, income tax, estate tax, inheritance tax, United States

There are over 10 million family forest owners, defined as families, individuals, trusts, estates, family partnerships, and other unincorporated groups of individuals that own forestland, across the United States (Butler 2008). Collectively, they control 264 million ac or 35%

of the nation's forestland; in some states, the percentage of forestland owned by this group exceeds 75% (Figure 1). There exists a wide range of policy tools to encourage the conservation of family forestlands, both keeping the land forested and improving forest management. These tools include

technical assistance, outreach education, financial incentives, and regulations. Among these tools, financial incentives, particularly tax policies, play a prominent role (Greene et al. 2005).

The financial burden of taxes on family forest owners can be substantial. Cushing (2006) estimated that property, severance, yield, and income taxes reduce the financial return on family forestland in the United States that is managed for timber, i.e., the land expectation value, by 19–51% across the 22 geographically dispersed states examined. The range is primarily because of differences in state property tax burdens and state income tax policies. Greene et al. (in press) found very similar reductions in land expectation values of 20–50% across the US South.

Provisions have been created in federal and state tax codes to help owners reduce tax

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burdens and meet societal goals, such as timber production and open space conservation. Bailey et al. (1999) reported that more than one-third of the revenue from timber sales can be lost for failing to take advantage of beneficial tax provisions. Smith et al. (2008) found land expectation values to be reduced by 12–76% for owners failing to take full advantage of income and property tax provisions.

Although the theoretical impact is large, the actual effects of beneficial tax provisions on forest owner behaviors are unclear from the existing literature. Studies of property tax programs have shown contradictory conclusions. Based on a theoretical model of landowner behavior, England and Mohr (2003) concluded that preferential property tax programs “unambiguously delay development.” A survey of New York owners who had parcelized their forestland found that for 27% of them, property tax burden was the number one reason for doing so (Sanborn-Stone and Tyrrell 2012). But preferential property tax programs were found to be ineffective in Tennessee (Brockett and Gebhard 1999, Williams et al. 2004) and Louisiana (Polyakov and Zhang 2008). In addition, property tax enrollment rates in some states are lowest in those areas facing greatest development pressures (Dennis and Sendak 1992, Brockett and Gebhard 1999).

Although income taxes can significantly reduce the income earned from timber harvesting (Bettinger et al. 1991, Siegel et al. 1996, Bailey et al. 1999), there are no observational studies that show the impact on forest owner behavior. Using a utility maximization model, the effect of taxes on income was shown to be an unlikely factor in a forest owner’s decision to harvest timber; furthermore, the more an owner cares about amenity values, the less influence income tax policies have on behavior (Uusivuori and Kuuluvainen 2008).

To judge the impact of estate and inheritance taxes, the number of ownerships affected needs to be known, as does the influence of these taxes on landowner decisions. In a survey of members of forest owner groups, 9% of respondents reported having been involved in the transfer of a forest estate (Greene et al. 2006). A majority of those involved (62%) reported that no federal estate tax was due. In the cases where estate taxes were due, 17% of the respondents reported timber was sold and 11% reported that land was sold because other estate as-

sets were insufficient to pay the estate tax liability.

In contrast to the body of literature addressing the financial implications of tax policies, no published studies have analyzed the cumulative impact of tax policies on the decisionmaking behavior of family forest owners over the course of their ownership tenure. To help fill this information gap, we conducted a study to examine existing tax policies and assess their impact on family forest owner decisionmaking.

Methods

A mixed-methods approach was used to study the impacts of tax policies on US family forest owners. This included literature and policy reviews, a survey of property tax administrators, focus groups with family forest owners and forestry/conservation professionals, and a stakeholder forum to review preliminary findings.

The tax environment for family forest owners as of 2010, the year the study was conducted, was determined by reviewing, cataloguing, and verifying existing federal and state policies. Based on the existing literature and cross-verified with key informant interviews and forest owner focus groups, efforts were concentrated on property, income, and estate/inheritance taxes. Using the National Timber Tax Website (n.d.) as a starting point, information was verified and augmented using government websites and other sources, including interviews with 11 professionals with expertise in property, income, and/or estate/inheritance taxes.

Preferential property tax programs were defined in this study as programs that obligate owners to specified actions, such as having a written forest management plan or paying a penalty for early withdrawal of land

(i.e., taking land out of a program), in return for a reduced annual property tax burden. For these programs, information on program goals, requirements, and withdrawal penalties were collected using a two-page survey (available in Appendix III of Butler et al. 2010) administered via e-mail in February through April 2010. The surveys were sent to the program administrators, within the state natural resource agencies or revenue departments that administer the preferential property tax programs, in each of the 38 states with such programs. Survey recipients were asked to verify the attributes of their state’s tax programs and to rate, using Likert scales (i.e., asked about their level of agreement with a series of statements), these programs according to policy effectiveness criteria adopted from Hibbard et al. (2003). They were also asked to estimate, within specified ranges, the average annual tax savings, percentage of eligible forest owners enrolled, and overall ability of the program to protect private forestland in areas highly susceptible to development. Useable responses were received from program administrators in 37 of the 38 states with preferential property tax programs.

Focus groups with family forest owners were conducted to better understand the impact of taxes on their decisions, their levels of awareness and knowledge of tax policies and beneficial provisions, their use of these provisions, reasons for not participating, and information sources they rely on. In addition, background information was collected on general ownership concerns. Ten forest owner focus groups were held in the summer of 2010. Two 2-hour focus groups, consisting of 8–10 family forest owners per focus group, were held in Manchester, New

Management and Policy Implications

In and of themselves, tax policies do not appear to be causing family forest owners to take unplanned actions, but in combination with other factors, these policies can influence family forest owners’ decisions to sell their land, harvest trees, or take other actions. Of the taxes impacting family forest owners, property taxes appear to have the greatest potential to impact their decisions. These taxes are levied on an annual basis regardless of how much, if any, income is generated from the property. Preferential forest property tax policies exist across the United States, but a general lack of awareness, confusion, and misinformation about these programs and their often complicated and/or restrictive requirements are preventing them from reaching their full potential. Income taxes appear to be less of an issue because most owners generate revenue from their forestland infrequently and when income taxes are levied on timber sales, revenue is generally available to pay the taxes. Estate taxes do not appear to be a major concern because estate values are not high enough, owners do not know the full value of their assets, and/or they do not want to confront this topic.

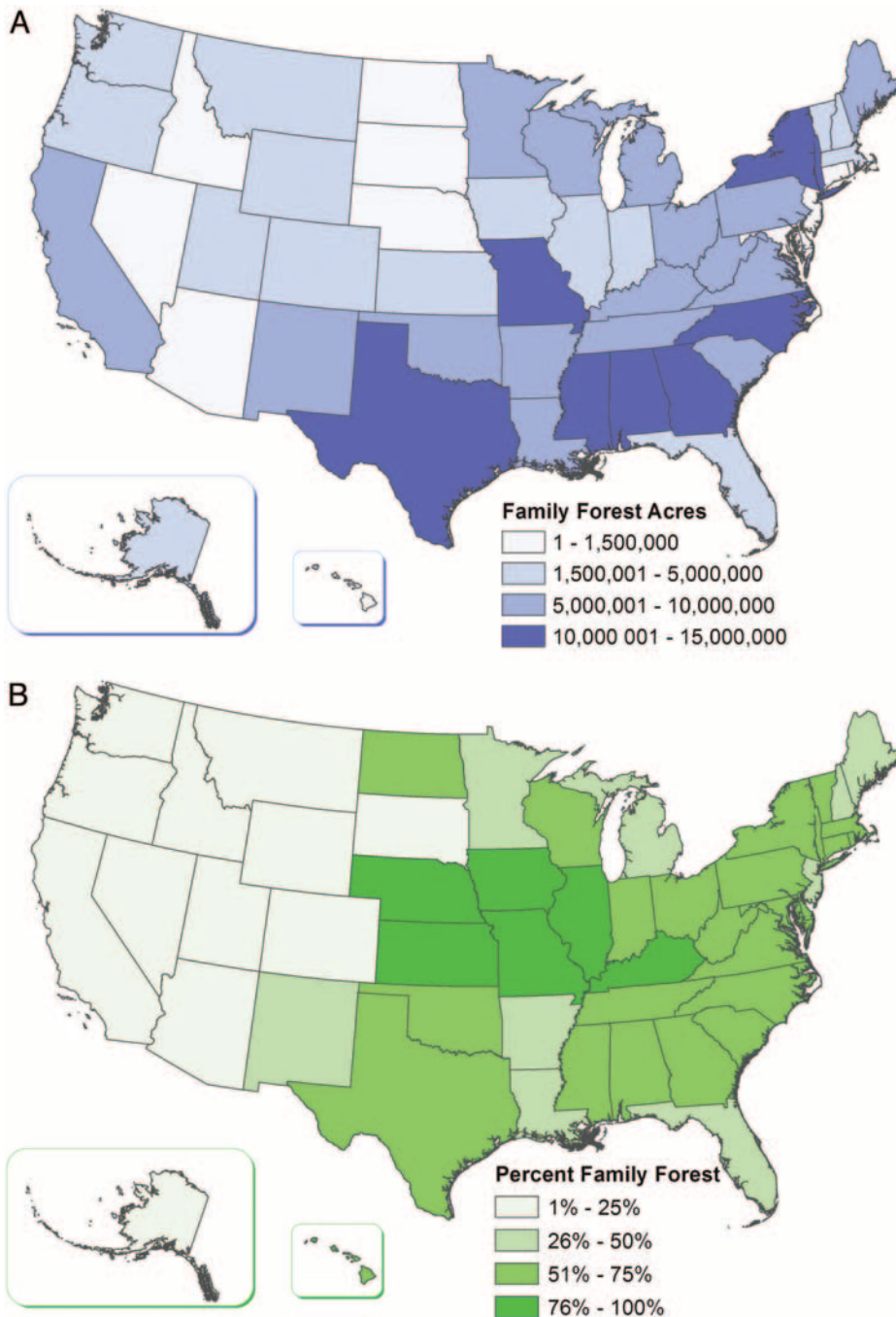


Figure 1. (A) Acres of family forestland and (B) percentage of forestland that is owned by family forest owners, by state (Butler 2008).

Hampshire; Columbia, South Carolina; Calera, Alabama; Wausau, Wisconsin; and Olympia, Washington. States were selected to represent a broad range of tax policies. The locations within the states represented areas where a substantial amount of private forestland existed, but which were also subject to significant development pressures. Focus group participants were selected from property tax rolls obtained from local assessors' offices. Only individuals owning between 10 and 999 ac of forestland were in-

cluded to participate. The list was randomly sorted and recruiters used responses to a series of questions to ensure a mix of: size of forest holdings; gender, age, and education; timber harvesting experience; inheritors and noninheritors; and participants and nonparticipants of property tax programs. To identify emergent themes in the focus group transcripts, the open coding method (Strauss and Corbin 1998) was used—the transcripts were carefully read by multiple team members, an initial list of themes was

developed, differences among analysts were reconciled, and the final coding was applied.

Four parallel focus groups were held where forestry/conservation professionals addressed the same topics as the family forest owner focus groups. They were held in New Hampshire, South Carolina, Wisconsin, and Washington; one was not held in Alabama because of logistic problems. Based on input from local state forestry agency and extension professionals, people from state forestry agencies, university extension systems, nongovernmental organizations, and private consultants were selected to participate with a total of 6–10 present at each focus group.

Once the survey and focus group data were collected and summarized, 15 individuals identified by the project team as having broad forestry, conservation, and/or forest taxation expertise were convened for a 2-day stakeholder forum with the project team in October 2010. The group was presented with the study's initial findings and then deliberated about potential implications for policy and management issues (Reuben and Tyrrell 2010).

Results

Current Tax Policies

Forest tax policies vary across states (Table 1) and change over time. State and local governments levy property taxes. The federal government levies income and estate taxes. Most states also levy an income tax, and some levy estate or inheritance taxes.

Property Taxes

Forestland can be taxed using ad valorem, current use, flat tax, exemption, or hybrid methods (Hibbard et al. 2003), but all states have policies that allow qualified forest owners to reduce their annual property tax burden. Thirty-eight states have one or more preferential property tax programs requiring actions or commitments by forest owners. These programs are designed to promote timber management, open space, and/or other conservation values (Figure 2). Eleven states have policies that automatically assess and tax forestland preferentially without requiring any action or commitment by the forest owner. In Alaska, apart from some municipalities, forestland and timber are exempt from taxation.

Preferential property tax program eligibility requirements vary considerably across

Table 1. Summary of state-level property, harvest, income, and estate/inheritance tax policies applicable to family forest owners, 2010.

	Percentage of states
Type of property tax treatment for forestland	
Preferential property tax program	76
Assessment	22
Exemption	2
Harvest tax applicable to	
All forest owners	12
Preferential property tax program participants	6
All except preferential property tax program participants	2
State-level income tax	82
Preferential treatment for capital gains	14
Forestry or land conservation income tax credits or deductions	30
State-level estate and/or inheritance tax	42
Estate tax special use valuation	10

See Butler et al. (2010) for summaries by state.

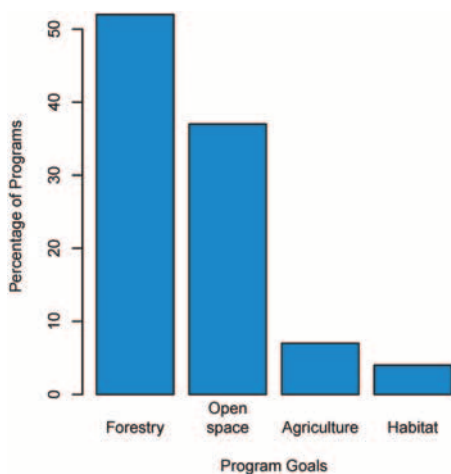


Figure 2. Goals of state-level preferential property tax programs.

states (Table 2). Minimum acreage requirements range from no minimum to 160 ac. Required enrollment periods range from none to 50 years. Most of these programs (84%) have a penalty for early withdrawal. Enrollment in 60% of the programs is until the land use changes or the land is withdrawn and 40% have set enrollment periods that range from 1 to 50 years. Just over one-half (52%) require a forest management plan, but the definition of what constitutes a plan varies immensely.

Eleven states collect harvest taxes in lieu of at least a portion of the annual property tax. Because harvest taxes are levied when trees are harvested, the effect is equivalent to an income tax. In California, Georgia, Illinois, New Hampshire, Oregon, Washington, and West Virginia, all forest owners who commercially harvest trees are subject to a harvest tax. In Missouri, New York, and Wisconsin only owners enrolled in specific preferential property tax programs are sub-

ject to a harvest tax. In Idaho, only owners not enrolled under the productivity option of the State's preferential property tax program are subject to a harvest tax.

Income Taxes

An income tax is imposed at the federal level and by 41 states. State income tax burdens are more modest than the federal burden. In 2010, the maximum income tax rate for ordinary income was 35% at the federal level and ranged from 3 to 11% in states with an income tax (Tax Policy Center 2011).

The federal income tax code includes provisions that can benefit forest owners (Greene et al., in press). Income generated from harvesting timber generally qualifies as a long-term capital gain, which is taxed at a lower rate than ordinary income. Depending on their profit motivations (i.e., whether they identify their earnings as being derived from a hobby, investment, or business when they file their taxes), family forest owners may deduct management and reforestation costs, depreciation of equipment, timber depletion, and losses. Several states provide special treatment of capital gain income and a few have specific incentives for forest management activities. There are also incentives for conservation easements in the federal and some state income tax codes (see Sidebar 1).

Estate and Inheritance Taxes

In a typical year, the impact of the federal estate tax is much greater than that of state-level estate or inheritance taxes (Jacobson et al. 2007). As of 2010, 21 states had an estate and/or inheritance tax. Over the last 10 years, the federal estate tax exemption

(i.e., the amount on which estate taxes are not owed) has ranged from \$675,000 in 2000 to no federal estate tax being owed in 2010 (Figure 3). In 2011, the exemption amount was \$5 million (\$10 million for married couples) with a top tax rate of 35% on assets above that amount. In 2012, the exemption amount was raised to \$5.12 million (\$10.24 million for married couples) to adjust for inflation and the top tax rate remained at 35%. The fate of the federal estate tax beyond 2012 is uncertain.

The federal estate tax includes provisions to value forestland in its actual use rather than its so-called "highest and best use," which often means for residential or commercial use. The reduction in the taxable value of the estate is capped and there are substantial stipulations and requirements.

State Property Tax Administrator Survey

The administrators of preferential property tax programs reported a wide range in the percentage of eligible owners enrolled in the programs (Figure 4). In some states, administrators reported over 75% of the eligible forest owners were enrolled, while in other states participation rates were less than 25%. These figures do not include family forest owners who are ineligible to participate because of size of forest holdings (Figure 5) or other enrollment eligibility requirements.

In general, the state forest property tax administrators rated their programs as effective from a policy perspective. One-half of the administrators agreed or strongly agreed with the statement that their programs were effective in protecting forest resources in areas highly susceptible to development, but 20% disagreed or strongly disagreed with this statement (Table 3). Over 75% of the administrators agreed with statements that their programs provide meaningful tax breaks and have well-articulated goals. Between 50 and 75% of the administrators agreed with statements that their programs are complementary with other forestry programs, consistently administered, periodically reviewed, and provide guidance to applicants. Less than one-half of the programs were rated as having funding stability, but this attribute was not applicable to one-quarter of the programs.

The annual property tax reduction is difficult to quantify because the land value depends on many things, including location. Twenty-two percent of the survey administra-

Table 2. Summary of preferential property tax programs applicable to family forest owners, 2010.

Program attribute/scope	Percentage of programs
Minimum acreage requirement	
No minimum	6
Single minimum	82
Varies by county	12
Management plan requirement	
Not required (across whole state)	52
Required (across whole state)	34
Varies by county	14
Duration of enrollment	
Continuous	60
Set	40
Withdrawal penalty	
Yes	84
No	16

See Butler et al. (2010) for state-level descriptions of these programs.

tors did not provide an estimate of the savings. Of those who did respond, over one-half stated that participants received at least a 75% reduction in annual property taxes.

Focus Groups

The family forest owners in the focus groups had, in general, similar characteristics to other family forest owners across the

Sidebar 1. Forest Tax Policies and Conservation Easements.

Conservation easements are the strongest tool for ensuring the perpetuation of private forestland in an undeveloped state. Although not a tax policy, conservation easements can impact and be impacted by income, property, and estate tax policies. Incentives for donations of conservation easements exist within the federal and several state income tax codes and are positively correlated with increased numbers of easements (Land Trust Alliance n.d.). In 2010, the federal tax code allowed for a qualified charitable contribution deduction of up to 50% of an owner's annual adjusted gross income (100% for owners who derived more than one-half of their income from their land) for the qualified donation of a conservation easement, with unused amounts of the deduction carried forward for up to 15 years. Land that is under a conservation easement may also qualify for reduced property tax valuation and be valued at a discounted rate in estate valuation.

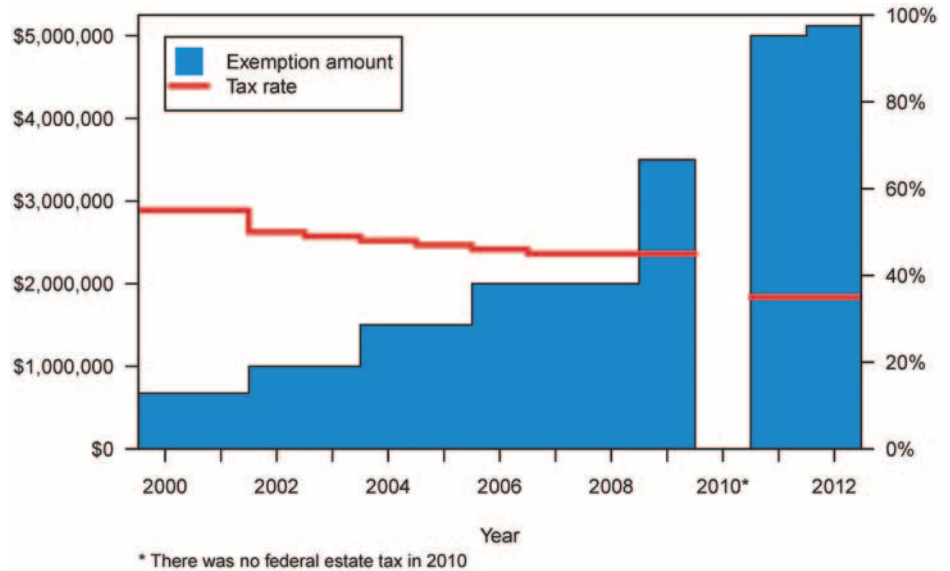


Figure 3. Exemption amounts and tax rates for the federal estate tax, 2000–2012.

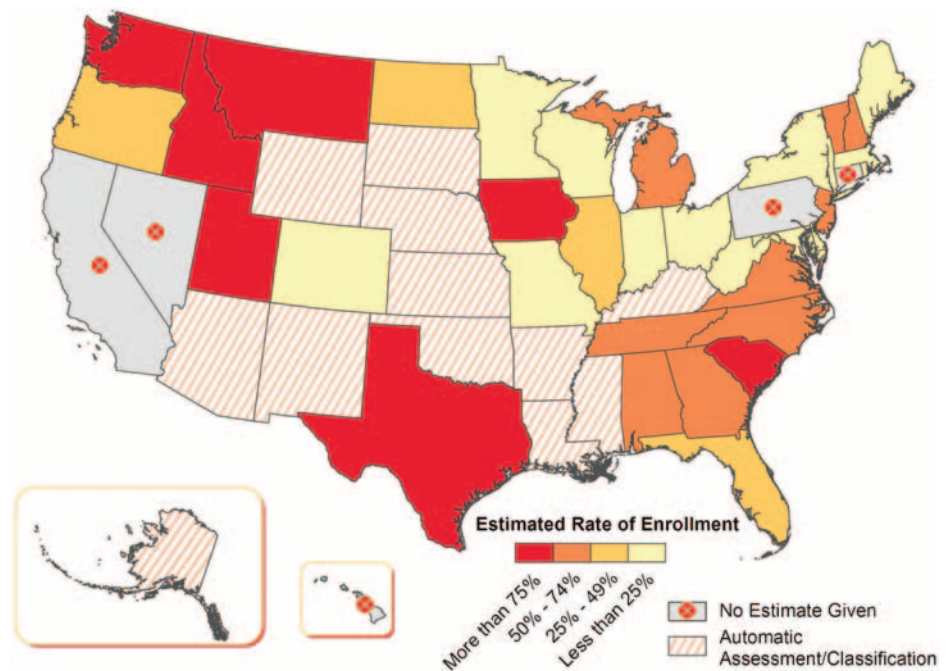


Figure 4. Percentage of eligible forest owners enrolled in preferential property tax programs as estimated by program administrators, by state.

United States as reported by Butler (2008). The exceptions were relatively more focus group participants had larger parcels, which was purposively done to ensure representation of these owners, and slightly higher levels of education.

Family forest owners in the focus groups were asked to identify and discuss the challenges they face related to owning forestland and their vision for the future of their forestland. The four most frequently cited concerns (Figure 6), mentioned in at least 9 of the 10 focus groups, related to (a) devel-

opment of nearby lands, (b) family legacy—either children not being interested or equitable distribution among multiple heirs, (c) property taxes, and (d) unauthorized public access—primarily damage from all-terrain vehicles and illegal dumping. Estate/inheritance taxes were mentioned as a concern in three focus groups, and there were no unprompted mentions of income taxes.

There were similarities and differences between what the owners indicated as concerns and what the forestry/conservation professionals thought were concerns of the

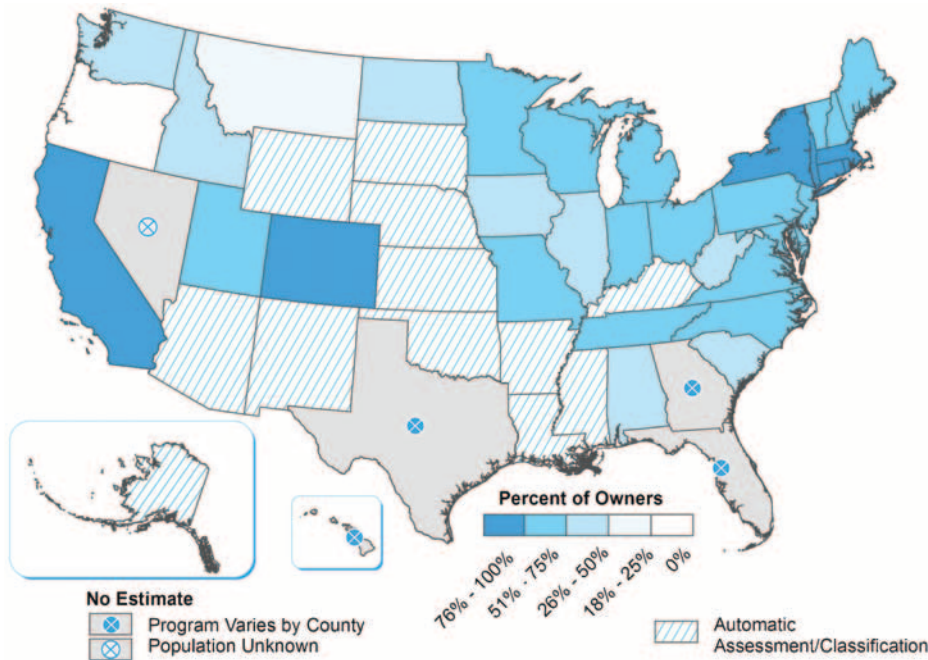


Figure 5. Percentage of forest owners ineligible for preferential property tax programs because of holding size, by state. Minimum acreage requirements come from a review of the policies and the number of owners by size of holdings comes from Butler (2008).

owners (Figure 6). For example, familial issues were identified by both groups, development was more frequently mentioned by the family forest owners, and timber markets were more frequently mentioned among the forestry/conservation professionals.

Many property tax program participants reported overall satisfaction with the programs and a few reported that the reduced tax burdens were keeping them from having to sell their land. The main complaints were program requirements compel-

ling landowners to manage their timber in a way they would not otherwise and lack of awareness of program requirements (e.g., withdrawal penalties). For those landowners not enrolled, the reasons given included lack of program awareness, dissatisfaction with the program constraints, not being eligible to participate (usually because of minimum acreage requirements), and benefits not being commensurate with the requirements.

Awareness of beneficial income tax provisions associated with owning and managing forestland was quite limited among most focus group participants. Only a few owners were aware of the provisions, but these individuals often had a fairly high level of understanding of the income tax code as it affects forest ownership and management. These individuals tended to own larger properties and conduct timber harvests on a more frequent basis. Even among this group, some opted not to take advantage of income tax provisions because of the perceived complexity of the requirements compared with the savings offered.

There was only moderate awareness among focus group participants that there was no federal estate tax in 2010. A handful of owners, primarily those with larger properties, were actively planning for the future of their land, in part to mitigate estate tax

Table 3. Description and statistical summary of policy effectiveness criteria and other attributes of preferential property tax program as reported by state program administrators.

Variable	Description	Summary (percentage of responses)						
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Not applicable	No answer
Effectiveness criteria								
Articulated	The program has clearly articulated goals	0.0	2.7	10.8	43.2	40.5	0.0	2.7
Significant	The magnitude of the tax break is significant	2.7	0.0	10.8	27.0	56.8	0.0	2.7
Complements	The program complements other state forestry incentive programs	2.7	8.1	21.6	29.7	27.0	8.1	2.7
Attributes	The forestland valuation mechanisms, eligibility requirements, withdrawal penalties, and minimum enrollment periods reflect program goals	0.0	8.1	18.9	48.6	21.6	0.0	2.7
Consistency	The program is consistently administered from county to county	2.7	10.8	10.8	43.2	24.3	5.4	2.7
Funding	Funding for the forestry tax program has been stable and predictable	5.4	8.1	18.9	27.0	13.5	24.3	2.7
Reviewed	The program is periodically reviewed to ensure that objectives are being met	0.0	8.1	24.3	45.9	18.9	0.0	2.7
Guidance	Guidance through the application process is available to forest owners	0.0	0.0	24.3	32.4	35.1	5.4	2.7
Overall effectiveness	The program is effective in protecting forest resources in areas highly susceptible to development	5.4	16.2	24.3	40.5	10.8	0.0	2.7
Other variables								
Savings	Estimated percentage savings for enrollees in the preferential property tax program	<25%	25–49%	50–74%	75%+	No answer		
Enrollees	Percentage of the eligible forest owners enrolled	8.1	8.1	16.2	45.9	21.6		
		35.1	10.8	24.3	18.9	10.8		

Sidebar 2. Ideas for Improving Family Forest Owner Tax Policies.

The following are selected ideas for improving the effectiveness of family forest owner tax policies. These ideas were generated from the stakeholder forum, by the research team, and from other sources. Some of these ideas would be relatively easy to implement and some would be quite challenging. The ultimate decision of which, if any, change(s) should be implemented will depend on a complex set of factors including political feasibility and social desirability. These ideas are simplified bullet points. The details of the ultimate policy recommendations must be fully considered and care must be taken to avoid unintended consequences.

General

- Develop communication materials that allow family forest owners to quickly and easily understand the purpose and constraints of a program and evaluate the costs and benefits.
- Create educational materials for accountants, estate planners, real estate agents, foresters, and other professionals with whom family forest owners interact.
- Foster enhanced opportunities for landowners to learn from one another's experiences using peer-to-peer networks, master woodland owner programs, and other channels.

Property Taxes

- Focus outreach on new family forest owners, who are most likely to have the least information.
- Convince assessors to be active advocates for preferential property tax programs. Although there may be a loss of annual tax revenues, these lands require less in terms of community services and provide otherwise uncompensated ecosystem and social services.
- Target programs to address locally relevant issues. For example, rapidly developing areas use programs focusing on amenity values and open-space retention, and more rural areas with competitive timber markets use traditional, forest management-centered programs.
- Design programs that meet forest owners' needs and desires. For example, do not require deed restrictions (Kilgore et al. 2008) or rigid management prescriptions and remove requirements for open access or have it be an opt-in alternative for enhanced benefits.

Increase the financial rewards of the programs (Kilgore et al. 2008), such as greater reductions in annual property tax burdens.

Income Taxes

- Simplify the tax code and rules. This is obviously much easier to say than to make happen.
- Consider implementing a sliding-scale capital gain tax rate where the tax rate decreases the longer an asset is held.
- Simplify basis calculation, a requirement for claiming capital gain income, by instituting generalized tables for calculating basis.
- Include forest owner specific provisions in more income tax preparation software packages.
- Assess the benefits of creating a first-time forest owner's income tax credit for forestland purchases that meet certain criteria (e.g., does not contribute to parcellation).

Estate/Inheritance Taxes

- Consider extending the current federal estate tax provisions that have a \$5.12 million unified exemption amount, portability between spouses, and a maximum tax rate of 35%.
- Simplify the requirements and consider raising the cap on special use valuation.
- Examine extending right of survivorship to land being passed to any family member—i.e., no estate/inheritance tax due when land stays in the family.
- Develop subsidies, including cost share and tax credits, for the creation and updating of estate plans, especially those that incorporate appraisals of forestland.
- Offer support with estate planning.

issues. Witnessing a neighbor, friend, or co-worker adversely impacted by estate taxes was a common impetus for action. Advance planning was said to be key for dealing with

potential estate taxes, but there was substantial frustration with tax code complexity.

Most owners initially talked about forest taxation issues with family, friends,

and neighbors. Also mentioned as general sources of information were community meetings and information provided when they purchased the land. If the owners wanted additional tax information, they would seek assistance from specific professionals (e.g., local assessors, accountants, and estate attorneys); forestry/conservation professionals were rarely mentioned. In most groups it was noted that not all professionals are well-versed about tax provisions specific to forest ownership.

Stakeholder Forum

The forum brought together 15 forestry/conservation and tax experts from across the country to help interpret study findings. Forum participants felt many of the property, income, and estate tax programs and provisions had the potential to provide substantial savings or tax deferments, but few, if any, were reaching their full potential in terms of use by and usefulness to family forest owners. Low awareness, incomplete or inaccurate knowledge, and complexity were cited as hampering usage. Some specific ideas for improving tax policies, generated from the forum, by the research team, and from other sources, are listed in Sidebar 2.

Forum participants felt some of the preferential property tax programs fail to address the reasons people own their land. For example, privacy is a common ownership objective and therefore requiring public access can be a "deal-breaker" for many owners. Furthermore, many owners in the focus groups cited the importance of the freedom to do what they want with their land and were hesitant to enroll in programs because of fear of government intrusion and loss of control.

Implications

The impact of tax policies on family forest owners is a function of the number of owners affected, the degree to which they are affected, and, ultimately, whether and how the policies change their behavior. Income taxes will have the largest impact on those owners who are most financially motivated (Uusivuori and Kuuluvainen 2008). Harvesting trees is not the sole means for generating income from forestland, but for those who are generating income it is the most common. Twenty-seven percent of family forest owners in the United States have commercially harvested trees (Butler 2008) and many of these do so infrequently. Commercial harvests, by definition, imply receipt of

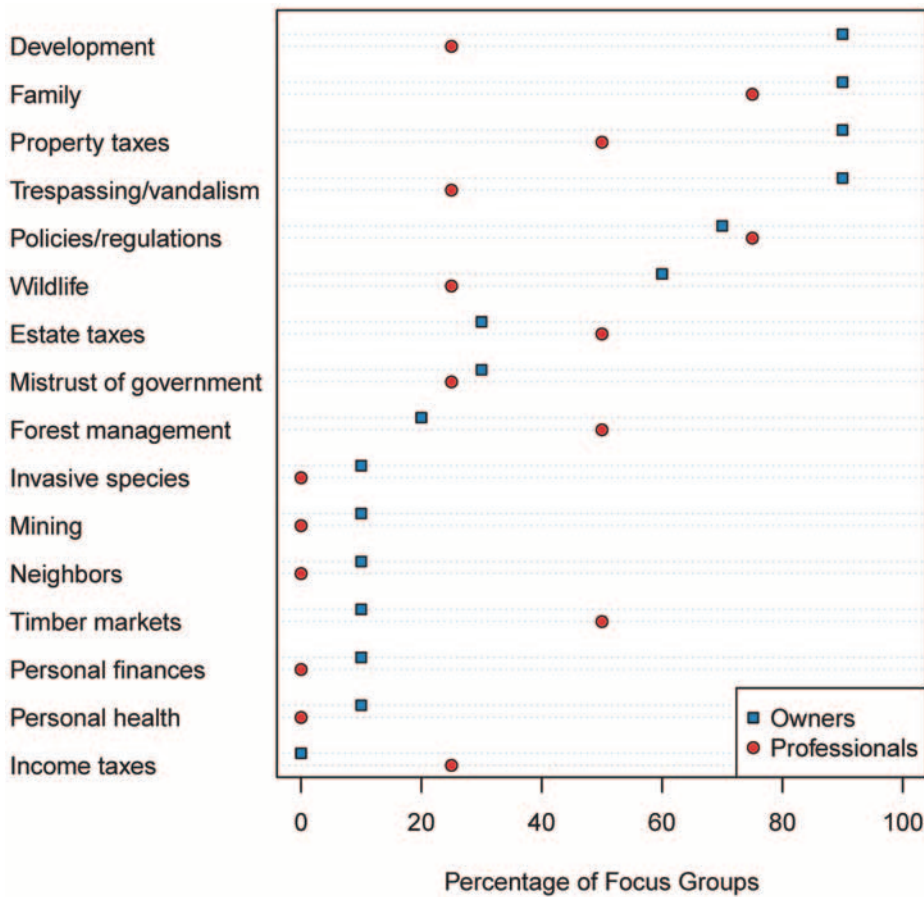


Figure 6. Concerns of family forest owners as reported by family forest owners and forestry/conservation professionals.

income and therefore those owners who commercially harvest trees should have money available to pay income taxes. Koontz and Hoover (2001) criticized the current income tax provisions as being too centered on timber production, burdening forest owners with complicated requirements, and being subject to policy changes. Although the federal tax code calls for taxpayers to establish their basis in capital assets at the time they are acquired, many family forest owners do not (Stier 1997).

Estate transfer is another infrequent event for forest owners. Twenty percent of current owners have inherited their land (Butler 2008), and many estates are not large enough to be impacted by estate taxes (Greene et al. 2006). This partially explains why estate taxes were not a large concern among family forest owners in the focus groups (Figure 6). Other reasons included owners being unaware of current policies, many not knowing the value of their (forest) estates, not wanting to confront their own mortality, the complexity of the estate planning process, and unwillingness to pay for pro-

fessional assistance. For those concerned about estate taxes, there are techniques to protect their forestland (Peters et al. 1998), but not all owners know how to use these effectively.

Property taxes are a concern of many family forest owners as evidenced in the focus groups (Figure 6) and the National Woodland Owner Survey (Butler 2008). All states have policies that help mitigate property taxes for family forest owners, but the effectiveness of these programs has been called into doubt (Newman et al. 2000, Williams et al. 2004, Polyakov and Zhang 2008). Forest owner participation rates in preferential property tax programs vary widely among states. Many owners are ineligible to participate in these programs (Figure 5) because of the small size of their holdings (Butler 2008). This may make sense from an administrative perspective, but it may also miss many of the most vulnerable owners closest to the areas of greatest development pressures.

Adoption of a given behavior is dependent on one's awareness of the situation, knowledge about it, the relative advantages

and disadvantages, and one's experiences with it (Rogers 1995). Awareness and knowledge of property tax programs are low among many owners (Williams et al. 2004, Fortney et al. 2011). According to focus group participants, awareness of the preferential forest property tax programs was high when it was first introduced, often decades ago, but many newer owners are not aware of it. Misinformation and partial information are also hindering more widespread participation. Specific preferential property tax program provisions were often debated, especially withdrawal penalties, what happens when the land is sold or passed on to heirs, and whether or not public access is required. In general, the greatest confusion over forest property tax programs existed in states with the least restrictive program requirements. In several instances, focus group participants were unsure whether their forestland was enrolled.

For some forest owners, disadvantages outweigh the advantages of preferential forest property tax programs (Kilgore et al. 2008). Indeed, there are financial savings to be gained by enrolling in a program, but enrolling may require the owner to take actions that negatively impact benefits derived from forestland ownership. Privacy and aesthetic considerations are important to many owners, but some tax policy provisions (e.g., mandatory timber management) can be antithetical to these desires. Additionally, the concept of enrolling in a government program is a sufficient deterrent for some (Fortney et al. 2011).

For all tax policies, there is the potential for a scale effect—the policies are likely to have varying impacts depending on the size of an owner's holdings. Across the United States, the majority of family forest holdings are in small acreage tracts, but the greatest cumulative acreage is in larger (e.g., ≥ 50 ac) holdings (Butler 2008). As the size of a forest holding increases, owners are more likely to harvest trees and have financial motivations for owning their land (Butler 2008) and their forestland is more likely to be of higher total value and have higher annual property tax burdens. This implies that as holding size increases, interest in property, income and estate tax programs may increase.

Conclusions

The factors that determine forest owners' decisions are complex, multifaceted, and dynamic (Kittredge 2004). By providing a diversity of tools and options geared toward forest owners' needs and desires, the likeli-

hood of forests remaining forests and being well managed increases—something forest owners, forestry/conservation professionals, and the general public have a stake in. Tax and other policy tools can be refined to further these goals. In the 21st century, an open-minded assessment of the tax environment that landowners face suggests doing some things differently. For example, if the goal is to keep private land forested and to generate greater public benefits, it may be more important to cost share the expense of estate planning or family mediation than to reimburse landowners or provide tax benefits for the expense of planting trees or timber stand improvements. The ultimate question is whether the existing tax environment can be reconfigured to address the obstacles owners face today.

The general findings of this study are congruent with the findings from previous studies, such as Greene et al. (2005)—beneficial tax policies alone are not enough to stave off development. Forest loss is a major issue (Stein et al. 2005, Kittredge 2009), but tax policies will only be able to partially address it.

Of the taxes studied, property taxes appear to have the most significant impact on forest owners' decisions. These taxes are paid on an annual basis and are generally due even when no revenue is generated. Property tax policies are established and administered at state and local levels and therefore solutions to property tax issues will be primarily at these levels. Income taxes appear to be less of a concern because most owners generate revenue from their forestland infrequently and when income taxes are levied on timber sales, revenue is generally available to pay the taxes. Estate taxes did not appear to be a major concern because estate values are not high enough, owners do not know the full value of their assets, and/or they do not want to confront this topic.

For many of the family forest owners contacted in this study, and presumably among family forest owners in general, there is a fog of low awareness, confusion, and misinformation that enshrouds tax policies. Most, if not all, existing policies are not reaching their full potential because the information is not readily available; efforts at making the information available do not necessarily coincide with when landowners are poised to make decisions; the information is too complex to be quickly and easily grasped; and/or the requirements are too

great given the perceived benefits. In addition to forest owners, greater efforts could be made to provide tax, legal, and real estate professionals with improved access to information regarding beneficial tax policies for family forest owners so that forest owners are more likely to encounter someone knowledgeable within their communications network when they need the information.

This study provides insights into the benefits and challenges associated with federal and state tax policies affecting the nation's family forest owners. Some of the opportunities for reform this study brings to light may be implemented relatively easily, while others will require broad-based support from a variety of interests before being adopted. Decisions regarding which, if any, changes in tax policies to pursue will be determined by forestry and conservation organizations, policymakers, and the people most affected—family forest owners.

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