

# Return Characteristics of the Forestry Asset Class<sup>1</sup>

The forestry asset class<sup>2</sup> has been attractive to institutional investors due to favourable portfolio attributes including low correlation to other asset classes, natural inflation hedging, and low volatility of returns.

Sustainable and responsible management of forests can also contribute to climate change mitigation, promote a shift to more responsible production and consumption, support sustainable development, and advance a growing range of renewable products made from wood fibre. The

evolution of timber markets serving a growing global population, in conjunction with the circular bio-economy and the essential role of forests in the net zero emissions transition, provides investors with diverse opportunities in forestry investment internationally.

## Returns from Income and Biological Growth

**Forest investments have two primary components of return: (i) income from the sale of timber and of other forest-related goods and services and (ii) capital appreciation from biological growth and in some cases, land value appreciation.** Forests produce a range of valuable products, such as sawnwood and plywood for construction; fibre for pulp and paper; biomass, biofuels, and cellulose-based chemicals; and ecosystem services that may be monetised such as carbon sequestration sold in the form of carbon credits. Conservation easements may also be sold. These markets are diverse and vary depending on tree species, geography, and markets. Forest investments also provide a biological component to returns as trees grow and increase in volume, and often value, over time.

## A Hedge Against Inflation

**Investment returns from forestry assets have demonstrated a positive correlation with inflation.** This characteristic is driven by the fact that timber product demand is positively correlated with GDP growth and rise in economic activity. Where there is land ownership in a forestry asset, land value can also appreciate in periods of economic growth. Using third party data, New Forests has independently found the correlation of the National Council of Real Estate Investment Fiduciaries (NCREIF) timberland index with the US GDP Deflator to be 0.46 over the 1987–2021 time period, and higher during shorter periods within that time.<sup>3</sup>

## Low Correlation with other Asset Classes

**The addition of forestry assets to a portfolio can increase diversification and contribute un-correlated alpha to the performance of the portfolio.** US timberland investment returns, as measured by NCREIF, have low correlations with most other asset classes such as equities and bonds. The fact that biological growth can provide as much as 50% of total forest investment returns supports low correlation with other asset classes. Figure 1 on the following page shows the correlation of the NCREIF Timberland Index with a variety of asset classes between 1987 and 2021.<sup>4</sup>

## Low Volatility of Returns

**Partly due to the biological component of returns, forestry assets are characterised by low levels of return volatility.** During periods of low timber prices, asset value can be stored “on the stump” and continue to contribute to capital appreciation through biological growth. Between 2009 and 2021, the average annual volatility of US timberland investment returns as measured by the NCREIF Timberland Index was 3.2% per year, significantly lower than equities, real estate, and 10-year US Treasury bond yields over the same period. Please see Figure 2.<sup>5</sup>

<sup>1</sup> Please see disclaimer on last page.

<sup>2</sup> New Forests uses the terms “forestry asset class” and “forest investments” rather than “timberland”. These terms recognise that forests create a multitude of products that may have value including timber products, wood fibre for pulp and a range of products for the bio-economy, and ecosystem services like carbon, biodiversity, and water that may be monetised through environmental markets.

<sup>3</sup> 1987–2019 data, New Forests’ in-house analysis, using publicly available data from NCREIF timberland index and US GDP deflator.

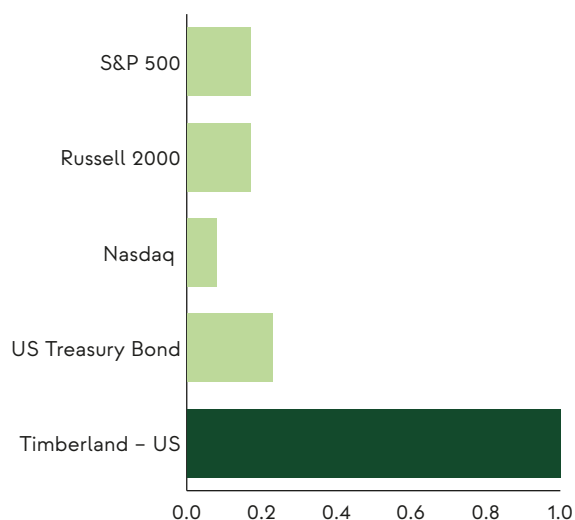
<sup>4</sup> New Forests’ in-house analysis using NCREIF timberland index, Yahoo finance GSPC, Macrotrends, and the Stern School of Business data.

<sup>5</sup> New Forests’ in-house analysis, using publicly available data from the NCREIF Timber Index, S&P 500, Dow Jones Real Estate Index and US Treasury 10 Year Yields.



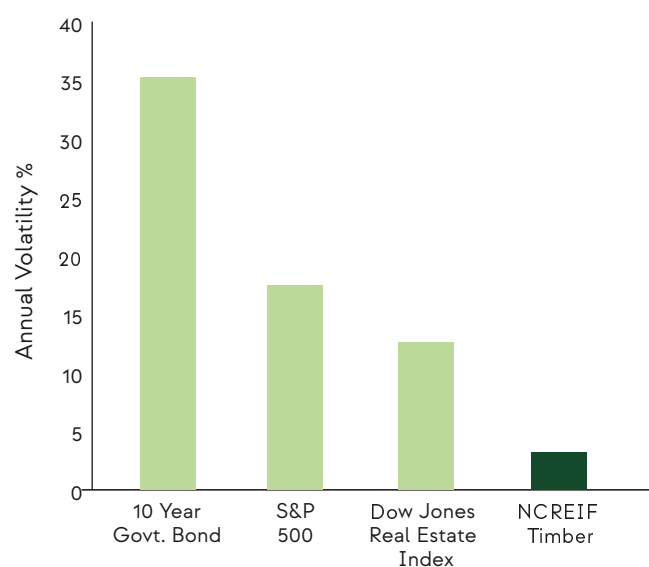
## Comparison with other Asset Classes

Figure 1 – Relative Correlation of Asset Class Returns with US Timberland (1987–2021)



US timberland investment returns have a **low correlation** with equity and bond asset classes.

Figure 2 – Volatility of Returns of Forestry vs. Other Asset Classes (2009–2021)



US timberland returns have been **less volatile** than equities, real estate and 10-year US Treasury bonds.

## Composition of Forest Investment Returns

### Forest investment returns are comprised of two components:

First, from capital appreciation based on biological growth and active asset management, and second, from cash yield due to income from timber harvesting and the sale of other products such as carbon credits.

#### Drivers of Capital Appreciation

- Biological growth and productivity
- Cost structure of the asset
- Future timber price expectations
- Reduction of market, physical, and other risks

#### Sources of Cash Yield

- Timber and wood fibre
- Carbon credits
- Conservation easements
- Land leasing revenue





## Driving Value through Active Asset Management

### Biological Growth

Managers can drive asset value through improved growth rates from correctly matching tree species with micro-site conditions, improved genetics, and by implementing site-specific silvicultural activities from the time of establishment of seedlings, to management of the tree crop, until harvesting.



### Product Marketing

Managers can drive asset value through developing new end-markets, improving marketing and long-term offtake contracts with buyers, and identifying new opportunities such as sale of carbon credits and sale of conservation easements, where applicable.

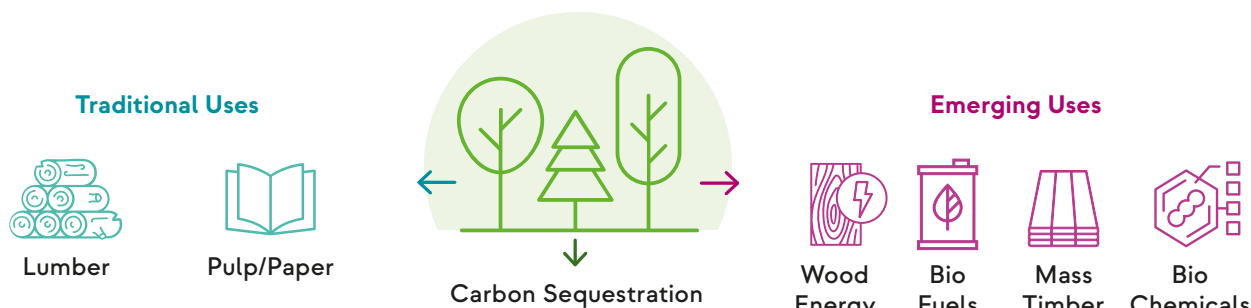


### Forest Management

Managers can drive value through better management, including use of technology to lower costs, streamline supply chains, and conduct inventory. Third party certification and community engagement can enhance impact and reduce risks.



## Timber Demand as a Driver of Forest Investment Returns



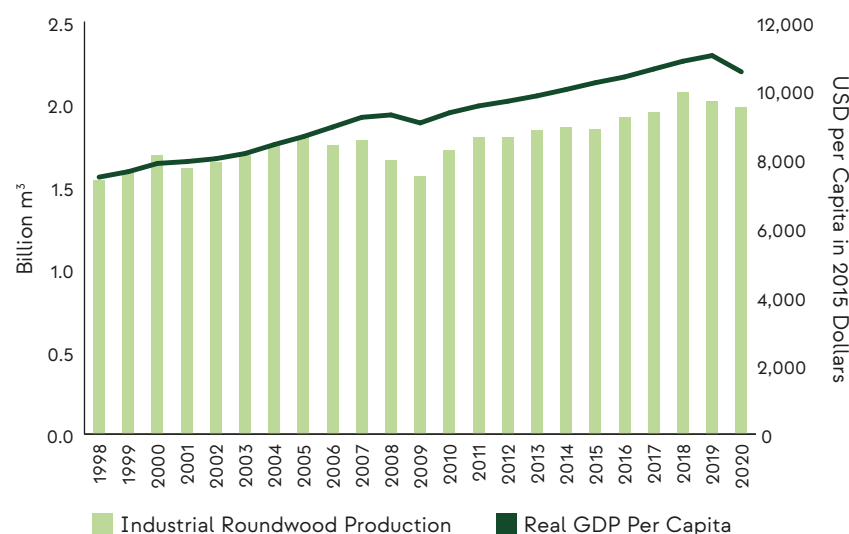
There is evidence that timber demand relative to sustainable supply is beginning to tighten on a global and regional basis. A tightening of supply/demand dynamics often leads to real increases in timber prices. Timber demand for use in construction, furniture, pulp and paper and industrial products is generally driven by population growth and improving living

standards. A common measure of an improving living standard is growth in real per capita GDP. Figure 3 shows the relationship between global industrial roundwood demand and real USD GDP per capita between 1995 and 2020.<sup>6</sup>

It is important to note that not only is the correlation between these variables strong, but this period

also reflects the widespread use of computer technology, which led to a reduction in demand for some pulp and paper products such as newsprint, and printing and writing papers. However, demand for packaging materials increased during this time due to the rise of internet-based shopping. Demand for wood in non-residential construction also rose during this period.

Figure 3 – Global Real GDP per Capita and Industrial Roundwood Production (1998–2020)



Forecasts of global per capita GDP vary widely and have been impacted even more by the COVID-19 pandemic. In 2018, the OECD projected average growth in global per capita GDP at a rate of 2.69% per year through to 2030, while a more recent 2021 OECD forecast projected GDP growth at nearly 3.5% per year to 2030. Using the more conservative projection of real GDP growth of 2.69% per year and applying this to the industrial roundwood demand relationship cited above yields a projected global industrial roundwood demand of approximately 2.6 billion m³ per year by 2030, a 32% increase in estimated global demand compared to 2020.

6 World Bank National Accounts and FAO Statistics.

## Development of an International Portfolio of Forestry Assets

Investors have often diversified their forestry investments by investing in a range of geographic regions. However, true portfolio diversification would include consideration of end-markets, with much of global timber demand driven today by North America, China, and Europe, as well as timber end-products (for example, short-rotation hardwood fibre for pulp and bio-chemicals, longer rotation softwoods for construction, and specialty hardwoods for furniture markets). Portfolio diversification in the forestry asset class increasingly needs to consider other demand factors. As noted, timber demand is highly correlated with GDP growth, which will increasingly be driven by emerging markets in Asia, Africa, and Latin America. Investors in tropical forest regions also have a growing opportunity to invest in climate change solutions through investment in conservation activities and reforestation, monetised through the sale of carbon credits.

New Forests manages assets in a range of geographies that include some of the deepest and fastest growing timber markets in the world. Our Australia-New Zealand strategy focuses on softwood for construction markets and hardwood fibre for pulp production, while our Southeast Asia strategy focuses on hardwood fibre and raw materials for Asia's rapidly growing furniture industry. Both strategies are also exposed to regulated and voluntary carbon markets that are increasingly influencing forestry investment and management decisions and creating opportunity to enhance the environmental and social impact of investments in the forestry asset class. Our US carbon forestry strategy invests in US forest assets to drive a core timberland return from exposure to the large US construction and furniture markets as well as additional returns from the California regulatory carbon market. Our track record across geographies provides investors the opportunity to build a sustainable, diversified international forest investment portfolio with New Forests.

## About New Forests

As global demand for resources grows, there is a need to increase productivity while ensuring the conservation of the world's remaining natural forests. New Forests seeks to create investment strategies that provide lasting solutions to this challenge. Through responsible management of forests and other real assets, we create shared benefit for investors and local communities alike. We believe that meeting the needs of a broad range of stakeholder will provide better returns over the long term.

New Forests has international reach, with offices and assets in Australia, New Zealand, Southeast Asia, and the United States. This gives us a global perspective combined with local expertise that allows us to understand and manage our assets more effectively. Wherever we operate in the world, our strength lies in our people and their drive to make investments that create the best possible outcomes. By investing with integrity and transparency we aim to generate strong returns while helping tackle some of the world's great sustainability challenges.

### Locations of New Forests' investments in Australia, New Zealand, Southeast Asia and the United States:



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