

# The Impact of Federal and State Income Tax Liabilities on Timber Investments in the West

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ABSTRACT

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. The need for adequate tax accounting is supported by the results.

**Keywords:** investment, landowners, cost, tax planning, rate of return

In 2003, 183 landowners in the West who were members of the American Tree Farm System were mailed a questionnaire that asked about both their awareness and their use of several federal income tax provisions that are available (Smith 2004). Of the 163 respondents, only 59% stated they were aware that timber revenues could qualify for capital gains treatment. Only 66% were aware that management costs could be deducted, and 29% were aware of the provision allowing for the amortization of reforestation costs (Smith 2004).

Results of the study indicate the possibility that many landowners throughout the West are not realizing the full financial potential from their forestland investments because of a lack of familiarity with current income tax provisions. Tax education programs must accompany tax measures enacted to encourage particular landowner behavior for the policies to achieve the desired effect.

Forest landowners should consider federal (Haney et al. 2001) and state (Bureau of National Affairs 2005) income taxes because they can significantly reduce net returns to forestland investments. The complexity of tax law challenges landowners who endeavor to develop a sound management plan that takes advantage of the various interacting state and federal provisions pertaining to forestry (Greene et al. 2004). Frequent changes to federal and state income tax legislation requires constant monitoring for applying tax provisions to forest management. Learning the relevant tax implications (Haney et al. 2005) on forest management decisions is both expensive and time-consuming; however, the consequences of failing to take advantage of the existing law can be even more costly (Bailey 1998).

Two different examples of the effects of federal and state income taxes on returns to timberland investors in the West are analyzed in this article. The first illustrates variances of the tax cost of a timber sale by state. The second examines the effects of various tax planning scenarios on expected value over an infinite number of rotations.

A hypothetical taxpayer profile is used to examine the tax cost associated with a timber sale. The taxpayer invests in Douglas-fir (*Pseudotsuga menziesii*) forestland in the West. Douglas-fir is selected as the species in the study because of its commercial importance throughout the area of study. This article focuses on tax implications of forest management decisions rather than the rate of return offered by specific commercial timber species. The elements of tax planning, therefore, are relevant to other species.

The land is assumed to be of average quality (site class III), and management techniques that are common for the region are used. Important federal and state tax laws are examined before analyzing their combined effect on private forest landowners.

## Important Federal and State Income Tax Laws

The 13 states analyzed in this section are Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. All except Alaska, Nevada, Washington, and Wyoming have a comprehensive income tax. Eight of the remaining 9 states use federal adjusted gross income (AGI) as their tax base (Table 1). Standard deductions, personal exemptions, tax rates, and long-term capital gains exclusions are detailed in Table 1. State income taxes are allowed as an itemized deduction on the federal return, resulting in an effective state tax rate that is lower than the nominal rate. For example, an Arizona landowner has a nominal state income tax rate of 5.04% and is in the 28% federal income tax bracket. The landowner's effective state rate is  $1 - t$  times the state tax rate, where  $t$  is the marginal federal rate (Haney and Gunter 2002). In this case, the landowner has an effective state rate of 3.63% ( $5.04 \times [1 - 0.28]$ ). Thus, the combined effective federal-state income tax is 31.63% ( $0.28 + 0.0363$ ) rather than 33.04% (Haney and Gunter 2002). The combined effective rate is necessary to arrive at an appropriate after-tax discount rate for the land expectation analysis in Part II below.

Received January 18, 2007; accepted July 13, 2007.

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**Table 1. General income tax provisions for western states.<sup>a</sup>**

State	Federal adjusted gross income used as tax base	Federal income tax deductible	Personal exemptions <sup>b</sup>	Standard deduction <sup>b</sup>	Abbreviated tax rate schedule <sup>b</sup>				Proportion of long-term capital gain taxable	Maximum effective long-term capital gains tax rate
					From (%)	Of the first (\$)	To (%)	Of the amount over (\$)		
Alaska <sup>c</sup>			.....(\$) .....	.....(\$) .....					.....(%) .....	
Arizona	Yes	No	4,200	8,100 <sup>d</sup>	2.87	20,000	5.04	300,000	100	5.04
California	Yes	No	174 <sup>e</sup>	6,508	1.00	12,638	9.30	82,952	100	9.30
Colorado	No	No	6,400	10,000	4.63 <sup>f</sup>				100	4.63
Hawaii	Yes	No	2,080	1,900	1.40	4,000	8.25	80,000	100	7.25
Idaho	Yes	No	6,400	10,000 <sup>g</sup>	1.60	2,318	7.80	46,356	40	3.12
Montana	Yes	Yes <sup>h</sup>	3,800	10,000	1.00	2,300	6.90	13,900	100 <sup>i</sup>	6.80
Nevada <sup>j</sup>										
New Mexico	Yes	No	6,400	10,000	1.70	8,000	5.70	24,000	100	5.70
Oregon	Yes	Yes <sup>k</sup>	151 <sup>l</sup>	3,445 <sup>m</sup>	5.00	5,300	9.00	13,300	100	9.00
Utah	Yes	Yes <sup>n</sup>	4,800 <sup>o</sup>	10,000	2.30	1,726	7.00	8,626	100	7.00
Washington <sup>p</sup>										
Wyoming <sup>q</sup>										

<sup>a</sup> As of September 2006. The sources used in collecting this information were: Thomson RIA 2006 All States Tax Handbook (Currameng et al. 2006) and individual state income tax forms.

<sup>b</sup> The personal exemption, standard deduction, and tax rate schedules are for married taxpayers filing a joint return.

<sup>c</sup> Alaska has no personal income tax.

<sup>d</sup> Amount shown is for 2004.

<sup>e</sup> A credit against the state income tax.

<sup>f</sup> Colorado has a flat tax of 4.63%.

<sup>g</sup> Married couples can also claim the Idaho marriage penalty amount.

<sup>h</sup> The federal income tax deduction is limited to the amount of federal tax paid.

<sup>i</sup> Montana allows a credit against income tax in the amount of 1% of the taxpayer's net capital gain for 2005.

<sup>j</sup> Nevada has no personal income tax.

<sup>k</sup> Deduction for 2005 is limited to \$4,500.

<sup>l</sup> A credit against the state income tax. This amount is for the 2004 tax year.

<sup>m</sup> Amount shown is for the 2004 tax year.

<sup>n</sup> Deduction is for one-half of federal tax after credits.

<sup>o</sup> Utah actually offers an exemption equal to 75% of the federal personal exemption. The state exemption is subject to phase-out rules.

<sup>p</sup> Washington has no personal income tax.

<sup>q</sup> Wyoming has no personal income tax.

## Part I: Tax Costs of a Timber Sale

The hypothetical taxpayers, a husband and wife, age 60 with no dependents, are representative of a general forest landowner (Thomas Birch, US Forest Service, Northeastern Forest Experiment Station, July 1997). The income tax effects are shown for a medium income level of \$80,000 and a high income level of \$250,000, before timber revenues. To maintain comparability across states, it is assumed that the landowners use the standard deduction (if itemized deductions were used, results would differ across states because of the various treatments of state income tax deductions on the federal return).

Operating as an active, unincorporated sole proprietorship, the owners purchased 400 ac of Douglas-fir timberland 10 years ago. Production of timber income is a primary objective. Other objectives include wildlife, esthetics, and value appreciation.

A commercial thinning on 143 ac is completed in the current tax year (2005 tax rates and law are assumed for this analysis). At the time, the owners make estimated tax payments based on the sale receipts. Expenses of sale for consulting forester fees command 6% of the gross sale price. This rate falls within the range of large sales, which generally command a fee of 4–8%. Annual property tax for the landowners totals \$1,572 per year (400 ac × \$3.93/ac). Annual management costs are estimated at \$2,000 (400 ac × \$5/ac). These annual costs are currently fully deductible because the landowners are actively involved in managing the forestland as a business.

The timberland was purchased 10 years ago for \$600,000, or \$1,500/ac. It was stocked with naturally seeded Douglas-fir with an average age between 20 and 25 years. The stand was precommercially thinned at age 15. The landowners allocated the purchase price (basis) between the land (\$180,000, or \$450/ac) and timber (\$420,000, or \$1,050/ac). The growing stock at the time of purchase was 2.4 million board feet, or 6 thousand board feet (mbf) per

acre. The landowners are using the Scribner log rule. All timber volumes are calculated with DFSIM, version 1.0 (Oregon State University 1985).

A thinning on 143 ac is made in the current year. The thinning produces 400 mbf (2.8 mbf/ac). The landowners receive \$500 per mbf for sawtimber (Glen Ahrens, Oregon State University, September 2006). The landowners make a pay-as-cut [1] [Section 631(b)] sale of \$200,000. As long as the more-than-1-year holding period is met, Section 631(b) provisions allow the net gain from the thinning to be taxed as long-term capital gains for a business.

Since the purchase of the land, growth of 3,197 mbf increased the total growing stock to 5,597 mbf prior to harvest. The depletion unit is calculated by dividing the merchantable timber's adjusted basis by the total merchantable growing stock. Thus, the landowner's depletion unit for the landowners is \$75.04 (\$420,000 ÷ 5,597) per mbf. Total depletion for the sale is \$30,016 (\$75.04 × 400 mbf). The depletion unit calculation assumes that all operating expenses are deducted as incurred rather than capitalized as carrying charges.

### Federal Tax Analysis

The calculation of the federal tax liability for the hypothetical landowners is summarized in Table 2. Note that the personal exemption for the high-income level is phased out completely as the taxpayer's AGI exceeds \$341,450 for 2005. The personal exemption phase-out threshold begins when AGI reaches \$218,950 for 2005 (Behrens 2006).

Both landowners incur an alternative minimum tax (AMT), which is a separate tax calculation with a proportional tax rate that is applied to a taxpayer's income. Certain tax adjustments and deductions are calculated differently for AMT purposes. If the deduction

**Table 2. Federal income tax calculation for the hypothetical landowners in the West.<sup>a</sup>**

	Personal income	
	\$80,000	\$250,000
Business income or loss		
Revenue	\$0	
Less costs		
Management costs	\$2,000	
Property taxes	\$1,572	
Business loss	(\$3,572)	(\$3,572)
Revenue from timber sale	\$200,000	\$200,000
Less deductions		
Expenses of sale	\$12,000	\$12,000
Depletion	\$29,266	\$29,266
Taxable long-term capital gain on sale	\$158,734	\$158,734
Total income	\$235,162	\$405,162
Adjusted gross income	\$235,162	\$405,162
Standard deduction	\$10,000	\$10,000
Personal exemption <sup>b</sup>	\$5,504	\$0
Taxable income	\$219,658	\$395,162
Taxes		
Taxable income	\$219,658	\$395,162
Less taxable capital gain on sale	\$158,734	\$158,734
Ordinary income	\$60,924	\$236,428
Ordinary income tax	\$8,561	\$58,613
Taxable long-term capital gain on sale	\$158,734	\$158,734
Capital gains tax, 15%	\$23,810	\$23,810
Total capital gains tax	\$23,810	\$23,810
Alternative minimum tax	\$1,766	\$6,887
Total federal income tax	\$34,137	\$89,310

<sup>a</sup> Calculations completed with BNA Income Tax Planner (Bureau of National Affairs 2005).

<sup>b</sup> Personal exemption of high-income landowner is reduced from \$6,400 to \$0 due to phase-out provisions.

for regular income tax purposes exceeds that allowed for AMT purposes, then a liability for AMT may be incurred (Freid et al. 2005). The taxpayer pays the higher of the regular income tax or the tentative AMT. The AMT for individuals is calculated on IRS Form 6251. Under some circumstances, the exposure to AMT can be eliminated by spreading the income over two or more tax years using an installment sale. This is permitted when the timber is sold lump sum (Haney et al. 2001).

### State Tax Analysis

As noted above, the hypothetical taxpayers elect to take the federal standard deduction on their tax returns. The use of the standard deduction holds the federal tax liability constant for the taxpayers in each state and makes the state income tax computations more comparable.

The amount of state tax the hypothetical landowner must pay on a timber sale varies greatly (Table 3). Taxable income, state income tax, and combined federal-state tax liability for the hypothetical landowners in each state are shown. For those states with an income tax, the landowners in the medium income level have the highest state tax liability in Oregon (\$19,693) and the lowest in New Mexico (\$9,176). Oregon's tax rates range from a minimum of 5% to a maximum rate of 9%, which contributes to the state's high tax liability [2]. The lower tax liability in New Mexico results from the lower tax rates ranging from a minimum of 1.70% to a maximum of 5.70%.

For the high-income landowners, Oregon remains the state with the highest tax liability (\$34,993), and New Mexico remains the state with the lowest tax liability (\$19,180). Medium-income and high-income landowners also incur the highest combined federal and state tax burdens as Oregon residents. Total tax liability for the

medium income landowners is (\$53,830), whereas that for the high-income landowners is (\$124,303). Ranking of state income taxes in this discussion focuses specifically on timber income and wages given in the scenario above.

Personal exemptions (Table 1) vary widely by state. Colorado, Idaho, and New Mexico have the highest personal exemptions (\$6,400), whereas other states, such as Oregon and California, offer tax credits rather than exemptions (Table 1). Phase-out provisions vary by state. For example, exemptions in Utah are phased out 2% per \$2,500 as adjusted gross income exceeds \$218,950 for married couples (Currameng et al. 2006). Standard deductions at the state level (Table 1) also vary widely. Colorado, Idaho, Montana, New Mexico, and Utah offer the highest standard deduction (\$10,000), and Hawaii offers the lowest (\$1,900). The combined effect of state personal exemptions and standard deductions, coupled with various tax rates, results in a wide range of income tax burdens by state. In addition, the extent to which state income tax personal exemptions, standard deductions, and tax credits are used was not investigated by the authors.

## Part II: Land Expectation Value Analysis—Western Landowner

In this section, long-term income tax issues that landowners might encounter while managing forestland are examined using land expectation value (LEV) methodology. The effects on land expectation value due to differential tax treatments are covered. LEV is the net present value of cash flows generated from bare land used to produce perpetual rotations of even-aged timber. Land expectation value is a useful tool for estimating the maximum bid price for bare forestland for any given set of parameters (Gunter and Haney 1984).

The analysis continues with the hypothetical landowner profile developed in Part I. However, the scope of the analysis is now limited to western Oregon to accurately model all costs and revenues, and it is constrained to only one income level. In addition, the assumption is made that the landowners begin with a 120-ac site that has recently been harvested. For this analysis, the time period covers the year subsequent to the final harvest timber sale and all subsequent rotations. The landowners are assumed to earn \$150,000 of taxable income for each year of the rotation. This places them in the 28% federal marginal tax bracket for ordinary income.

The landowners use the management regime found in Table 4 (Douglas Brodie, Oregon State University, September 1998). They prepare a 120-ac site and establish a Douglas-fir plantation. The landowners precommercially thin to 300 trees/ac in year 15 of the rotation. A commercial thinning in year 35 produces approximately 2.8 mbf of sawtimber per acre. Another thinning in year 45 yields 5.5 mbf of sawtimber per acre. The final harvest, in year 65, produces 54.4 mbf of sawtimber per acre (Table 4). Management costs were obtained from Glen Ahrens (Oregon State University, September 2006). Timber prices were estimated from data provided by Ahrens (Oregon State University, September 2006). The land is assumed to be enrolled under the Forestland Program, a state program that allows land to be taxed on its forestland use value rather than market value (Oregon Department of Revenue 2006). The 2004–2005 assessed value of forestland class FD (site class III) in western Oregon is \$262 (Oregon Department of Revenue 2006). The annual property tax is approximately \$472 ( $\{[\$262 \times 120]/1,000\} \times \$15$  per \$1,000 of assessed value), or \$3.93/ac. Profits from timber harvested under the Forestland Program are no

**Table 3. Federal and state income tax for landowners in the West.<sup>a</sup>**

State	State taxable income		State income tax		Combined state and Federal income tax	
	Medium income level	High income level	Medium income level	High income level	Medium income level	High income level
	.....(\$).....					
Alaska					34,137	89,310
Arizona	226,162	396,162	9,359	17,691	43,496	107,001
California	227,904	397,904	16,959	32,943	51,096	122,253
Colorado	218,908	394,412	10,135	18,261	44,272	107,571
Hawaii	230,432	400,432	16,213	30,212	50,350	119,522
Idaho	218,908	394,412	16,490	30,179	50,627	119,489
Montana	213,492	383,492	14,288	26,018	48,425	115,328
Nevada					34,137	89,310
New Mexico	171,513	347,017	9,176	19,180	43,313	108,490
Oregon	226,367	396,367	19,693	34,993	53,830	124,303
Utah	203,296	349,813	13,989	24,245	48,126	113,555
Washington					34,137	89,310
Wyoming					34,137	89,310

<sup>a</sup> Tax calculations made with BNA Income Tax Planner (Bureau of National Affairs 2005).

**Table 4. Forest-related costs, revenues, and management regime used in LEV analysis of federal and state income taxes in the West.<sup>a</sup>**

Forest-related costs <sup>b</sup>		
Stand establishment		\$265.00/ac
Precommercial thinning expense		\$100.00/ac
Sale administration cost		6% of stumpage price
Annual property taxes <sup>c</sup>		\$3.93/ac
Annual management expenses		\$5.00/ac
Forest products harvest tax <sup>c</sup>		\$2.85 per mbf
Forest-related revenues		
Sawtimber stumpage price <sup>d</sup>		\$500 per mbf (Scribner)
Forest management regime (per-acre values)		
Year 0	Establish stand	
Year 15	Precommercial thinning, leaving 300 trees/ac (tpa)	
Year 35	Commercial thinning (leave 200 tpa) <sup>e</sup>	2.8 mbf/acre sawtimber
Year 45	Commercial thinning (leave 100 tpa)	5.5 mbf/acre sawtimber
Year 65	Final harvest	54.4 mbf/acre sawtimber
Site class III		
Forestland class FD		

<sup>a</sup> Forest management regime based on recommendations by Douglas Brodie (Oregon State University, September 1998).

<sup>b</sup> Establishment costs, precommercial thinning expenses, sale administration fees, and management expenses were provided by Glen Ahrens (Oregon State University, September 2006).

<sup>c</sup> Property tax estimates and forest products harvest tax provided by Oregon Department of Revenue (2006).

<sup>d</sup> Sawtimber stumpage provided by Ahrens (2006).

<sup>e</sup> All volumes generated with DFSIM Version 1.0 (Oregon State University 1985).

longer subject to the severance tax (Oregon Department of Revenue 2006). However, the Forest Products Harvest Tax (FPHT) must be paid when any timber is cut from the land. The FPHT tax in 2005 is \$2.85 per mbf, with an allowed 25 mbf exemption (Oregon Department of Revenue 2006).

Assumptions related to land expectation values are as follows: (1) revenues and costs are assumed to be constant and only increase with the 3% inflation rate assumed in the analysis; (2) tax laws and rates are assumed to be constant throughout the rotation; (3) an after-tax net income model is used; (4) two nominal (including inflation), after-tax interest rates of 8 and 10% are used in the analysis to account for risk in the model; and (5) two general state tax rates of zero and 9.3% reflect the minimum and maximum state tax rates found in the region.

### Planning Scenarios

Six different tax planning scenarios are evaluated to determine the effects of tax provisions on LEV. The first scenario (base case) illustrates the effect of the maximum use of the currently available tax provisions. In each successive scenario, the landowners forego certain tax benefits that, in turn, generally lower their LEV (Table 5). These reflect common omissions and mistakes made by typical forest landowners. Results from a nationwide survey in 2003 (Smith

2004) and previous works (Greene et al. 2004) show low levels of use by landowners of several income tax provisions available to them. Landowners who do not take advantage of these provisions will most likely earn suboptimal returns from timber investments.

Under scenario 1 (base case), the landowners, who use cash-basis accounting, pay \$21,800 in reforestation costs the first year and another \$10,000 the second year. Thus, reforestation costs are spread over two tax years, allowing the landowners to maximize their use of Internal Revenue Code (IRC) Section 194, which allows up to \$10,000 of qualified reforestation expenditures per year to be expensed. The remaining \$11,800 (\$21,800 × \$10,000 allowable) that cannot be expensed in the first year is amortized over an 84-month period, as allowed by Section 194. The landowners deduct their annual management expense (including the \$100/ac precommercial thinning in year 15) and property taxes. Under current tax provisions, an active business is allowed to fully deduct any ordinary and necessary expenses from any current income. The owners sell the timber using a pay-as-cut contract [IRC Section 631(b)]. As long as the more-than-1-year holding period has been met, Section 631(b) provisions allow the net gains from the thinning and clearcut harvests to be taxed as long-term capital gains. The timber sale revenue is business income, which is reported on Form

**Table 5. Summary of tax planning scenarios for LEV analysis of the western management regime.**

Scenario	Reforestation costs			Management expenses and property taxes			Timber sale revenue treated as	
	Spread over 2 years, expensed and amortized <sup>a</sup>	All costs in first year with total amount capitalized <sup>b</sup>	All costs in first year, neither deducted nor amortized	Deducted currently	Capitalized	Neither deducted nor capitalized	Capital gain	Ordinary income
1	X			X			X	
2	X					X	X	
3		X			X		X	
4			X			X	X	
5	X			X				X
6			X			X		X

<sup>a</sup> Under IRC section 194, \$10,000 of reforestation costs may be expensed each year. Any amount above this may be amortized over an 8-year period.

<sup>b</sup> Reforestation costs are added to the basis and depleted when timber is harvested.

4797 to be treated as long-term capital gains and therefore not subject to the self-employment tax.

In scenario 2, management expenses (including the precommercial thinning) and property taxes are neither deducted nor capitalized (i.e., the otherwise allowable deductions are lost). Poor record-keeping or ignorance of the tax rules often causes a landowner to miss advantages of deducting annual expenses. Other variables remain the same.

Scenario 3 differs from scenario 1 in two respects. Management costs, property taxes, and \$31,800 in reforestation costs are capitalized rather than deducted currently. Thus, for tax purposes, they are only recovered through depletion when the timber is harvested. Loss of tax benefits due to inflation over time results. Suspension (or capitalization) of such expenses is required if a landowner's business is classified as passive unless the landowner has offsetting passive income from all sources. This scenario represents the tax effects for a passive timber business that lacks passive income, as compared with an active business (base case).

In scenario 4, the owners spend all \$31,800/ac on reforestation costs in the first year but fail to deduct, amortize, or capitalize them. Similarly, the management expenses and property taxes are neither deducted nor capitalized. The provisions of Section 631(b), however, allow the long-term capital gains treatment of timber sale revenues (Haney et al. 2001).

Scenario 5 is exactly the same as scenario 1 except that the sale revenue from the timber harvest is treated as ordinary income. Timber revenues are sometimes treated as ordinary income when the landowner is unaware that the profit (net gain) qualifies for capital gains treatment. Treatment of timber revenue as short-term capital gains (which may be taxed at ordinary income tax rates) occurs when

landowners fail to meet the more-than-1-year holding period. When the sale revenue in this scenario is treated as ordinary income, the additional harvest income moves the landowners into the 35% tax bracket. Because of the uncertainty of future tax rates, however, the ordinary rate is held constant at 28%. Therefore, these results are conservative estimates under current law.

Scenario 6 illustrates an extreme case of accounting failure by the landowners to take advantage of favorable tax treatment. Scenario 6 is the same as scenario 4, except that the timber sale revenue is treated as ordinary income rather than long-term capital gains.

Scenario 5 shows the failure to treat timber income as capital gains to be the single most costly mistake for landowners with a moderate alternative rate of return (8%). The cumulative effect of several mistakes made in scenario 4 show it to be the most costly scenario for landowners with higher alternative rates of return (10%). Scenario 6 reveals the cumulative negative impact on LEV of a total disregard for tax planning.

#### Effects of Poor Tax Planning on LEV

Land expectation values in the base case scenario range from \$183/ac to \$1,113/ac depending on the discount rate and state income tax effects (Table 6). That is, a timberland buyer would be willing to pay from \$183/ac to \$1,113/ac for bare land in the West using the previously stated Douglas-fir management regime, depending on the circumstances.

LEVs in scenarios 2 and 3 range from \$45/ac to \$1,049/ac. Failing to deduct expenses, which in effect treats property taxes and management expenses as ordinary income (scenario 2), decreases the LEV between 5.8% and 31.7% depending on interest rates and state

**Table 6. Land expectation values and changes among tax planning scenarios, per acre. Scenarios 2–6 are compared individually with scenario 1.**

Tax planning option	8% discount rate <sup>a</sup>		10% discount rate	
	No state tax	9.3% state tax	No state tax	9.3% state tax
Scenario 1	\$1,113	\$1,001	\$211	\$183
Scenario 2	\$1,049	\$922	\$164	\$125
Change in value between 1 and 2	5.8%	7.9%	22.3%	31.7%
Scenario 3	\$979	\$843	\$94	\$45
Change in value between 1 and 3	12.0%	15.8%	55.5%	75.4%
Scenario 4	\$978	\$840	\$93	\$44
Change in value between 1 and 4	12.1%	16.1%	55.9%	76.0%
Scenario 5	\$887	\$801	\$130	\$115
Change in value between 1 and 5	20.3%	20.0%	38.4%	37.2%
Scenario 6	\$751	\$634	\$12	(\$29)
Change in value between 1 and 6	32.5%	36.7%	94.3%	115.8%

<sup>a</sup> After-tax interest rates are nominal and include an assumed inflation rate of 3%.

taxes. Similarly, capitalizing reforestation costs, management expenses, and property taxes in scenario 3 causes LEVs to decline 12.0% to 75.4% from the base case scenario.

Forest landowners who treat management expenses and property taxes as ordinary costs and who fail to deduct, amortize, or deplete reforestation costs can expect to lose between 12.1% and 76% of their land expectation value. LEVs in scenario 4 range from \$44 to \$978. These landowners, however, treat their timber profits as capital gains.

Relative to scenario 1, land expectation values drop substantially in scenarios 5 (failure to treat timber income as capital gains) and 6 (total disregard for tax planning). LEVs range from -\$29 to \$887 (Table 6). Percentage decreases from the LEVs in scenario 1 range from 20.3% to 115.8% depending on state taxes and interest rates.

## Conclusion

Landowners interested in maximizing the after-tax return from their investment need to use available timber tax provisions. Those unfamiliar with these provisions should seek the professional services of an accountant familiar with forestry investments. Misunderstanding or ignorance of tax provisions often causes landowners to lose a significant amount of potential revenue from their investment. Annually deducting management expenses and property taxes and ensuring capital gains treatment on timber sales prove to be crucial in ensuring that landowners receive the highest possible returns on their timberland investment.

Several other federal income tax provisions that increase profitability of forest management currently available to landowners are not addressed in this article. These include the Section 179 deduction for the purchase of business equipment used in forestry operations, depreciation of certain capital assets, exclusion of cost share payments from gross income, and loss deductions.

The focus of this study was on income taxes at the state and federal levels. Tax provisions that favor forest management vary from state to state. For example, several states offer tax credits for the establishment of streamside management zones. Local provisions at the county level may also be available to landowners. These include timber exemptions that lower property taxes. State and local forestry incentives, such as riparian tax credits and timber exemptions, are beyond the scope of this article. The frequency with which these

provisions are used and the overall impact they have on the profitability of forestry investments were not investigated by the authors. Taxes at the federal, state, and local levels all have impacts on land expectation values (Smith 2004). By investing in tax planning, landowners can increase their returns from timberland ownership.

## Endnotes

- [1] As of December 31, 2004, Section 631(b) is amended to also allow landowners operating as a business to sell timber under a lump-sum agreement and qualify for capital gains treatment (Hoover 2005).
- [2] Oregon depends on property and income taxes and has resisted enacting a sales tax.

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