

Investment in Hardwood Timberland in north east USA

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This mixed semi-natural hardwood forest in Vermont contains valuable White ash such as the one shown here in the foreground. (Photo: Fountains Real Estate Inc.)

1 Introduction and Summary

The forests of eastern USA are capable of producing some of the finest quality hardwood timber in the world. Naturally biodiverse and resilient, these forests are truly sustainable and well suited to intensive management. As deforestation of tropical forests continues, and remaining public timber reserves are protected, properly managed and privately held timberland will be increasingly important in providing timber resources to the growing world population.

Financial returns from US timberland investment are historically comparable or better than other property investments, and real returns from 5% - 8% are generally achieved. Returns are driven by the rate of appreciation of the asset, which gains in value by physical growth of the trees, but more importantly from managing and channeling that growth into higher value species of trees and products. In addition, historically, timber prices have appreciated well ahead of inflation, and as available supplies of timber continue to diminish worldwide, returns should be maintained or may even increase.

For the private investor, timberland investment often provides returns beyond financial needs,

as a managed forest can enhance wildlife, protect water quality, and provide the investor with considerable personal satisfaction and amenity.

Timberland is a long term investment based on the physical growth of trees. It is characteristically low risk, offers a hedge against inflation, and provides diversification potential to investment portfolios. Although generally perceived to be illiquid, this is related to the maturity of the timber,, liquidity increasing as the forest matures. The investment is characterised by appreciation of the asset value as the timber grows, followed by realisation of cash yield as the timber is harvested.

Exposure to this market can be achieved either by investing in Forestry funds with assets in this region or by purchasing timberland in your own right. This chapter focuses particularly on issues affecting those who wish to own their own timberland assets.

2 **Timber Value Growth**

The performance of a timber investment is largely determined by the rate at which the timber assets grows in value. Growth in timber value comes from three basic sources:

- *Physical Growth* – One of the unique characteristics of forestry investment is also one of the most obvious, that trees are growing organisms. As biological growth is relatively predictable and independent of economic conditions, timberland investment offers natural protection from the ups and downs of economic cycles. In the hardwood regions of the eastern seaboard, most commercial hardwood species under management grow at an annual rate of about 2%-4% of volume, and as a minimum can be expected to increase in value at that rate.

- *Ingrowth* -While the biological growth rate of eastern hardwoods does not compare very well with southern softwood plantations where growth is usually 6%-8%, hardwoods gain substantially more in value through growth into different commodity product classes. Trees are valued according to end product, and the value of the end product is a function of size and quality. As trees get bigger and new product classes are achieved, price per unit of volume can jump dramatically; this is referred to as 'ingrowth'. Because of hardwood timber grading, individual hardwood trees can make as many as seven product shifts during a tree's commercial life, compared to only two product class changes for softwood. This allows the annual rate of value growth of hardwood timber to greatly exceed physical growth rate.

- *Price Growth From Management* – The effect of physical growth and ingrowth on timber prices can be dramatically enhanced through active management. Favouring the highest quality trees and the highest value species through careful thinning and other cultural treatments will maximise the rate at which timber value appreciates.

3 **Time frame**

A crop of commercial timber in the eastern hardwood region of the US generally requires from 80 to 120 years to reach economic maturity. Because of the regional land use history of agricultural abandonment and uncontrolled cutting, many forests in the eastern U.S. are middle aged, dominated by trees that are slightly more than midway through their economic cycle. Therefore, the maturing process of much of the existing crop will last another 30 to 50 years. This is ideal for capital appreciation as this is the period in the rotation where jumps in value due to ingrowth occurs and when forecast world timber shortages are predicted to be at their greatest. Initially, cash flow is poor as the amount of harvesting of the high value trees is not significant, but then becomes very cash positive as the timber reaches maturity and is harvested. Effective forest management minimizes the time required to reach maturity by controlling density and favouring rapid growing species. As the timber matures property market value and timber value come more into line with each other, minimising risk.

A further important aspect of timberland investment is that timber sales can be deferred by up to ten years or more if prices are at the low part of the cycle at physical maturity.

4 **Risk**

Physical risks to timberlands are relatively low. On average, losses of US timberland from natural hazards, such as fire, insects, storms, and disease exceed normal timber mortality by less than 1%.³ On managed timberlands this risk is substantially less. Hardwood lands in the eastern US have even less risk as fire danger is substantially less than southern and western softwood timberlands, and the natural forests of the eastern USA are inherently more biodiverse than plantations and forests of other regions, minimizing the threat of insects and disease.

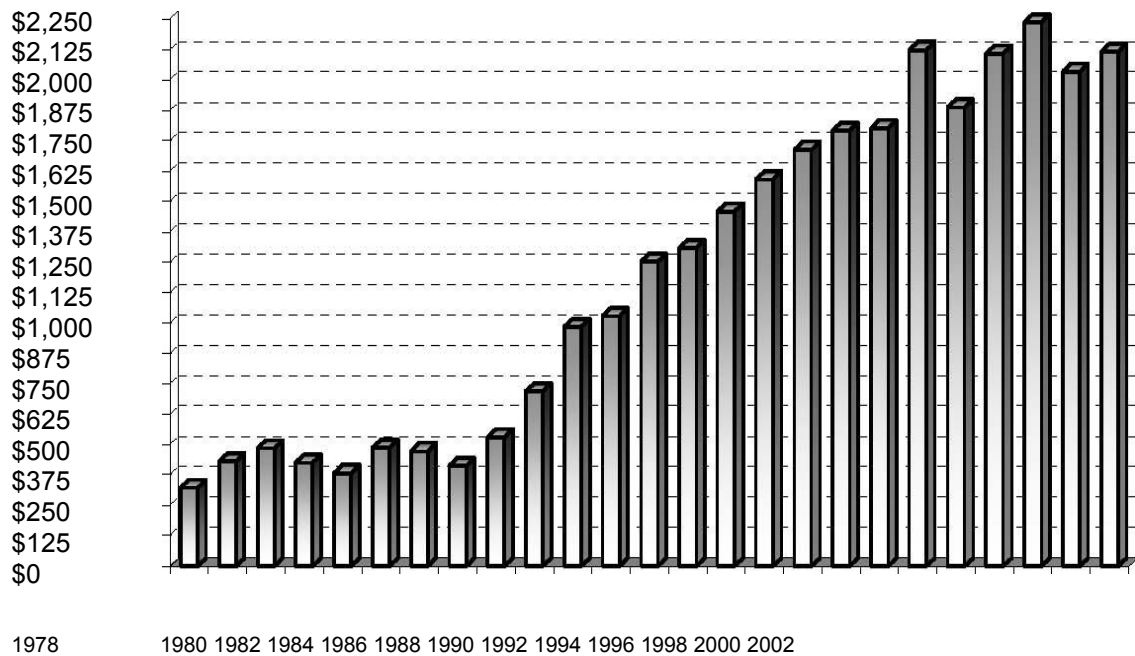
A potential risk to timberland is political or regulatory change, such as restrictive environmental laws that limit or control timber harvesting practices. This is a real and significant risk, however this risk is considerably less in the eastern USA than in other parts of the country and the world. The natural biodiversity of the region, the long history of use (no remaining "old growth" or virgin timber), and land conversion, a common enemy of both environmental and timber industry interests, has created a middle ground public consensus to maintain a "working" forest landscape.

Risk from timber price fluctuations is relatively low, especially for hardwood. As softwoods are the primary source of structural timber, hardwood timber is far less sensitive to the volatility of housing starts. Timber prices in general in the USA have stayed ahead of inflation over the long term. While fluctuations do occur for certain species and products, price appreciation for timber has exceeded inflation by 1%-2% for the past 175 years.⁴ With western US timberland now more restricted for environmental reasons, and eastern and southern timberland declining from development and land use change, the overall supply of timberland in the US is expected to decline. Demand is expected to continue to rise as US hardwoods continue to replace tropical hardwoods worldwide (see Figure 1), and reliance on renewable resources becomes more and more important. Due to generally unregulated cutting that is prevalent in the US, the

availability of high quality timber relative to demand is likely to decline, therefore pushing up prices for veneers and high grade sawn timber, at an accelerated rate.

In recent years, technological changes have increased utilization of wood in the US, adding value to timberland. The current drive towards renewable energy and more environmentally friendly construction materials will provide new markets for timber both in the US and internationally.

Figure 1. Value of U.S. Hardwood Exports 1978-2002⁵



5 Special Qualities of Timberland Investment

5.1 Inflation Protection

Timberland, as with land in general, is considered a hedge against inflation because of its finite supply. Timberland has the further benefit of growth. Increases in volume and movement of timber into higher product classes can often outweigh the effects of higher interest rates and loss of purchasing power from inflation. Studies have repeatedly shown a positive correlation coefficient between real returns from timberland and the Consumer Price Index⁶.

5.2 Portfolio Diversity

Timberland is considered to have strong diversification potential and the capability of reducing an investment portfolio's risk. According to modern portfolio theory, investors should be more concerned with the portfolio's overall standard deviation, rather than the standard deviation of individual components of the portfolio. Therefore, the addition into the portfolio of an investment that runs counter cyclical to existing components of the

portfolio would reduce the overall volatility of the portfolio and therefore risk. Timberland has been repeatedly shown to have a negative correlation coefficient with, among other financial assets, common stocks, corporate and government bonds, and the S&P 500 (see Table 1), and in recent studies reduced real portfolio risk by an average of 5%.⁷

Table 1. Timberland Correlation Coefficients, 1959 to 1978⁸

<i>Investment</i>	<i>Correlation Coefficient</i>
Timberland	1.0000
Residential housing	-0.0905
Farm real estate	0.5612
S&P 500 index	-0.4889
OTC stocks	-0.4917
Preferred stock average	-0.3533
No-load mutual fund average	-0.6351
Municipal bonds	-0.0900
Treasury Bills	0.3118
Long term corporate bonds	-0.2704
Commodity futures average	0.8988

5.3 Liquidity

As a type of land investment, timberland is less liquid than many other investments. However, timberland liquidity can vary tremendously, and is strongly influenced by the age and merchantability of the timber. Young forests are far less liquid than mature forests. This creates a potential opportunity for investors willing to purchase young forests at discount prices, hold until the crop approaches maturity, and then sell at a premium.

5.4 Sustainability

As one of the most plentiful and relatively easily renewed natural resources in the world, reliance on wood is likely to increase with developing technology, as replacement of wood with other materials will become more environmentally costly. The ability of the eastern hardwood forests to self regenerate is striking, and readily allows intensive utilization of the resource without risk of long term degradation.

Overall, the hardwood forestry industry in north east USA has successfully balanced sustainability with timber production since the mid 20th century and, indeed, the US standing timber inventory more than doubled between 1953 and 2003.⁹

The widespread use of Conservation Easements, as explained in section 8.2, has led to large tracts of timberland being productively managed to sustainability principles, further assisting the environmental sustainability of timber production in the north east USA.

6 ***Finding the Market Value of Hardwood Timberland***

The market value of a tract of forest land is driven by two major components: 1) the current value of the standing timber; and, 2) the inherent value of the land. The relative importance of these two factors varies from parcel to parcel, depending upon a variety of factors including but not limited to the following:

- *Size of Parcel* – The larger the property, the more important timber value becomes, as non-timber aspects are usually associated with property edges, and therefore less prominent on larger forestry tracts.
- *Regional Location* -The proximity to populated areas directly affects how a parcel is valued. On parcels close to cities, timber value has less importance than in rural areas.
- *Timber Liquidity* - The more mature timber becomes, the more liquid an asset it is perceived to be. Mature, large timber has a much stronger impact on market value than less mature timber, even if volumes and total value of the less mature timber equal or exceed the mature timber.
- *Frontage* - Road or water frontage greatly enhances land values and lessens the relative importance of the timber component, even though frontage enhances the liquidity of the timber asset.
- *Access* - Developed internal access enhances both timber liquidity and development values, although access good enough to facilitate harvesting may not be sufficient to improve land values. Developed external access is critical for land values but not quite as critical to timber.
- *Zoning Regulations* - Local or regional zoning may limit non-timber related uses, lowering overall land value.
- *Tax Abatement Programs* - Virtually all "current use" tax abatement programs involve commitment to not change the current use of the land for an extended period, subject to penalty, and such commitment usually survives any change of ownership. This tends to lower land values.
- *Market Climate* - The relative importance of the land and timber components change with changing times. Timber value declined in relative importance through most of the 80's under a booming economy, increased dramatically in importance relative to land through the recession of the late 80's and early 90's. In this decade, land values have again increased in importance as investors increasingly look to monetise non-timber assets, benefiting properties with good development potential or 'HBU' – see below.
- *Highest and Best Use (HBU)* – This is the term used in the USA to refer to potential development value. Although timber value drives market value, investors can no

longer ignore non-timber values, particularly when looking forward to when the currently weak real estate market in the US recovers.

Well-timbered, unencumbered parcels with some recognizable non-timber aspects such as Frontage and access to electricity and other services routinely reach prices exceeding full capital timber value in the current market climate.



Properties like this one at Harrisburg Lake, New York State, possess strong development potential as well as long term potential timber value. (Photo: Fountains Real Estate Inc.)

7 Timber Value Trends and Influences

Sawmills buy timber according to species and grade. Grades are based on quality and size of individual stems. Most mill price levels are based on the availability of timber and the market for the final product. Historically, timber prices have shown real (above inflation) increases of 1.75% per annum for the past 175 years. Although significant fluctuations do occur over the short term, the trend has been surprisingly steady over the long term.

Since the early 90's, while prices for higher grade timber have moved steadily upward, prices for mid and lower grade hardwood timber have fluctuated, being strongly influenced by local economic conditions. However, higher grade timber, influenced by export markets, has shown steady and strong price appreciation well above inflation, as demand for US hardwood exports has increased almost five fold over the last 15 years. Increased exports of quality hardwoods is seen as a response to reduced availability of tropical hardwoods. The European, South East Asian and particularly Chinese markets for high grade hardwoods, mainly for furniture, joinery and internal décor, remain strong

By contrast, softwood timber, which forms a small proportion of timber inventories in the north east USA, is used primarily as structural material and is strongly affected by the housing market. The recent real estate boom was favorable to softwood timber pricing and the current decline in the housing market is creating a dampening effect.

Hardwood pulp (used in paper production) prices have not significantly appreciated in recent years, and the number of hardwood using pulp mills in the northeastern US has declined. Use of pulp quality material for energy production in wood-fired electricity generating plants, including overseas plants, appears to be growing. Demand for softwood fibre, particularly hemlock and spruce, has increased in part due to increasing competition for much of the same material used by the structural timber mills. Pine pulp value remains low in today's market.

8 Extra Considerations when investing in US Forestry

8.1 Development opportunities and restrictions

Development of residential buildings on timberland in the USA held in Fee Simple ownership is usually permissible subject to local and at times, state approval. Most small developments are easily granted while larger projects tend to require several layers of local and state planning approval.

Generally owners of a tract of timberland can build a residence for themselves on such property upon satisfaction of various activities which include;

- All proposed new residences must be proved to have suitable ground conditions for fresh water and sewage, if they are not connected to a public supply.

- Access driveways often must meet local and or state codes.

8.2 Conservation Easements

Conservation Easements have increasingly become accepted in the USA timberland investment community. They are permanent Deed Covenants held by third party groups (almost exclusively non profit conservations organizations), which restricts certain property uses.

The level of restriction can be variable, extending often to restrictions on subdivision and development while providing for public recreation access. Generally, the easements have limited impact on timber production and harvesting, allowing the resource to drive investment returns.

On land held in Fee Simple, investors often find a market in selling certain ownership rights in the form of a conservation easement. Such activity allows the investor to recoup some of their capital investment early; possibly as much as 25-40% of the purchase price. Of course, this does cause a near corresponding drop in the value of the property. Professional advice must be sought when buying or selling property covered by a conservation easement to ensure ownership goals are aligned with easement terms.

8.3 Tax implications

Many of the tax advantages gained from purchase of forestry in the UK can also be obtained from purchase of timberland in the USA by UK residents. Professional tax advice should always be obtained, specific to your circumstances, but a general overview is given below.

8.3.1 UK Taxation

Capital Gains 'rollover relief' is sometimes obtainable on purchase of US timberland which properly qualifies as 'commercial' with an established trading activity.

After 2 years of ownership by a UK tax resident, 'commercial woodlands' in the USA normally qualify for 100% business property relief from UK Inheritance Tax.

8.3.2 US Taxation

Real Estate Transfer Taxes can bear on either or both of the purchaser and the seller and vary in percentage amount, depending on the state in which the property is located, but are generally under 1% of purchase price.

After purchase, timber income from the property can be treated as either income or capital gains, as owners of forestry are treated as being in business. Gains upon timber sales can be minimised by the use of depletion allowances, a deduction of the nominal value per unit of timber at the time of property purchase.

If the owner elects for his forestry income to be taxed as a US business, it is subject to the same rate as for locals and is subject to the same claims for deductions.

Federal Capital Gains Tax, currently at 15%, applies to both Land and Timber in the USA. Some states also charge a tax on capital gains.

Local Property Taxes, the equivalent category to UK Council Taxes, and levied on the deemed value of the property in its 'current use', are generally at or lower than 1% of property value per annum.

8.4 Privacy versus Public Access

The owner of forest land in the USA has far greater control over public access to their property than is the case in the UK. In the United States there is a limited network of historically established public footpaths crossing timberland, although fewer than encountered in the UK. Although there is a prima facie right for the public to roam and hunt in forests in the USA, this can be easily overcome by simply 'posting' the property. This means placing signs on the boundary which indicate that rights of access or hunting, for example, are limited to the owner and or a hunting club under an income producing lease between the owner and the club.

8.5 Sustainable Management

Timberland in the USA is increasingly being managed under sustainable management standards. For example, our US forestry subsidiary, Fountain Forestry Inc has received certification as a Resource Manager from the Forest Stewardship Council (FSC). It manages 110,000 acres of FSC certified forestry and also manages 200,000 acres certified under SFI the Sustainable Forestry Initiative. This certification provides a third party audit of management practices, a situation essential for investment managers overseeing private or pooled funds. Although markets for certified forest products are not fully developed, the market has increasingly become international opening the range of end product users who will only purchase sustainably produced timber.

9 Current Market Conditions

The wider real estate market in the US has softened considerably over the past year, exacerbated by the current credit crisis. However, the forestry investment market remains robust with demand exceeding supply for most larger properties (in excess of

1,000 acres). This strong demand has forced investors to find alternative sources of income which include HBU capitalisation, sale of conservation easements, and lease arrangements that may include wind power and recreation.

Against a background of many investors requiring strong and early cash flow performance, those investors seeking long term returns may find opportunities for greater value.

In timber markets, demand for softwood and lower quality hardwood types has softened with the domestic housing sector. Demand and prices for high grade furniture stock and veneer have held their value, supported by strong export markets and low supply.

The currency rate between the Dollar and Sterling is currently very favourable for UK investors.

10 How to invest in hardwood timberland in the US

10.1 Investment Objectives

Before approaching a forestry agent for available properties, the investor should decide clearly on his investment objectives as this will largely determine the type of woodland he should invest in. Possible objectives include:

- Time horizon – when is income required? This will determine maturity of timberland and density of timber stocking required;
- Level of Portfolio Diversification? Pure timber properties have lower risk than those typified as having high HBU (development potential);
- Personal Use Issues? Location & Use - i.e., proximity to airports, housing opportunity and traveling distance to desired activity centres;
- Tax advantages in the UK.

10.2 UK tax protections

The buyer should ensure that any timberland purchased is subsequently managed in accordance with a commercially based Forest Management Plan if he does not want to put potential UK tax protections at risk. He should always seek professional tax advice from an FSA registered adviser.

10.3 Sources of advice and properties

The potential investor should certainly obtain independent advice from a forestry agent and or professional land appraiser who are experienced in valuing standing timber and associated land value. There are a handful of qualified forestry and appraisal companies of significant turnover in the north eastern USA, including **fountains**, who the investor can rely on for pre purchase property due diligence.

Meanwhile, an experienced forestry broker will select properties currently on the market which fit the financial and other objectives you have given him. Some timberland property websites such as Fountains Real Estate have detailed digital maps, photography and timber inventories for the properties being offered for sale. Forming a relationship with a well respected forestry company, with support from a qualified timberland appraiser, will position the investor to make prudent purchases that match long term investment goals and objectives.

10.4 Third Party Valuations

Investors can become knowledgeable about the market from a combination of personal due diligence and information they collect working with a reputable timberland marketing company (the latter usually the seller's agent). In addition to this information, many investors rely on the advice of a third party advisor whose responsibilities and interests are fully aligned with the investor. In purchasing timberland, a land appraiser specialising in timberland would be the appropriate professional.

Timberland appraisals take into consideration specific property parameters such as the quality, density and liquidity of the standing timber resource as well as factors such as location and HBU opportunity. For property where timber data are absent or out-dated, the appraiser would conduct a new timber inventory as part of the appraisal process. This latter process is often referred to as a 'timber cruise' which consists of a random sample of the timber resource that produces timber volumes within an acceptable statistical accuracy. Values are then assigned to the volumes to arrive at Capital Timber Value (CTV), the net standing timber value to the landowner (mill price less harvesting and haulage costs).

The appraiser then uses several methods of analysis (including comparable sales data) to arrive at a market value range for the property. With this information, the investor is well positioned to make a purchase offer, with assistance from a local attorney; my company can assist with contacts of suitably qualified firms.

With demand currently exceeding supply, market value for pure timberland investments generally exceeds Capital Timber Value. As a property's development potential (HBU) increases, the relationship of purchase price to CTV weakens and widens.

10.5 Maximising value of timberland assets

As with other property, the value of timberland assets can be greatly influenced by the actions of the owner, usually with the professional assistance of a forest manager.

Professional forest management can potentially increase forest value in several ways:

- Silvicultural treatments that select species and trees of greatest quality and value (e.g. oak, sugar maple), and to increase girth and sawlog value – see section 4
- Installation of good internal roads to facilitate forestry operations and transport of timber from the site. This capital expense enhances residual timber value as well as the property's HBU amenity.

- Certification of the timberland management plan to FSC (Forestry Stewardship Council) or Sustainable Forestry Initiative SFI) standards.
- Additional potential income can be earned from leasing recreation rights (potentially covering the local property tax burden) as well as other forms of leases (mobile phone masts, wind farms and gravel sales), subject to any Easement restrictions.

10.6 Other motives for Forestry Investment

Unlike other property investments, the owner can derive personal benefits from use of the forest property whilst still maintaining it as a commercial operation.

These potential benefits include recreation, nature conservation and hunting. For example, many properties in northeast USA have potential lakeside residential plots for the owner, suitable for boating, fishing and other outdoor pursuits.

11 Summary

US hardwood timberland is an investment which, on average, provides returns over the medium to long term on a par with other low to medium risk investments. It is a useful diversifying element to a multi-asset portfolio and may enjoy certain tax exemptions in the UK for a UK resident investor. The above features, combined with currently favourable exchange rates, make this an attractive proposition for UK investors. My own firm has assisted many UK investors in acquiring such assets.

When buying forestry property, it is essential to obtain valuation advice from a reputable forestry firm, such as our own US subsidiary Fountains Real Estate Inc or from a qualified land appraiser. Additionally, it is also important to obtain tax advice specific to individual investor circumstances from a tax specialist knowledgeable with timberland investments and USA tax law. As a UK investor, tax advice will also be necessary from a UK accountancy firm qualified in this field.

After purchase, the value of the asset should be maintained and maximised by taking on good professional forestry management support. There are opportunities for developing additional income streams although these opportunities will usually have been discounted to some extent in the prices at which properties are marketed.

In closing, it should be emphasised that owning hardwood timberland in the north eastern United States has many benefits in addition to a financial return. These include environmental and recreational benefits such as fishing and skiing; these are made more accessible by the relatively short distances from Boston and New York and other regional airports.



Owning hardwood timberland in the New England states can provide abundant amenity value, as well as effective long term investment benefits. (Photo: Fountains Real Estate Inc.)

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