An Evaluation of Forest Landowners’ Participation in West Virginia’s Managed Timberland Tax Incentive Program

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Abstract

Preferential property tax treatment of forested land is part of legislative policy in all 50 states. West Virginia’s forest land tax, Managed Timberland, is designed to promote retention of private forest land in forested use. Many individual states have been the subject of studies on both structure and effectiveness of their preferential forest tax programs. However, West Virginia’s Managed Timberland Program, in effect since 1991, has not been scrutinized at the level of other states’ programs. In West Virginia, private forest land owners hold 9.7 million acres of forest land, but 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 analyzes participant and non-participant characteristics to identify factors that influence the choice to participate in the Managed Timberland Program and propose strategies for improving the program. Results suggest that low enrollment may be attributable to lack of knowledge, poor administration, and failure to target landowner beliefs. Landowners currently enrolled are satisfied with the program.

Keywords: preferential forest taxes, property tax, private forest landowners, land use policy, green space preservation.
Introduction

In West Virginia, the preferential property tax policy for forested land is called the Managed Timberland Program. Individual states have been the subject of several studies on both structure and effectiveness of their forest property tax programs (e.g., Baughman et al. 2003; Jacobson 2001; Rathke 1993; Wagner et al. 2002). However, the West Virginia’s tax incentive program has not been scrutinized at the level of other states’ forest tax incentive programs. West Virginia Division of Forestry (DOF) Director Dye (2006), in the required annual report to the legislature (Cook 2007), notes a lack of new or increased enrollment since 1998, which was preceded by a drop in enrollment starting in 1995, only four years after the Managed Timberland Program’s inception. The lack of enrollment in West Virginia’s Managed Timberland program since 1998 may be a cause for concern regarding the success of the policy. It has long been noted that forestry is suited to West Virginia both environmentally and economically, for timber and recreational tourism (Eke 1929; Peck 1929). The West Virginia legislature declared forest preservation to be in the public interest when passing Managed Timberland into law (WV Code §11–1C–11). Therefore it is important to understand forest landowner attitudes toward Managed Timberland in West Virginia. This study analyzes participant and non-participant characteristics to identify factors that influence the choice to participate in the Managed Timberland Program and propose strategies for improving the program.

Methodology

The data for this study were collected from a mail survey that was conducted from August 2008 to February 2009. The study population consisted of nonindustrial private forest (NIPF) landowners in West Virginia who own at least 10 acres of forest land. Managed Timberland has a ten acre minimum acreage requirement and the study population is limited to landowners who are enrolled or who are eligible to enroll but do not. A random sample of landowners was drawn from two landowner databases. The first sample came from a list, provided by the West Virginia Division of Forestry, of landowners who are enrolled in the program. Industrial forest landowners and corporations were rejected from the sample. The second sample included landowners who have not participated in the program, as drawn from a landowner database obtained from the State Tax Assessor’s Office. Businesses, landowners with less than ten acres, and landowners whose names appeared on the Managed Timberland list were rejected from the sample. A target of 400 usable responses in each group was set to achieve a 5% sampling error at a 95% confidence level. A 30% response rate was assumed, requiring a total of 1,300 landowners from each group to be included in the sample.

Dillman’s (2000) Tailored Design Method was used in developing and administering the mail survey. Where available, surveys from previous forest landowner studies were consulted so that responses could be compared to other results (e.g. Birch and Kingsley 1978; Rathke 1993; Jacobson 2001; and Joshi 2007). Three mailings were sent to the potential survey respondents to ensure a high response rate: initial mailings of the survey instrument (August 2008), a follow-up mailing of a reminder letter (November 2008), and final mailing with a cover letter and another copy of the survey instrument to non-respondents (January 2009). The final total response rate was 42%.
The survey instruments collected information on three categories: 1.) property information (e.g., forest acreage, length of ownership, distance of residence); 2.) forest property tax-related questions (e.g. amount of property taxes, knowledge of the Managed Timberland Program, attitudes toward property taxation, reasons for participating or not participating in the managed Timberland Program); and 3.) landowner demographics (e.g., age, income).

Summary statistics were calculated for the variables collected from the survey. Comparison of means for the continuous variables was conducted using SAS. Frequencies and \( \chi^2 \) statistics for the distribution differences between the two groups were calculated using LIMDEP.

**Results**

The survey instruments were mailed to a total of 2,600 potential respondents, 1,300 to each group, participants in Managed Timberland and non-participants. A total of 1,394 surveys were returned, of which 939 were usable responses, for a total response rate of 42%. The response rates in the subsamples were 61% for participants and 19% for non-participants. The response rate for the non-participants was low so there was a concern about non-response bias. To test for non-response bias the mean number of acres from the 76 non-participant refusals was compared to the mean number of acres from the 188 usable non-participant surveys. No statistical difference was found.

While a majority (33 to 40%, depending on the activity) of participants indicated that elimination of the program would not change their management decisions, 22% said that they would be much more likely to sell all of their land if the program were eliminated. According to Dye (2006), there are approximately two million acres in the Managed Timberland Program, so while 22% is not the majority, there still exists a potential impact on an estimated 440,000 acres of forested land in West Virginia if the program were to be eliminated.

Participants in Managed Timberland were asked to rate their satisfaction with their Managed Timberland assessment and their perceived percent savings as a result of the program. The majority of participants (41%) said they were satisfied with their assessment, but 37% said they did not know if they were satisfied and 33.5% indicated that they did not know their level of tax savings. This indicates that NIPF landowners do not understand the method of valuation for Managed Timberland acres, which likely affects their overall level of satisfaction with the program and their likelihood to inform others about the program.

Most participants also said that they were satisfied with the administration of the program with 89% satisfied with the tax assessor and 93% satisfied with the DOF. Of those that were not satisfied, most reported dissatisfaction with the tax assessor because they did not understand how their forest land valuation was determined and/or the tax assessor was hostile to the program. Reasons for dissatisfaction with the DOF were primarily the annual contract renewal requirement and not understanding their property valuation, neither of which are in actuality determined by the state DOF. These are further indicators that NIPF landowners do not understand all aspects of the program, even if they are enrolled.
Both participants and non-participants were asked to rate the level to which they supported or opposed some primary aspects of the program. Most non-participants did not feel qualified to answer the question. The strongest opposition among participants strongest was against the annually renewed contract (19.82%) and tax assessor authority (17.75%). Strongest support was for the program’s lack of withdrawal penalties (49.32%) and lack of public access requirements (63.05%). Table 1 summarizes the percentages for each level of scaling for each aspect of Managed Timberland for participants.

Table 1: Support and opposition from participants to aspects of the Managed Timberland Program.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Strongly Oppose</th>
<th>Oppose</th>
<th>Neutral</th>
<th>Support</th>
<th>Strongly Support</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Renewed Contract</td>
<td>19.82%</td>
<td>15.80%</td>
<td>26.97%</td>
<td>9.09%</td>
<td>18.78%</td>
<td>9.54%</td>
</tr>
<tr>
<td>Forest Management Plan</td>
<td>3.15%</td>
<td>5.71%</td>
<td>25.83%</td>
<td>18.77%</td>
<td>35.29%</td>
<td>11.26%</td>
</tr>
<tr>
<td>DOF Approval</td>
<td>3.31%</td>
<td>5.11%</td>
<td>26.67%</td>
<td>21.80%</td>
<td>30.68%</td>
<td>11.43%</td>
</tr>
<tr>
<td>Tax Assessor Authority</td>
<td>17.75%</td>
<td>13.96%</td>
<td>33.08%</td>
<td>6.53%</td>
<td>8.95%</td>
<td>19.73%</td>
</tr>
<tr>
<td>Method of Valuation</td>
<td>5.71%</td>
<td>8.49%</td>
<td>37.35%</td>
<td>8.95%</td>
<td>10.19%</td>
<td>29.32%</td>
</tr>
<tr>
<td>10 Acre Minimum</td>
<td>6.53%</td>
<td>4.41%</td>
<td>29.03%</td>
<td>16.41%</td>
<td>29.94%</td>
<td>13.68%</td>
</tr>
<tr>
<td>No Withdrawal Penalty</td>
<td>3.61%</td>
<td>2.71%</td>
<td>19.55%</td>
<td>11.13%</td>
<td>49.32%</td>
<td>13.68%</td>
</tr>
<tr>
<td>No Public Access Req.</td>
<td>4.22%</td>
<td>1.51%</td>
<td>11.76%</td>
<td>5.88%</td>
<td>63.05%</td>
<td>13.57%</td>
</tr>
<tr>
<td>No Provision for lost Local Rev.</td>
<td>3.38%</td>
<td>2.61%</td>
<td>30.41%</td>
<td>6.91%</td>
<td>32.10%</td>
<td>24.58%</td>
</tr>
</tbody>
</table>

Both groups were also asked to choose from a list of suggested changes to Managed Timberland and any other changes they would like to see implemented in the program. The most frequently selected changes among participants were increase the reapplication time (51.08%), larger tax breaks (39.97%), or no change (26.59%). Many non-participants indicated that they felt unqualified to answer the question (39.18%), but of those who did answer, the most common selected changes were larger tax break (30.93%), no change (18.56%), and provide state reimbursement to local government for lost funds due to the tax break (6.19%).

The means for the two groups for distance residing from their forested property were 85.68 miles for non-participants and 108.15 miles for participants. The mean difference test showed these to not be statistically different at the .05 level. The average number of years owned for participants was 18.46 and 24.27 years for non-participants. This difference was statistically significant. Program participants tended to own more parcels and more acres at 1.83 parcels and 236.42 acres on average. These were also statistically different from non-participants who owned, on average, 1.62 parcels and 115.88 acres.

When asked to cite multiple reasons for ownership, participants chose hunting (69.3%) and timber (62.2%) over any other categories, while non-participants cited passing on to heirs (56.68%) and hunting (54.01%) more than other categories. However, when asked to choose just one primary reason, participants cited leaving to heirs (21.64%) and personal residence (18.26%) over other categories. Hunting dropped to 12.76%, but still ranking fourth and timber dropped to 18.09%, ranking third as a primary ownership reason. Non-participants also chose the same
reasons, but in opposite order, with personal residence at 33.33% and leaving to heirs at 27.89%. For non-participants, hunting dropped to 7.48% ranking third as a primary ownership reason, while timber was fifth (7.48%) after land investment (8.16%). For both Managed Timberland participating and non-participating landowners, passing to heirs and having the land as the location of their personal full time residence are the most important primary reason for owning forest land in West Virginia. Hunting and timber are important multiple use objectives for both groups as well.

Most participants reported that they first heard about Managed Timberland from a professional forester (37.14%). Compare this to the non-participants’ responses for reasons they are not enrolled, of which 62.21% reported that they had never heard of the program. Figure 1 summarizes the reasons non-participants reported for not enrolling.

![Figure 1: Reasons reported for not enrolling in Managed Timberland by West Virginia forest land owners.](image)

All demographic characteristics from the two groups were statistically different. Participants were likely to have higher incomes and higher levels of education. Participants were more likely to describe their occupations as professional, management, white collar, or skilled trade. While non-participants were also in these groups, they made up more of the respondents who reported themselves as blue collar, farmers, or working in the service industry. Participants were more frequent in younger age classes.

The average property tax per acre between participants and non-participants was not statistically different at the .05 level, with participants paying $10.42 per acre, and non-participants paying $12.00 per acre, on average. However, unusually high Managed Timberland taxes per acre were found to be from only the same four counties, Hampshire, Berkeley, Morgan, and Monongalia. Furthermore, these four counties are all located in the eastern panhandle region (except Monongalia) and are all under severe development pressure (American Farmland Trust 2009). Removal of values over $25 per acre from the data resulted in observations from only those four counties being removed. The new mean with these values deleted was found to be
$5.28 per acre, which is statistically different from the $12.00 per acre average property tax paid by non-participants.

**Discussion and Conclusions**

Most of those enrolled in Managed Timberland first heard about the program through a professional forester. The most commonly cited reason for not being enrolled was because the respondent had never heard of the program. Furthermore many of those not enrolled indicated that they would either consider future enrollment (24.6%) or were unsure if they would consider future enrollment (62.6%). This indicates the importance of advertising the program. If enrollment is to be the device by which program success is measured then West Virginia forest landowners need to know the program exists. Use of public friendly means, such as radio or television announcements, to communicate the presence of the program is recommended.

At the time this study was initiated, West Virginia reported a need for 44 state DOF foresters (WV Division of Personnel 2007). To improve enrollment, more foresters need to be in contact with the public. Salary and benefits packages for West Virginia state foresters should be made more attractive to encourage professional foresters to seek employment in the state. In addition, creating more forester positions within the state DOF will give foresters more time to conduct public outreach for Managed Timberland, as well as other forest management incentive programs.

Managed Timberland participants tended to have more education and income and to be employed within professional jobs over non-participants. Previous research shows that landowners with higher exogenous incomes tend to forego harvest income in favor of amenity value (Dennis 1989). A potential equity issue then arises in the preferential forest tax. Forest tax incentives may be subsidizing private non-timber amenity consumption rather than increasing timber supply. This may be especially troubling in terms of the stated policy objective of open space for social welfare when the absence of public access requirements in West Virginia’s Managed Timberland is also considered.

The lack of statistical significance in the difference between the average taxes per acre of those enrolled to those who are not enrolled is also a potential indicator of problems with the policy. Removal of values over $25 per acre from the data resulted in observations being removed from only four counties, Monongalia, Hampshire, Morgan, and Berkeley. Removal of these unusually high assessments resulted in a significant difference in taxes paid per acre between program participants and non-participants. Hampshire, Morgan, and Berkeley counties are listed by the American Farmland Trust as areas of prime farmland that is under threat of severe development pressure. Monongalia County is the location of Morgantown and West Virginia University, and can also be considered a development pressure area. The implication of this result is that lands most in need of the policy effect of increased tax savings to retain ownership are not receiving the intended benefit.

Other areas of the state can also be considered to be under development pressure, for example many counties in the west along the Ohio River are listed by the American Farmland Trust as being prime farmland under development threat. However, none of these counties’
observations were removed from the data for having unusually high assessments. The high assessments only occurred in eastern panhandle counties, consistently. There is some evidence that this may be locally politically motivated. Several respondents reported in comments on the survey that their assessor was hostile to the Managed Timberland Program. Jefferson County, which neighbors Berkeley County, was the location of a recent development zoning battle that went all the way to the West Virginia Supreme court twice. In the first case, Corliss et. al. v. Jefferson Co. Zoning Board of Appeals, 2002, the Supreme Court ruled that local zoning authorities had ultimate jurisdiction and had the right to decide on special permits and other ordinances. This decision was in favor of the developer. In Faraway Farms v. Jefferson Co. Board of Zoning Appeals, 2008, the Supreme Court overturned its own precedent from Corliss and ordered the county zoning authority to issue a special permit for subdivision and development to Faraway Farms.

The legislative intent of Managed Timberland is to provide a tax policy that encourages private owners to preserve forest land and enhance future forest quality (WV Code §11-1C-11(a)). So the objective of the policy is prevention of conversion of forested lands to more developed uses. An important question to address when analyzing a policy is: Are the policy’s methods consistent with the policy’s intent? According to Hibbard et al. (2003 and 2001), in order for a policy to be capable of achieving its objective, the methods employed should be consistent with the stated goal. Since the policy goal is prevention of land conversion, perhaps current use systems based on timber market productivity principles are not the best system for assessment. Another potential problem with timber market criteria for assessment and compliance is that timber is not consistent with assessed landowner objectives. In West Virginia, landowners report bequest motives and a place to live to be their reasons for ownership. Timber is only important in a multiple use context, as reported by the survey respondents. The assessment of forest lands for Managed Timberland should therefore be based on a system that is consistent with the policy objective and salient landowner beliefs.

This further leads to questioning of enrollment numbers as a measure of success. Since the goal of the policy is forest land preservation, a more appropriate measure would be number of acres preserved, or perhaps more importantly, the location of the acres preserved. Tabulating percent of total enrollment from the survey responses by county shows that Hampshire County, located in the eastern panhandle, ranks first. Of respondents enrolled in Managed Timberland, 29% report that their forest parcels are located in Hampshire County. Morgan and Mineral Counties, also both located in the eastern panhandle rank 2nd and 3rd respectively. This means that most of the Managed Timberland parcels in the state are located in high development counties, so the policy has reached targeted areas. Compare this to Brockett and Gebhard’s (1999) Tennessee study in which they found that most Greenbelt participation occurs far away from development pressure areas. However there is still a problem with Managed Timberland participants receiving unusually high assessments for a forest tax incentive program in these counties. Another issue that should not be overlooked is the possibility that land speculators could be using the program as a tax shelter in these counties. This concern was raised in the Managed Timberland report prepared by the DOF for the legislature (Dye 2006).

Participants seem to be unclear about their assessments. On two separate questions on the survey more that 30% of program participant respondents indicated uncertainty about tax savings
and satisfaction with assessment. Some comments from respondents echoed this concern with statements either declaring the assessment method to be confusing or asking for it to be explained. Some respondents asserted that their taxes went up after enrolling in Managed Timberland. Others made statements that their local assessor was uncooperative, unresponsive, or seemed hostile to the program.

The success of Managed Timberland hinges on assessment being equitable, efficient, simple, stable, and visible (Hibbard et al. 2001). It is possible that the program could be improved by outreach and education to county tax assessors, as indicated by participant comments and uncertainty about assessment. Respondent comments are anecdotal in nature, so future research on managed Timberland should include an assessment of county tax assessors’ knowledge and attitudes about the program.

Based on landowner responses to suggested changes to the program, increasing the amount of time between reapplication may improve enrollment. Nearly 20% of participants oppose renewal annually. Landowners included comments that they found the annual renewal requirements onerous. Some complained about having to obtain a notary stamp from each county in which they owned land rather than one per year. A small percentage (3.49%) of those not enrolled indicated that the certification process was too difficult and time consuming as their reason for not being enrolled.

In summary, possible reasons for low enrollment include lack of knowledge about the program, possible poor administration of the program, and failure of the policy to target salient landowner beliefs in its methods. These shortcomings of the program are consistent with results from other studies (e.g. Kilgore et al. 2007; Hibbard et al. 2003; Jacobson and McDill 2003; Young and Reichenbach 1987). Measures to improve enrollment in Managed Timberland should focus on solutions to these problems. Further study of Managed Timberland is needed. Research should assess the attitude of tax assessors. Welfare analysis is needed to determine if social benefits outweigh the costs of administering the program. The lack of withdrawal penalties, concerns expressed by the DOF to the legislature (Dye 2006), and the high concentration of enrollment in rapidly developing counties indicate that the degree to which the program is used as a tax shelter by developers needs investigation.

In spite of problems with the program, overall landowners that are enrolled are pleased with the tax treatment. It would not be wise to eliminate the Managed Timberland Program. A significant amount of landowners indicate that elimination of the program would cause them to have to make socially undesirable (according to policy intent) land use choices. To make the policy more effective a larger tax break may be necessary. As with most policies of this nature, once enacted, there is seldom any going back.

**Literature Cited**


