

Risk from Natural Hazards for Timberland Investments

Timberland investors are often concerned about financial loss from natural hazards such as fires, storms and insect and disease outbreaks. These concerns are often fueled by reports in the news media of catastrophic events such as large forest fires in the interior west region of the United States or massive outbreaks of pine beetles in the interior of British Columbia.

Natural catastrophes such as these typically occur, however, in high-risk locations where institutional investors purposefully own less timberland. Most large forest fires in the United States, for example, occur in the dry, interior portion of the western region. Institutional investors generally own timberland in the much wetter western side of the Cascade mountain range.

Catastrophic events also tend to occur on passively managed timberland. Institutional timberland properties are intensively managed. These properties have relatively little woody debris on the forest floor to fuel long, hot fires. They are typically thinned of competing vegetation to allow for maximum growth of the remaining timber. These two activities combined greatly reduce the likelihood of damaging natural events.

What is the real risk of loss from natural hazards for institutional timberland investors? If history is a guide, the risk is quite low.

Realized loss by damaging natural events

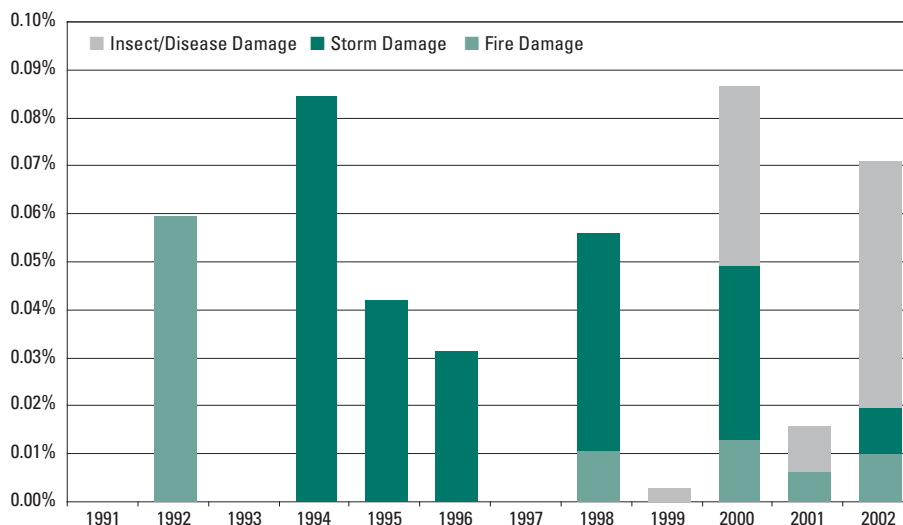
What has been the history of financial loss from natural hazards on intensively managed timberland in the major timber-producing regions of the United States? Ideally, we would answer this question by examining the incidence of loss on the roughly \$125 billion of investment-grade U.S. timberland, of which institutional investors currently own about 10

percent. To the best of our knowledge, these data do not exist.

Instead, we examined the incidence of loss on the sample of such timberlands that have been managed by the Hancock Timber Resource Group (HTRG). Over the past decade, HTRG has managed, on average, about 2 million acres with a market value of about \$2 billion. These lands have been located in the U.S. South, Pacific

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Chart 1: Annual Financial Loss from Natural Hazards on HTRG-managed Timberland (% of property value)



Risk from Natural Hazards for Timberland Investments *continued*

Northwest and Northeast. We believe that HTRG properties comprise a good sample of investment-grade timberland in general.

We compiled 12 years of data on financial losses from natural events on all HTRG-managed properties in the United States. The losses were calculated net of salvage value for any damaged timber.

It is important to understand that often a large portion of the timber damaged after a natural event is salvageable. For instance, much of the value is recoverable from sawtimber-sized trees after a fire, as only the outside of the tree may be charred. That said, salvaged timber typically trades at a discount price. Managers must quickly sell the damaged wood into the market to avoid further loss from an insect or disease outbreak. And, almost any fire or severe storm will kill seedlings and saplings. A recently established timber stand caught in damaging storms or fires usually needs to be replaced.

We assigned the historical losses in each region to three categories—fires, storms, and insect and disease outbreaks. We then expressed the losses as a proportion of the market value of HTRG-managed timberlands.

Historically, losses occurring from natural hazards on HTRG properties have been extremely small—less than 0.1 percent (10 basis points) of the

total value of assets under management in any given year. The average annual loss was 4 basis points; in three of the 12 years sampled, no loss occurred at all.

Storm damage was the most frequent cause of loss—damaging timber during six of the past 12 years. HTRG historically has had low occurrences of loss due to fire or insect and disease outbreaks. In fact, in seven of the past 12 years, there was no significant loss from fire or insect and disease outbreak.

The greatest loss from fire occurred in 1992. During that year, 0.06 percent (6 basis points) of assets under management were lost to fire. The greatest loss from insect and disease occurred in 2002. During this year, 0.05 percent (5 basis points) of assets under management were lost, primarily the result of pine beetle damage in the South.

Eight years prior, in 1994, the largest loss from storm damage occurred, with 0.08 percent (8 basis points) of assets lost.

Timberland diversification reduces natural hazard risk

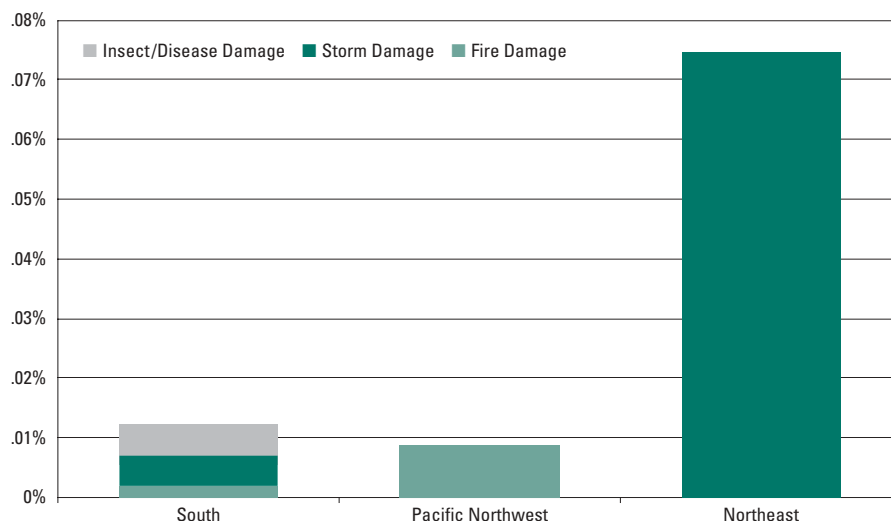
The timing and nature of historical loss has differed by geographic region—suggesting the potential to spread the risk of natural hazards across properties by regional diversification.

Historical data show properties in the Northeast to have experienced the greatest average loss, 0.075 percent (7.5 basis points) of northeast assets under management. The loss occurred in a single year, a result of the 1998 ice storms.

Properties in the South have had the greatest variability of natural events, having all three event categories occur at one point or another over the past 12 years.

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Chart 2: Average Annual Financial Loss from Natural Hazards on HTRG-managed Timberland by Region (% of regional property value)



Quarterly Average Regional Composite Prices for Softwood Sawtimber Stumpage (US\$ per MBF)

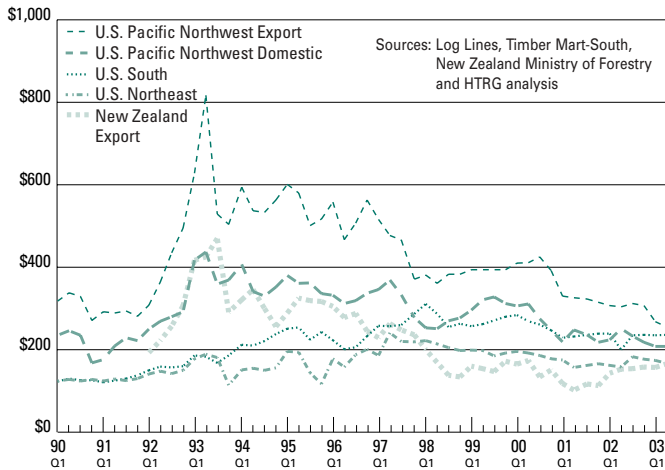


Figure 1. Softwood Sawtimber Stumpage Prices

Sawtimber prices in U.S. domestic markets remained flat second quarter. Sawtimber prices in export markets were mixed, with Douglas-fir export prices and New Zealand radiata pine prices moving in opposite directions.

Quarterly Average Prices for U.S. South Lumber and Sawlogs (\$ per MBF - lumber scale)

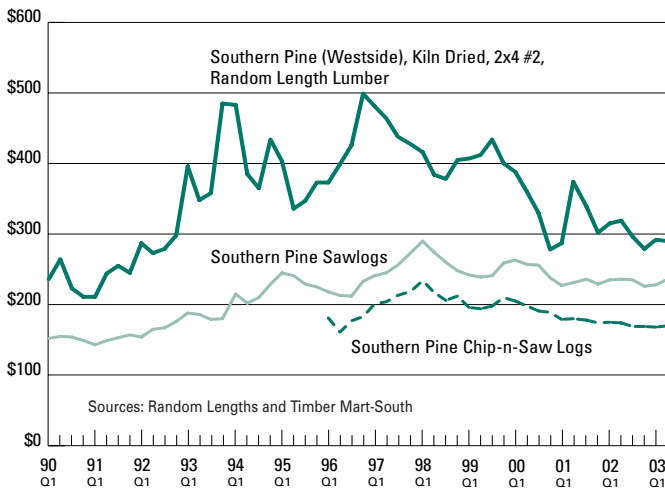


Figure 2. Lumber and Sawlog Prices in the U.S. South

Wet weather in the South second quarter constrained timber supplies and pushed up southern pine delivered log prices 4 percent (or \$8 per MBF) while southern pine lumber prices remained at last quarter's levels.

Quarterly Average Prices for U.S. Pacific Northwest Lumber and Sawlogs (\$ per MBF - lumber scale)

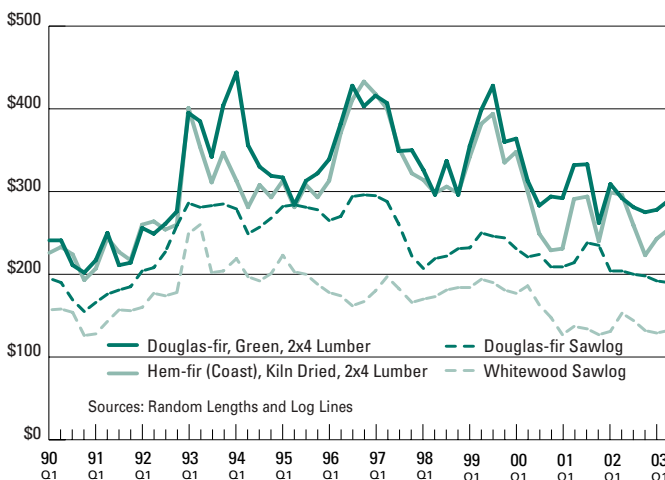


Figure 3. Lumber and Sawlog Prices in the U.S. Pacific Northwest

Delivered log prices in the Pacific Northwest remained relatively unchanged from last quarter, in spite of upward movement in Pacific Northwest lumber prices second quarter. Both Douglas-fir and hem-fir lumber prices rose \$11/MBF second quarter.

Quarterly Average Regional Composite Prices for Softwood Pulpwood Stumpage (\$ per ton)

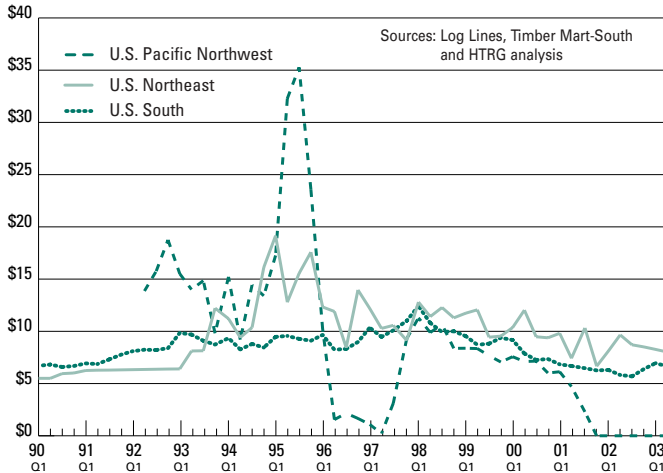


Figure 4. Softwood Pulpwood Stumpage Prices

Despite wet weather impeding harvesting activity in the South second quarter, pine pulpwood prices lost \$0.30 per ton, averaging \$6.65 for the quarter. Delivered pulpwood prices in the Pacific Northwest continue to be below our estimate of average harvest and haul costs, resulting in a zero (or negative) derived stumpage value.

Quarterly Average Prices for Market Pulp (\$ per metric ton) and U.S. Pulp Logs (\$ per 10 tons)

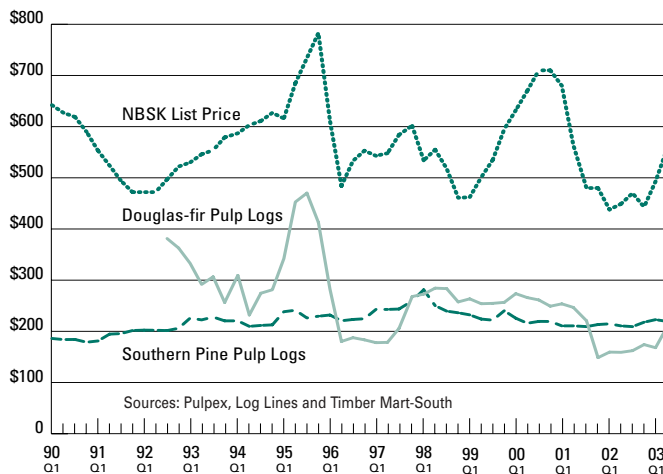


Figure 5. Market Pulp and U.S. Pulp Log Prices

The second quarter market pulp list price rose over 10 percent from last quarter's level, a 25 percent increase from year-ago levels. Despite the rise in market pulp prices, southern pine delivered pulp logs fell slightly.

Quarterly U.S. Timberland Values (\$ per acre)

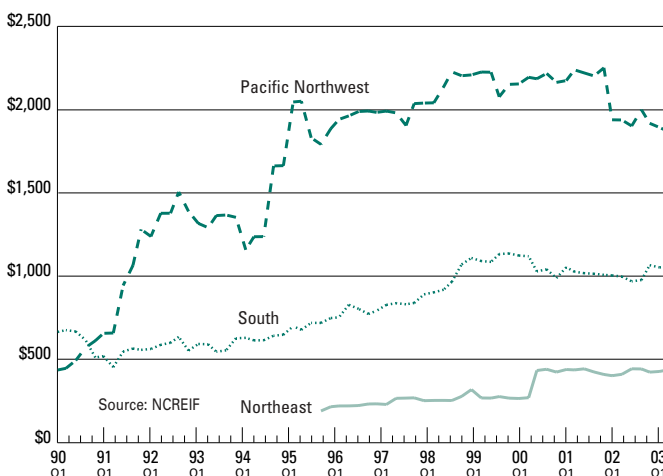


Figure 6. U.S. Timberland Values in Private Property Markets

Changes in timberland values from first quarter levels were mixed second quarter. Timberland property values in the Northeast were up \$10 per acre, where timberland property values in the Pacific Northwest fell \$30 per acre. Southern timberland values remained flat. Note that most properties in the NCREIF database are appraised during the fourth quarter of each year. Although second quarter appraisals do occur, one needs to use caution when evaluating values at times other than year-end.

Quarterly EBITDDA Multiples for Privately Traded Timberland (trailing 4-quarter EBITDDA)

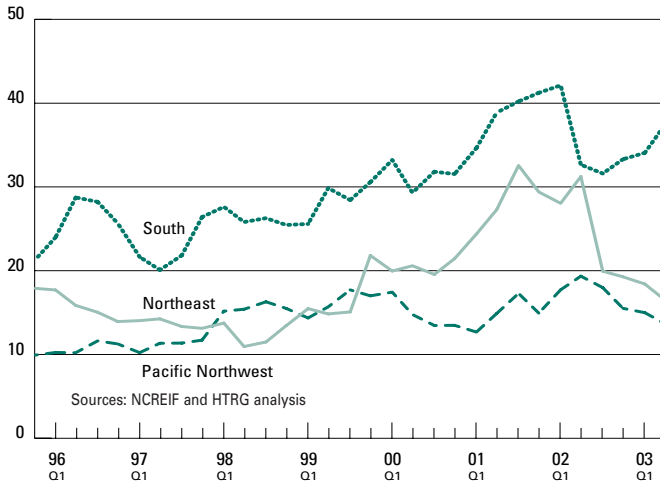


Figure 7. U.S. Timberland Valuation Multiples in Private Property Markets

Changes in trailing four-quarter EBITDDA multiples for private timberland were mixed second quarter. Valuation multiples for the Pacific Northwest and the Northeast were down, as second quarter income in both regions exceeded second quarter income generated last year. In the South, timberland property values rose slightly second quarter while income fell compared to income generated second quarter of last year, increasing the southern timberland price-to-earnings multiple.

Monthly Securitized Timberland Share Value (Indexed to 100 at start date)

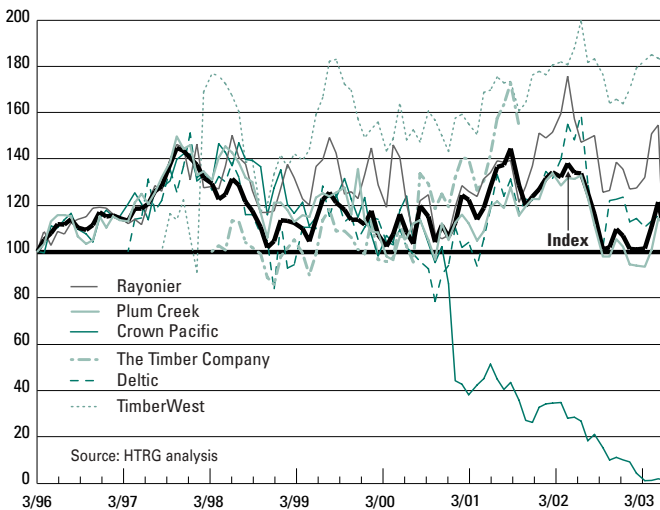


Figure 8. Hancock Securitized Timberland Index

Improving stock market conditions in the second quarter buoyed the HSTI constituent companies, leading to a rise in our Index. As lumber prices, and with them profitability, continue to rise, we would expect to see the HSTI add to its recent gains.

Quarterly U.S. South Timberland Values (\$ per acre)

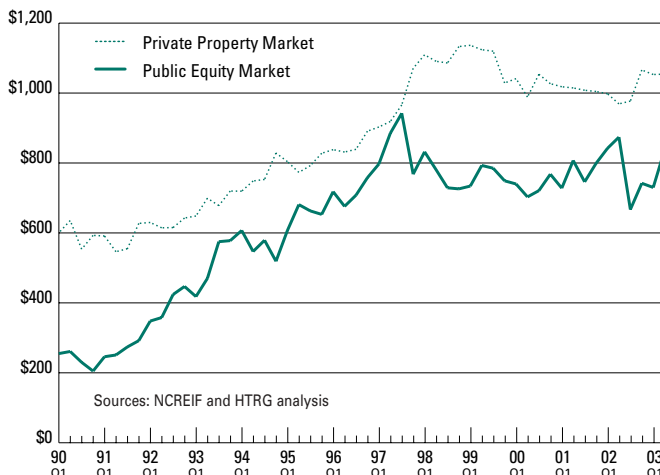


Figure 9. U.S. South Timberland Values in Public Equity and Private Property Markets

Public equity market timberland values rose 15 percent second quarter while private property market timberland remained flat. Although private timberland is currently valued at more than \$200 per acre over public market timberland, the gap between the two has narrowed.

Ice storms in the South have accounted for the majority of losses. Data show ice storms contributing to losses in eight of the past 12 years, with an average annual loss of 0.05 percent (5 basis points) of southern assets under management during that period.

Hurricane Opal in 1995 and Hurricane Fran in 1996 impacted southern coastal timberland properties in the storms' paths, resulting in annual average losses of 0.01 percent (1 basis point) of southern assets under management over the 12 years.

Timberland properties in the Pacific Northwest have historically experienced fewer occurrences of damaging natural events.

With the observed variability in damage between regions, dividing investment exposure among regions lessens the risk of any material loss to the total timberland investment.

Summary

Risk of financial loss from a damaging natural event surely exists in timberland investments. Yet, 12 years of historical loss data reinforce what we have believed all along—that the risk of loss from a natural event has been very small, averaging 0.04 percent (4 basis points) of loss per year.

Moreover, our data show that geographically diversifying managed timberland holdings can contribute to both lowering the magnitude and frequency of a major financial loss from damaging natural events.

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NOTES:

Figure 1. The composite price for southern sawtimber is based on quarterly average Timber Mart-South published prices for pine sawtimber and chip-n-saw stumpage. Pacific Northwest prices are derived from quarterly average Log Lines published prices for whitewoods and Douglas-fir with internal analysis of logging costs for stumpage calculations. New Zealand export prices are based on New Zealand Ministry of Forestry quarterly average published prices for Radiata unpruned A, J and K sort export logs with internal analysis of logging costs for stumpage calculations. Northeast sawtimber prices are calculated from internal analysis.

Figure 2. Quarterly southern pine (westside), kiln dried, 2x4 #2 lumber price published by Random Lengths. Timber Mart-South published southern pine sawlog and chip-n-saw log prices converted to lumber scale using RISI historical lumber recovery rates as published in North American Lumber Forecast.

Figure 3. Quarterly Douglas-fir, green 2x4 lumber (Portland rate) and Hem-Fir (coast), kiln dried, 2x4 lumber prices published by Random Lengths. Douglas-fir and whitewood sawlog prices derived from Log Lines published prices for #2 and #3 sawlogs in various regions in the Pacific Northwest converted to lumber scale using RISI historical lumber recovery rates as published in North American Lumber Forecast.

Figure 4. Pulpwood composite prices are derived from quarterly average Timber Mart-South published prices for southern pine pulp wood stumpage, Log Lines published whitewood and Douglas-fir pulp logs with internal analysis of logging costs for the Pacific Northwest, and HTRG analysis of Spruce/Fir pulpwood in the Northeast.

Figure 5. Quarterly NBSK pulp prices derived from daily list prices reported by Pulpex. Southern pine pulp log prices published by Timber Mart-South. Pacific Northwest Douglas-fir pulp log prices published by Log Lines. Pulp log prices expressed in multiples of 10 to accommodate market pulp pricing scale.

References to expected investment performance in this newsletter are based on historical information and are based on management's projections. Potential for profit as well as for loss exists.

Figure 6. Regional NCREIF timberland market value per acre is derived by dividing the total regional market value at quarter end by the number of acres reported in that region. Market values for Northeast timberland were re-estimated for the period 1998Q4 through 1999Q3 to adjust for what we believe to be an anomalous property included in the NCREIF database during those quarters.

Figure 7. EBITDDA multiples are calculated using NCREIF timberland value per acre at quarter end divided by a trailing four-quarter average NCREIF net income per acre.

Figure 8. The Hancock Securitized Timberland Index (HSTI) uses a base-weighted aggregate methodology (similar to that used to construct the S&P 500) to calculate a market capitalization-weighted value for seven publicly traded timber-intensive forest products companies. Base weights were readjusted for the emergence of new companies or at the beginning of each year. Dividends are not reinvested. The companies included in the HSTI have no investment relationship with the Hancock Timber Resource Group.

Figure 9. Public equity derived from our Timberland Enterprise Value per Southern Equivalent Acre (TEV/SEA) for five timber-intensive publicly traded companies compared to southern timberland values per acre calculated from the NCREIF database. TEV is a quarterly estimate based on total enterprise value (total market equity + book value debt) less estimated value of processing facilities, other non-timber assets and non-enterprise working capital. SEA uses regional NCREIF \$/acre values to translate a company's timberland holdings in various regions to the area of southern timberland that would have an equivalent market value.