Timber Basis Decision Model: A Calculator to Aid in Federal Timber Tax-Related Decisions

By Andrew Fast, Belknap and Strafford County Extension Forester

Foresters are interested in the woods. If they were interested in taxes, they would be accountants. So why should foresters understand the basics of federal timber taxes?

An understanding of timber tax basis and how it can affect a forester's clients can justify forester fees, generate business, and it provides a better service to landowners.

Overview. Once a timber basis is established, landowners can elect to deplete timber thereby reducing their taxable gain on timber sales. However, there is often a cost to establishing a timber basis since a timber and land appraisal is required. UNH Cooperative Extension in conjunction with faculty partners at University of New Hampshire (UNH) and Oregon State University developed a calculator to help determine the financial benefit of establishing a timber basis.

Basis refresher. Basis is the capital investment in property for tax purposes. When forestland is acquired, a certain portion of the purchase price is allocated to the timber, the land, and potentially other assets such as a house. The basis is separate from fair market value (FMV), which is the appraised value of an asset.

Basis Determination Example (a) Total acquisition cost $100,000			
Asset description	FMV (b)	% of total FMV (d)=b ÷ c	Basis (e) = d x a
Timber	$100,000	50	50,000
Land	$100,000	50	50,000
Totals	**$200,000 (c)**	**100**	**$100,000**

Depletion. As timber is harvested, timber can be depleted which reduces the taxable gain. Harvest volume is multiplied by a depletion unit to calculate how much the gain is reduced (i.e. the depletion allowance). The timber basis is established for the date of acquisition; this represents the total volume of wood on a property. Each unit of volume (e.g. ton) has an associated depletion unit, i.e. the timber basis ÷ volume. Note: As volume on a property increases over time, it will affect the depletion unit calculation; see callout box.

Depletion Unit (DU) Example:
- Basis = $50,000
- Volume = 5000 tons

DU = basis ÷ volume
DU = $50,000 ÷ 5000 tons
DU = $10.00 / ton

10 years later with additional growth:
- Basis = $50,000
- Volume = 6000 tons

DU = basis ÷ volume
DU = $50,000 ÷ 6000 tons
DU = $8.33 / ton

Example: 1000 tons are harvested and sold for $15,000. $10,000 is depleted (1000 tons harvested x $10/ton depletion unit) for a gain of $5000. If the property is held for the required year to qualify for a long-term capital gains rate and assuming a rate of 15%, the tax savings for the landowner is $1,500.

Forester Benefit. A knowledgeable forester can identify this tax savings for their client providing a "forester benefit." Moreover, a timber appraisal is necessary for establishing a basis so in certain

situations, a landowner can pay a forester for an appraisal (or full management plan that includes a timber valuation) and save money in taxes. A win-win for the forester and landowner.

Timber Basis Decision Model (calculator).

A calculator was developed by Mark Ducey (UNH), Tamara Cushing (Oregon State University) and Andy Fast (UNH Cooperative Extension) that uses a number of basic inputs and provides the financial benefit of establishing a timber basis in current dollars. It can be found at: extension.unh.edu/timber-basis/. The decision model is flexible; inputs (assumptions) can be as conservative as the user wants them to be. There are two options to input assumptions—directly into cells or answering a series of questions.

Some of the timber basis decision model inputs:

- Cost of a timber appraisal
- Cost of the land appraisal
- Years until appraisal cost
- Discount rate
- Years until the timber harvest
- Capital gains rate
- Harvest volume
- Inventory volume at harvest
- Estimated volume & value at acquisition

The inputs are mostly common questions: How long have you owned the property? Are you interested in having a timber sale in the near term or at some time down the road? What does the resource look like (forester observation of stocking, value, etc.)? Could the woodlot benefit from a treatment in the near term or does it need to grow (forester observation)? If it could benefit from a timber sale, would it generate a modest amount of money per acre or a more significant amount (forester observation)?

Outputs to the model show the financial impact of establishing a timber basis, i.e. net present value tax savings, net cost of an appraisal after tax savings, and tax savings in excess of the appraisal cost. There are additional outputs such as basis calculations, total harvest volume, and a calculated depletion unit.

The tool is only as good, or as accurate, as the inputs of the forester; it is a resource which can justify action or inaction, inform clients, and provide tangible financial benefits to clients. In general, landowners are most likely to benefit from establishing a timber basis if their timber harvest generates a moderate or significant amount of income and that income occurs shortly after the appraisal costs are incurred. These tend to be landowners with a mature forest and who are interested in active forest management.

Tax implications of harvest revenue are one of many considerations when managing land; as such, landowners should be careful not to manage their property for tax benefits exclusively if it is destructive to the long-term financial returns of their forestland, or negatively impacts other attributes of the property. Using this model in its proper context can provide quantitative data that will aid forest landowners in federal timber tax-related decisions. It is intended to reduce complexity around a complicated topic; there are many additional resources available about federal timber income tax treatment options on the National Timber Tax website (timbertax.org).

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