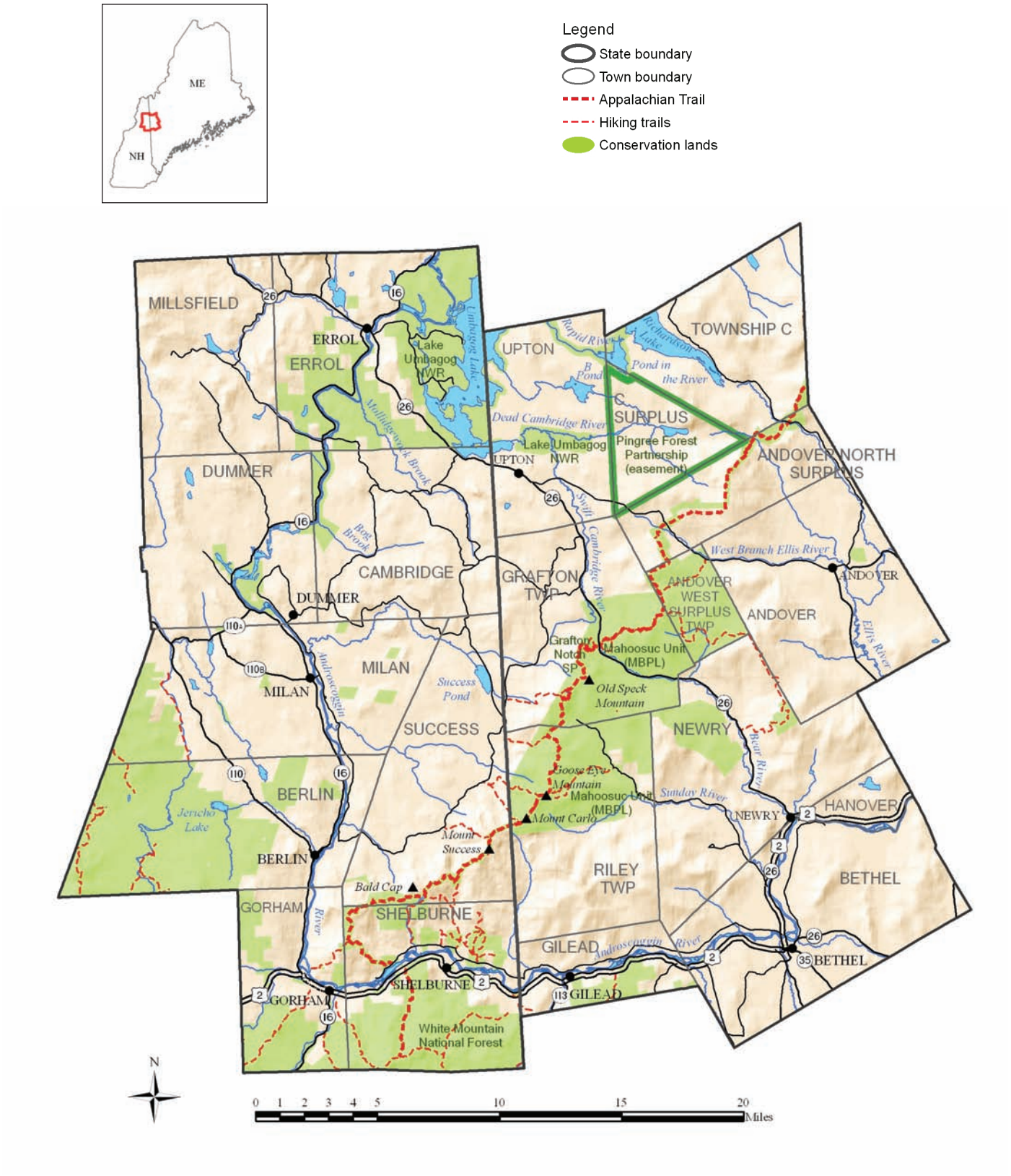
Conservation Research Program

Open Space Institute

Forestland for Sale

Challenges and Opportunities for Conservation over the Next Ten Years

Mahoosuc region



Forestland for Sale
Challenges and Opportunities for Conservation over the Next Ten Years

Abigail Weinberg and Chris Larson

August 2008

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Preface from OSI leadership

The northeast corner of the United States and adjacent lands stretching into Canada boast one of the world's largest temperate forests: 33 million acres, 26 million of those acres within U.S. borders. For most of the past 300 years, this forest was cut and managed to produce lumber and paper products with industrial timber companies controlling the land, forests, mills and waters.

With the dawn of the 21st century, that same forestland is now even more prized for second homes, recreation, spring water, and sequestering carbon. Forestland sells at two to eight times its timber value. Escalating land prices and new tax structures prompted the massive sales of industrial land over the last 20 years and today new buyers have almost completely replaced the industrial owners.

The Open Space Institute's report, *Forestland for Sale: Challenges and Opportunities for Conservation over the Next Ten Years*, examines how the new owners manage the land, the implications for conservation efforts and what is needed to protect working forest landscapes.

The report, conducted in consultation with the Mahoosuc Initiative, focuses on 600,000 acres of the Northern Forest defined by the Androscoggin River and the Mahoosuc Mountains, which spans the border of New Hampshire and western Maine. These forests are owned by a mix of timberland investors, logging contractors, developers and conservation groups. Our work predicts that the transformation is just beginning and that an additional 40,000 to 150,000 acres, up to 28 percent of the region's forestland, will be sold over the next five to ten years.

Without new tax incentives, stronger biomass markets or increases in public and private conservation dollars, escalating land prices will make it increasingly difficult to manage the land as forests. Failing to prepare for the next wave of land sales could result in the conversion of forestland, further decline in local economies and narrowed options for responding to climate change. Public health may also suffer, as clean water, air, recreation and wildlife habitat deteriorate with the land base.

Thanks to this research effort, we can anticipate what is to come, consider what is at stake and act to conserve this globally significant resource. We hope that our work will lead to stronger alliances among state policy makers, landowners, civic leaders and conservation groups that are committed to protecting these forests.

Kim Elliman
CEO

Joe Martens
President

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Executive summary

A transformation in forestland ownership has created uncertainty about whether private forests—in the Mahoosuc region of the Northern Forest and across the country—will continue to provide recreation, clean water, and economic support for rural communities. State governments and conservation groups need to reexamine their toolkits.

Investors in timberland have replaced the forest products industry as the largest private owners of U.S. forestland. Privately held timber investment management organizations (TIMOs) and publicly traded timberland real estate investment trusts (T-REITs) take advantage of short-term increases in land values and are indifferent to whether their income comes from timber or asset appreciation.

Unlike the forest products industry, which was visible in local communities and reliably provided jobs and recreation amenities for both residents and tourists, the new owners are anonymous, stay out of view behind land management companies, are cutting back on forest-related employment, and often limit or charge fees for public access. At the same time, largely freed from the requirement to supply fiber to the mill, the new owners have more freedom to ease their lands or manage land for ecosystem services.

The transformation has affected the Northern Forest in particular, where 90% of the land is privately owned. The Mahoosucs, a 600,000-acre area spanning the Maine–New Hampshire border, serves as a case study. Forestland here was once managed as a stable, long-term asset by integrated forest products companies but today is subject to frequent turnover by timber investors. To date, the shift has caused fragmentation of large parcels, reduced forest-related jobs, increased harvest rates, expanded posted areas for trespassing, and hastened development of lakefront and riverfront properties.

The same instability that threatens the region's forests provides an immense opportunity, however: to prepare for the next wave of forest dispositions five to 10 years in advance. Maine and New Hampshire state governments, private landowners, local planning boards and conservation groups can take action to protect the public access, rural jobs, and ecosystem services that contribute to the forest-based economy in the region.

If fee and easement purchases remain the major tool for conserving the region's forest base, $30 million to $120 million would be needed for conservation in this region alone. What other incentive and market-based approaches could ensure conservation of the region's forests? This report explores the issues and the need for action.

Challenges

- **Job loss.** As new owners focus on 'management efficiency' to increase returns to investors, forest-related jobs decline.
- **Land values.** The cost of land has been driven up many times beyond timber value, increasing the cost of conservation.
- **Land-use change.** Some new managers are turning to development to meet target returns.
- **Public access.** Reduced access compromises local economic development for tourism.

Opportunities

- **A liquid market.** Within the next 10 years, 7% to 28% of the Mahoosuc region's forestland, or 40,000 to 150,000 acres, will come up for sale.
- **New values.** Carbon credits and bioenergy could give owners return on their investment and provide incentives for forest management.
- **Tax incentives.** Revisions to regulations and tax codes could encourage a stable forestry base and slow conversion.
- **Partnerships.** Conservation groups can partner among themselves and with landowners to identify and protect priority lands.

Brett Cole

An old logging road serves as an inviting path for hikers.

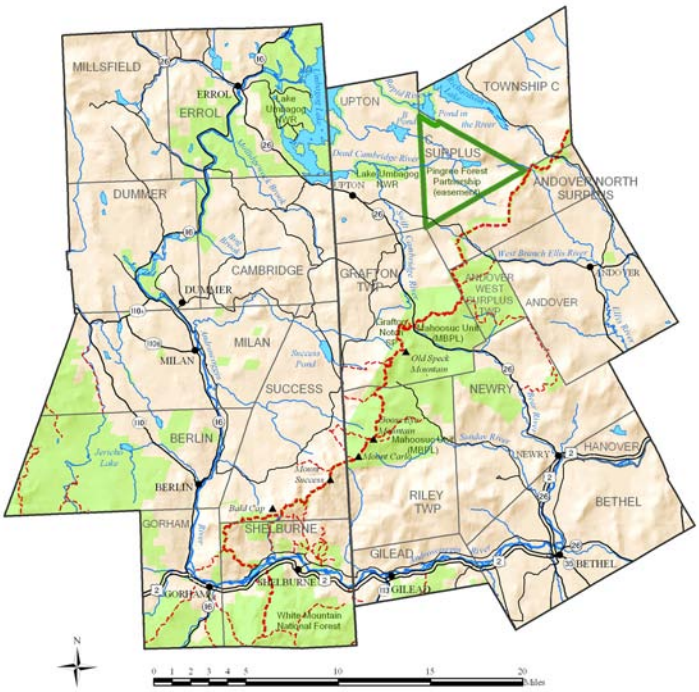
Introduction

Between 1980 and 2007, a remarkable transformation took place in the 26-million-acre Northern Forest: more than 24 million acres changed hands, some of it three or even four times (Hagan et al. 2007). The region's forest products companies sold large parcels to pension plans, foundations, private equity funds, large capital investors, and endowments. Most of these investors rely on timber investment management organizations (TIMOs) to buy and manage their land holdings. The new managers tend to invest less in forestry research, rely on fewer employees, discourage public access, and seek to realize profits within a short time. Some forest industry companies also reorganized as timber real estate investment trusts (T-REITs), which seek returns from a mix of timber management and development.

The transfers have changed the outlook for the Northern Forest and its local communities. Yet they also create an opportunity to prepare intelligently for the next round of sales. This white paper describes the motivations of new forestland owners and the potential to work with them to maintain forestland and protect the many values it provides the region.

The shift from forest products company ownership to TIMO and T-REIT management is the subject of research on timberlands and financial markets (Binkley 2007; Irland 2004), wildlife management (Hagan et al. 2005), and conservation (Block and Sample 2001; Irland 2007). This report draws on that research and also on extensive interviews with financial experts and foresters to explore timberland market dynamics, landownership structures, and trends. We look specifically at the Mahoosuc region within the Northern Forest as a case study to discuss future land tenure and forestland conversion. We also introduce potential conservation strategies and propose issues for discussion among stakeholders.

Mahoosuc Region



Jerry & Marcy Monkman ecophotography.com

The Androscoggin River, which flows through the Mahoosuc region, is a favorite destination for anglers.

Background

Land tenure change is well illustrated in the Mahoosucs, which encompasses 600,000 acres in Coos County, New Hampshire, and Oxford County, Maine. Recreation amenities associated with the Androscoggin River, the Mahoosucs Range, and Sunday River Ski Resort have attracted timber investors, developers, and contractors. Forestland accounts for almost 90% of the region, or 539,500 acres. We were able to obtain ownership data for 428,400 acres of forestland for this report and assume that the remaining 100,000 acres is largely composed of small ownerships of 100 acres or less.

The Mahoosucs exemplifies trends within the Northern Forest: the rise of timberland investors, the loss of pulp processing and niche mills, the increased demand for recreational properties, fragmentation of large parcels, and the emergence of conservation organizations as major buyers of lands and easements.

Landownership dynamics

In 1980, three forest products companies—International Paper, Brown, and Pingree—held more than 300,000 acres, or 50% of the Mahoosuc region. Over the following 15 years, Brown sold its land, and MeadWestvaco and James River/Crown Vantage (both forest industry companies) entered the region but did not stay long. In 2004, when International Paper and MeadWestvaco sold their land, forest industry ownership in the Mahoosuc region ended.

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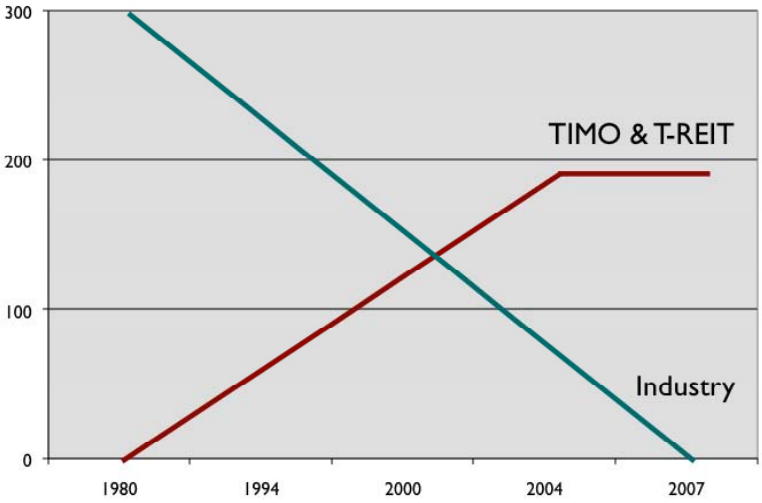
Land transfer, 1980 to 2007



Most of the forest products industry land has transferred to TIMOs.

The first timberland investor in the region (and one of the first in the country) was Hancock Timber Resource Group, which purchased 50,000 acres in the late 1980s. Over the next 20 years, many more investors entered the region and surpassed forest industry as the largest owner type in 2000.

After increasing its ownership in the region to 90,000 acres, Hancock sold its lands in the Mahoosucs in 2004 to second-generation TIMO investors and a T-REIT. By

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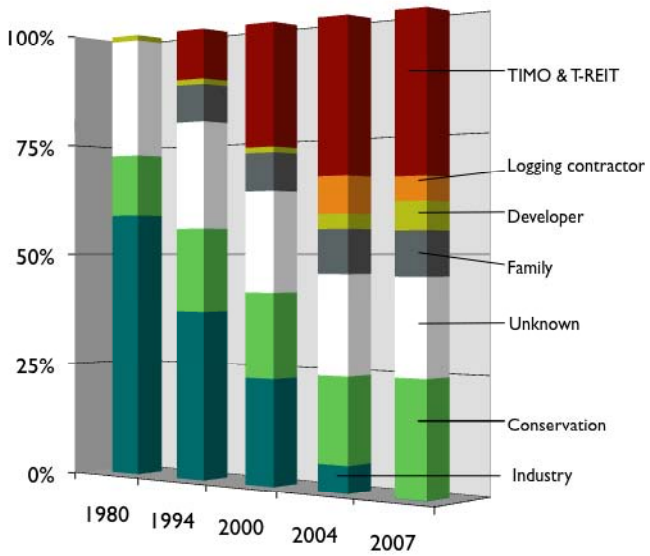
The Mahoosuc portion of the Appalachian Trail is known to be one of the most beautiful and difficult stretches of the trail and attracts many hearty hikers to the region each year.

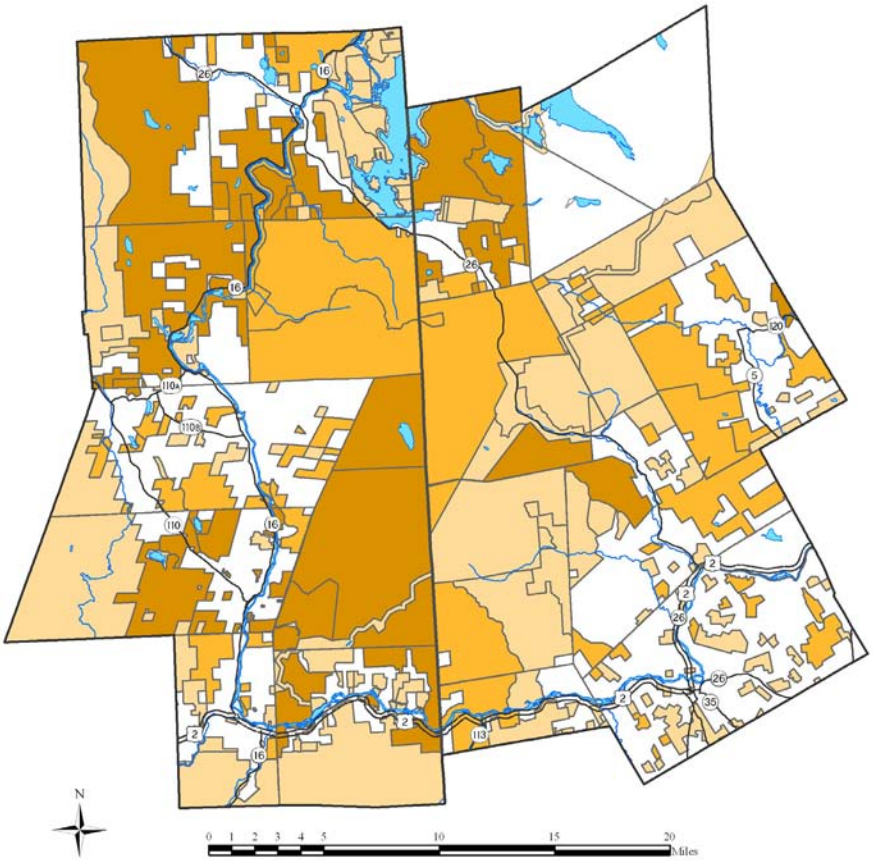
Forestland ownership change



In addition to TIMOs and T-REITs, logging contractors, developers and conservation owners bought forest industry lands.

By 2007, a full 704,000 acres of forestland had been bought and sold, with many acres changing hands more than three times.

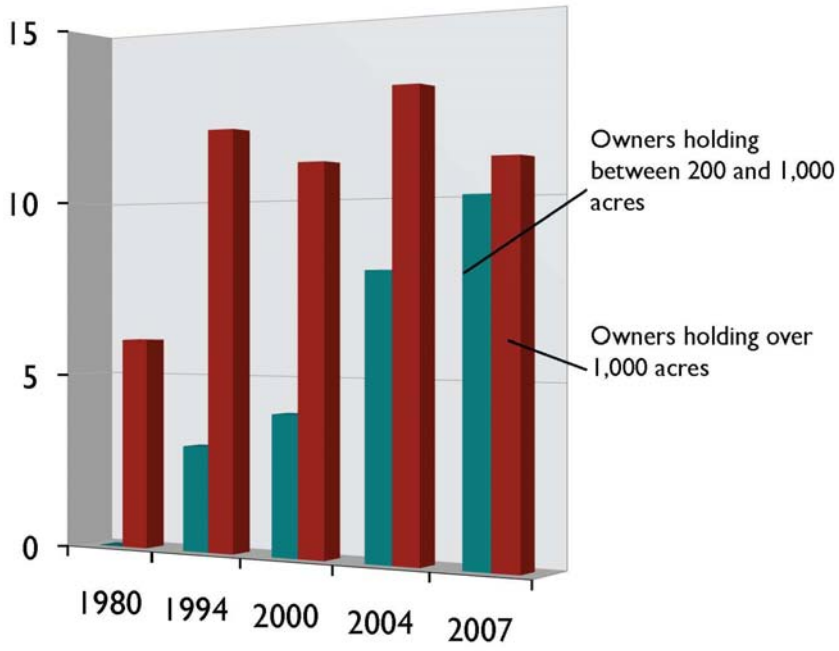
Land turnover, 1980 to 2007



2007, a full 704,000 acres of forestland, more than 1.1 times the forestland base itself, had been bought and sold, with many acres changing hands more than three times. Today, TIMOs and T-REITs own 34% of the forestland, conservation nonprofits and government 25%,[1] long-term family ownerships 9%, developers 6%, and contractors 5%.[2] Twenty-one percent of the forestland in the region is in uncertain ownership, likely held in parcels under 100 acres.

Eleven owners control the majority of this land with a total of 292,000 acres: six are TIMOs or T-REITs, two are developers, two are old-line family ownerships, and one is a logging contractor. The fate of these large parcels will determine the ability of this region to supply critical ecosystem services and jobs in the coming decades. The land sales and related fragmentation have also created a class of at least ten landowners holding 200 to 1,000 acres in the region.

Fragmentation trends



Between 1980 and 2007, the number of landowners holding 200 and 1000 acres in the region increased.

The number of conservation organizations owning land has increased as well, from 14 in 1980 to 33 in 2007. Those holding more than 1,000 acres in the region recently surpassed the number holding smaller ownerships, suggesting that conservation owners have purchased and aggregated increasingly larger tracts of land.

OSI

Private landowners of all types have sold their land over the last five years to try to take advantage of high prices for forestland.

[1] Most of this land is conserved via fee title; only 1% of the land is currently protected with conservation easements, though additional projects are in the works.

[2] All ownership data and mapping are courtesy of the Appalachian Mountain Club.

Laying the foundation

The short tenure is affecting land prices and resale for development. Each type of organization has unique motivations and responds differently to incentives and market forces. The following section of the report explains the types of owners and looks at how timber and land markets are changing.

Cash-flow owners

Timberland owners who depend on regular income, or "cash-flow" owners, generally hold debt-financed timberland and seek to maintain a steady flow of income from timber harvests or other sources to repay loans and satisfy shareholders. When timber markets are soft, they may harvest timber aggressively, liquidate stands, or subdivide and sell properties for cash to take advantage of development values ("highest and best use," HBU). There are three types of cash-flow owners of timberland in the Mahoosuc region.

Forest products industry. This class currently owns no land in the Mahoosucs. Neither Canadian nor U.S. industry is likely to acquire any lands here because corporate ownerships are taxed at the corporation level and again at the shareholder level.Unlike industry, new owners like REITs and TIMOs are taxed only one time and can thus realize a savings of 30 cents for every dollar. Two Canadian firms, J.D. Irving and Rene Bernard, do own land elsewhere in the Northern Forest to supply Canadian and U.S.

The sun sets on the Androscoggin River.

Jerry & Marcy Monkman ecophotography.com

mills; both are family-owned firms committed to vertical integration.

Logging contractors. In response to the availability of land and declining industry work, contractors have begun to acquire their own timberland, often with significant debt, to ensure ready access to harvest opportunities. These owners face a difficult short-term operating environment because of credit conditions, loss of milling capacity, and overly optimistic harvest forecasts.

Publicly traded timber real estate investment trusts. T-REITs enjoy advantages over forest industry owners because of favorable treatment of timber-related capital gains and pass-through income (Fernholz et al. 2007), and a few industry owners have converted to a REIT structure. To maintain or increase payouts to shareholders, T-REITs are under pressure to harvest timber continuously, sell to developers, or develop their own land. They are required to distribute 90% of all income, so they cannot accumulate large cash reserves and are in a relatively poor position to acquire more land without additional leverage or public stock offerings.

Total-return owners

The number of these owners has increased because of changes in the tax code and rising land prices. TIMOs typically hold timberland for a set period and derive one-third of investment returns from timber operations and two-thirds from asset appreciation at the end of the investment period (Ravenel et al. 2002). Because land appreciation and timber gains are both free from double taxation, these owners are economically indifferent to harvest income versus stand appreciation. Thus, they emphasize market timing and economically optimized harvest schedules over cash-flow considerations (Ravenel et al. 2002).

To attract investors, a TIMO must provide assurance that it will sell its lands and capture asset appreciation within a predefined period, generally seven to 15 years. To date, most funds have stayed on track.

TIMOs in the United States have four types of investors (Evens 2007): public pension funds account for 40% of timber investment ownership, corporate pension funds 15%, foundations and endowments 22%, and high-net-worth and other investors 23%. Most TIMO investors are anonymous and therefore less accountable than the publicly traded forest products firms; however, public pensions, which may be identifiable because of their buying power, could face scrutiny for socially responsible investing (Federation of Hospital and University Employees 2002).

All investors are serviced by TIMOs through two types of funds: separate accounts, in which a single institutional investor is the sole investor, and comingled accounts, where multiple investors' funds are pooled in a portfolio (e.g., The Lyme Timber Company, The Forestland Group, GMO Renewable Resources). The distinction is critical for predicting future land sales, since separate accounts allow more control over the decisions and timing of land sales, whereas commingled-account TIMOs generally adhere to the promised seven- to 15-year investment period. In the Mahoosuc region, two separate-account TIMOs hold nearly 130,000 acres, and three commingled-account TIMOs hold 34,000 acres.

To attract investors, a TIMO must provide assurance that it will sell its lands and capture asset appreciation within a predefined period.

High-net-worth individuals

Wealthy people are also investing directly in timberland as a hard asset that combines inflation-hedging properties with an opportunity to shelter intergenerational wealth transfer. These owners are not strictly profit maximizing and include families that are purchasing large tracts, typically 10,000 to 50,000 acres, for primarily recreational or conservation purposes (e.g., John Malone and Roxanne Quimby in the Northern Forest).

Market-shaping forces

Forestland owners in the Mahoosucs control at least 15 million acres internationally with the majority of holdings in the United States, and thus their decisions are affected by broader domestic and international events.

Overseas timberland assets currently offer returns of 15%–20% annually over a seven-to-10-year holding period (Flynn 2007). Real returns on U.S. timberland have recently dropped to 4.5%–7%, which is still significantly higher than other investments with similar risk profiles.

Globally, strong interest by institutional investors has spurred a 20% annual growth of investment in the timberland class since the mid-1980s (Binkley and Earhart 2005). Today, timberland investors control $50 billion worth of forestland internationally and hold an estimated 30 million acres in the United States alone (Binkley and Earhart 2005; Hagler 2006; Fernholz et al. 2007). Experts estimate that another $5 billion to $10 billion could be deployed into this asset class (Hickman 2007).

Though timberland investors hold a full 32% of the Northern Forest (Hagan et al. 2005), because of slow timber growth rates and relatively cheap land prices, the Northeast accounts for only 5% of investor-owned forestland globally by value—approximately $1.2 billion as of December 2006 (Evens 2007). In contrast, the South accounts for 50% by value, and the Pacific Northwest, 17% by value. Nevertheless, some investors are drawn to the Northeast because of their local knowledge, aversion to

As investors gain comfort with overseas investments, dollars will move abroad; the remaining U.S. investors will be those willing to accept lower returns or absorb the risk of land development.

Brett Cole

Pulpwood ready for the chipper. Landowners and loggers in the Mahoosuc region need to drive farther to find mills for their wood.

[3] The sophistication of land trusts in the Northeast has led to strong partnerships with conservation-oriented TIMOs such as Lyme Timber Co., Conservation Forestry, and The Forestland Group. Nationally, more than one-third of all conservation easements have occurred in the Northeast, compared with 15% of easements in the Northwest and 7% in the Southeast.

the risks of international timber investing, or access to conservation partnerships that offer a low-risk method for monetizing development value.[3]

Timberland investment in the United States is being driven by several factors: the large concentration of capital interested in timber investments, favorable exchange rates for foreign investors, high asset liquidity, novel investment instruments, a strong HBU market, portfolio benefits, bioenergy and carbon speculation, a post-9/11 interest in hard assets, and favorable tax treatment for high-net-worth individuals (Hickman 2007). Global and regional trends suggest that timberland will remain a major investment class for years to come (Flynn 2007) and that as investors gain comfort with overseas investments, dollars will move abroad; the remaining U.S. investors will be those willing to accept lower returns or absorb the risk of land development.

Timber markets in the Northeast

Freed from the requirement of supplying wood to mills and with as much as 70% of returns coming from the appreciation of the land, TIMOs have trimmed staff and reduced investment in intensive silvicultural practices (e.g., herbicide treatments) (Hagler 2006). To varying degrees, the new owners depend on the continued existence of mills and other wood markets to realize the expected income or return on their investments. Many interviewees and Irland (2007) indicate that current timberland valuations implicitly assume a stable market for sawlogs and chips and a local market for pulpwood (Healey et al. 2005). The milling industry is rapidly changing in the Northern Forest, however, affected by the aging of the paper mills, the potential for wood-based energy production, currency exchange rates, the housing market downturn, movement of the furniture market overseas, and timber supply agreements (Polak et al. 2007).

Forest products in the Mahoosucs are primarily low-grade hardwoods (chips and pulpwood are 71% of the harvest). High-quality hardwood is in short supply and carries a significant premium, providing incentives for longer-rotation silviculture and timber stand improvements on high-value hardwood forests. Several TIMOs that own land in the Mahoosucs focus on naturally regenerating hardwood timberlands.

Compared with softwood forests, hardwood forests are typically thought to be at lower risk of development because of their soils, historical management, and NGO interest in associated conservation values. However, even hardwood investment strategies depend on pulp and low-value markets to sustain thinning and other improvements. Although the domestic pulp market has been in steep decline, the production of wood chip biomass and compressed wood pellets to cofire coal plants or for direct heating may have potential to bolster markets (Roberts 2007). Several investors have indicated interest in coinvesting in energy production facilities to ensure preferential market access. However, biomass may not provide a substantial incentive for forest management until prices increase.

Land values and development

Forestland in the Northern Forest is selling for two to eight times its timber value, ranging from $500 to more than $1,000 per acre (LeVert et al. 2008; Irland 2007). Prices are set by the potential for development, even at parcel sizes up to 6,000 acres. LeVert points out that using the Maine Revenue Service's estimate of net annual timber growth at $15 per acre, timberland owners paying today's prices would receive less than a 1%

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internal rate of return over 50 years. Land is selling at prices above the level at which sustainable forest management is cost-effective, suggesting that landowners are seeking returns in part from speculation (Vicary 2007), liquidation, conservation and land development.

Investors who chose not to monetize real estate values through either development or easement sales left the Northeast early this decade. Those who remain are thought to seek returns estimated at 30% from development. Integrating HBU development into the TIMO business model is a relatively new trend. In the past, investors evaluated purchase prices based on a discounted cash-flow analysis of timber-related cash streams and a low (~4.5%) discount rate based on risks associated with timberland. Any realized HBU income was in addition to projected returns.

Starting in 2000, as private developers began to bid up bare forestland prices and the number of investor groups at auctions increased, TIMOs could not win bids without incorporating development into the land valuation. They factored development values into their bids but continued to use the low discount rates associated with timberland management, artificially inflating prices. At the same time, investor interest in the asset was growing, creating competition among investors and driving down returns. Despite the declining returns, however, investors remained interested in timberland for three reasons: investment diversification, a low correlation with other asset classes, and inflation protection. According to a Merrill Lynch (2007) survey of institutional investors, only 11% of those surveyed cited high historical returns as a reason for investing. Essentially, accepting declining discount rates, even in the face of growing risk, has allowed TIMOs to more than quadruple the going price for unimproved forestland.

This may explain why waves of investors have bought and sold Northeast timberland: each has used more aggressive assumptions about risk and discount rates, thereby bidding up prices and lowering returns on the investments. Interviews suggest that timber investors now avoid the region unless they can partner with conservation organizations to capture development values, pursue a development strategy themselves, or buy timberland at a discount.

The rising land prices may prompt more large owners to monetize recreation values to protect potential development values as has occurred in the South. This general trend is not yet documented for TIMOs in the Northern Forest, but the number of small woodland landowners who posted against trespassing in Maine rose 266% from 1991 to 2005 (Acheson 2006).

Implications

Coming land transfers

We estimate that 40,000 to 150,000 acres, or up to 28% of the Mahoosuc region's forestland, will be sold in the coming five to 10 years. This estimate is based on the purchase dates and expected sale dates of commingled- and separate-account TIMOs, interviews, reviews of public and nonpublic data, and information from local sources. We make no predictions about the acres held in ownerships that are less than 1,000 acres. Extrapolating the findings across the Northern Forest suggests that between 2 million and 7 million acres may come up for sale. Many of these lands have cycled

Jerry Jenkins

The Connecticut Lakes easement completed by Trust for Public Land in 2002 protects 171,000 acres while allowing for active forest management by Lyme Timber, a TIMO operating out of Hanover, New Hampshire.

We estimate that 40,000 to 150,000 acres, or up to 28% of the Mahoosuc region's forestland, will be sold in the coming five to 10 years.

Likely disposition of major parcels (>1,000 acres) in Mahoosucs, by ownership type

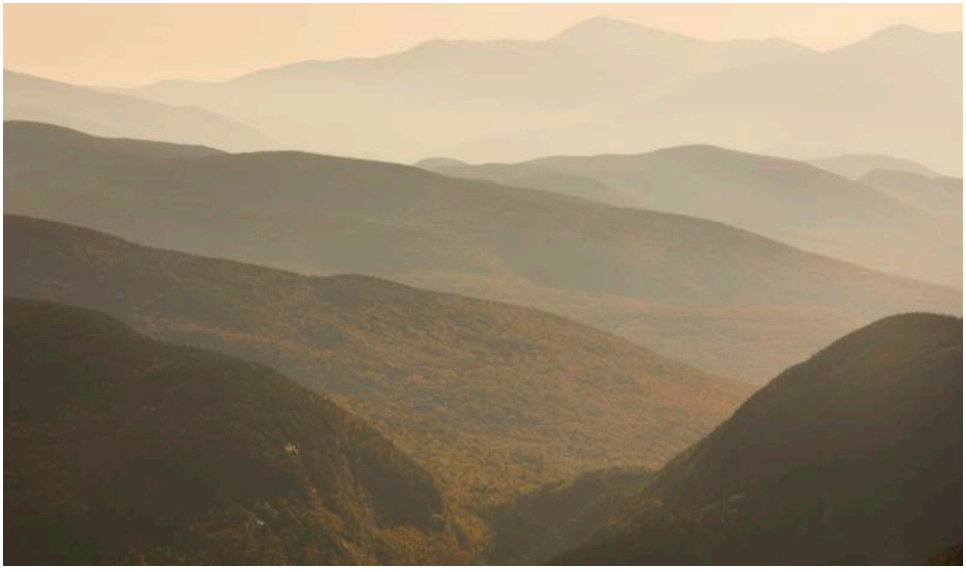
Ownership	Owners (n)	Total acres	Development risk	Likelihood of sale within 5 years	Public access	Fee or easement?
Separate-account TIMO	2	127,000	Medium	Medium	Unlikely	Either
Family	2	50,000	Low	Low	Yes	Easement
Commingled TIMO	3	34,000	Medium	High	Unlikely	Either
Developer	2	32,000	High	High	No	Fee
Logging contractor	1	26,000	Medium	Medium	Unlikely	Easement
T-REIT	1	21,000	Medium	Medium	Fee	Fee

through two to four ownerships in the past 20 years, with additional values being monetized during each subsequent ownership. The opportunities for new owners to extract additional values are limited and likely depend on the development of new markets, accelerated harvest of the standing timber, or development.

Easements and preexisting fiber supply agreements will limit future development of some forests. When industrial forest products firms sold their holdings, they often retained a guaranteed right to purchase timber and chips and, in certain cases, to repurchase the timberland. Although several million acres of timberland is thus encumbered across the Northern Forest (generally through 2025 or 2050), most agreements allow for the sale of 10% to 15% of lands. Interviews with local real estate companies indicate that this figure probably aligns with the medium-term HBU absorption capacity in the region, suggesting that fiber supply agreements may not restrict current owners but could affect subsequent owners' ability to capture HBU values.

Conservation strategies

The impacts of landownership changes can be mitigated through conservation easements



Jerry & Marcy Monkman ecophotography.com

Grafton Notch, Maine, was recently protected by the Trust for Public Land and received $2 million in Forest Legacy funding.

that prevent development and fragmentation, retain land in active timber management, and ensure access for recreation. However, different types of owners will respond differently to the concept of permanent conservation.

For example, a longtime owner may prefer tax write-offs for the donation of highly appreciated timberland, whereas TIMOs may want to be paid for an easement in the first year of the sale to avoid the impact of inflation on returns. Some investors may be open to bargain sales, and others may be prohibited from this option as a matter of fiduciary trust. Whether the owner is debt encumbered and whether the land is under a timber supply agreement will also affect the management-conservation-development equation.

All landowners are sensitive to tax liability, and creating tax incentives for retaining forestland could be very effective. Preferential rates for timber income could dampen development and encourage investment in sustainable forestry.

Another strategy is capitalizing on the importance of forestland in a changing climate by rewarding forest management for ecosystem services, biomass production, and carbon sequestration. Opportunities exist to broaden and deepen existing incentives in the Farm Bill and state and federal tax and pension systems. Each of these strategies requires additional consideration. TIMOs are already beginning to think about how to monetize ecosystem service values: in early 2008, the California Public Employees' Retirement System (CalPERS) adopted forestland investment policies that allow returns from carbon or other emerging markets.

Preferential rates for timber income could dampen development and encourage investment in sustainable forestry.

Specific strategies for different ownership types

Logging contractors. These owners' business model depends on harvesting, often at unsustainable rates, because they must at least pay for their equipment and keep their crews. Though easements have recently been negotiated with some in the region, many contractors are not interested in selling easements if that will restrict harvesting. They may be reluctant to forgo cutting opportunities, and they may resist public access because of the intensity and visibility of logging operations. Contractors tend not to be long-term managers and may want to sell the fee rights to the land once the timber has been removed.

One approach is to guarantee future work contracts in exchange for a cessation of logging prior to a sale. Another is to observe strict price discipline and not overpay for cutover lands.

Forest products industry. To the extent that companies remain in the Northern Forest, it is because timberland offers a stable wood supply and can serve as a hedge against increases in sawlog prices. Industry has traditionally allowed public access to enhance relations with local communities and maintain its social license to practice forestry.

Industry should prefer to donate or sell working forest easements (over sale of fee title) to monetize development value while maintaining a source of logs and fiber. Because of industry's tax liability, the conservation toolkit includes bargain sales, donations of easements, and installment sales that spread out large capital gains liability.

Developers. Conservation groups could partner with developers via a limited development model or explore opportunities to monetize conservation values that coincide with viewshed protection or ecotourism opportunities. Additionally, local planning boards can help shape the extent of new development.

Jerry Jenkins

Bog pond in black spruce-tamarack woods, West Branch easement, Maine.

T-REITs. In theory, REITs should be willing to pursue conservation solutions that give them cash to disburse to shareholders without limiting their sale options or future dividend potential. Recent negotiations in Maine with Plum Creek, the largest REIT in the United States, demonstrate that land-use planning regulations can have a significant effect on development outcomes (Czerwonka and Howell 2007).

TIMOs. As "pure" financial actors, TIMOs should be indifferent to the sale of fee title, easements, or ecosystem services as long it doesn't impede their ability to sell the land in the future. Some observers perceive a market inefficiency: encumbered property plus easement value is worth more than unencumbered property. If this is true, these entities may favor sale of easements as long as they retain the ability to subdivide and sell the land in units. Additionally, TIMOs generally prefer to sell easements early in their holding period as a way to generate immediate returns and minimize risk. Land trusts can expect to pay full market value for any conservation protections on these properties. NGOs are well advised to begin working with a TIMO before it implements exit strategies.

Future scenarios

Because public and NGO ownership has increased and large for-profit transfers have mostly concluded, we may see a pause before the next phase of sales as new owners gauge the value of recreational amenities, carbon, bioenergy, wind, and other emerging opportunities. Nevertheless, in the coming several years, land purchases are likely to be dominated by three groups.

TIMOs. Experts interviewed for this report believe that the TIMO model of forest ownership, which depends on escalating asset values, is inherently limited and will probably be phased out over the next three decades. We predict that in the next five years, TIMOs that emphasize energy development via biomass and biofuels will emerge, adding a new source of returns for investors. Woody biomass, for example, could provide alternative energy for power plants, combined heat and power, and institutional heating. Some experts expect that TIMOs may attempt to reaggregate lands and invest in biomass plants, a scenario that conjures a return to the days of vertically integrated

The TIMO model of forest ownership is inherently limited and will probably be phased out over the next three decades.

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Although TIMOs and T-REITs are investing less in silviculture research, some nonprofit groups have partnered with owners to conduct research on their properties. Here scientists from Manomet Center for Conservation Science demonstrate the effects of patch cuts on Plum Creek's property in Maine.

timberland owners. Given rising land prices and decreasing asset values, it seems likely that some future TIMOs will be unable to provide investors with positive returns. Such a scenario could lead to "fire sales" that involve liquidation of timber resources and inappropriate development.

High-net-worth individuals and investor partnerships. Increasing personal wealth, the relative safety of the investment class, and the falling dollar continue to drive demand for timberland by individuals and families, both U.S. and foreign—even in the context of a recession. Despite low forward returns, timberland offers tax and estate planning benefits to wealthy individuals, and it satisfies a desire for hard assets in an era of uncertain inflationary outlook and unstable geopolitics. Because people tend to follow the cue of sophisticated institutional investors, we expect many years of increased timberland investment by individuals and creative new financial tools that give the general public access to timberland investment. Skittishness about the current stock market might prompt increased or at least continued interest in diversification via timber investments. The popularity of the timber asset class may also lead to publicly traded TIMOs that tap into small capital investor interest.

Conservation organizations. After a burst of activity in the past two decades, there has been a marked attenuation of public and private funding for land acquisition by NGOs. The remaining forestlands are fragmented, and backwoods prices have tripled over the past 15 years, creating new challenges. In addition, both private land trusts and state agencies are stretched to provide necessary monitoring and stewardship of existing conservation lands.

Conservation groups need to deploy new financing tools, including low-cost debt, new market tax credits, and markets and incentives for ecosystem services and renewable fuels, while developing local, state, and federal sources of permanent acquisition capital. Forest certification is another important tool for ensuring sustainable management; however, no certification system assures continuity of management after the land is sold, and therefore certification offers limited value during times of high land turnover.

Many sources believe that conservation organizations may be partially to blame for escalating land prices. Conservation buyers will need to become increasingly sophisticated and proactive, especially as timberland increasingly shifts to a buyer's market. Opportunities exist to leverage transactions to raise forest management standards and increase involvement from local planning boards. Easements will continue to be an important tool for retaining the land in active forest management and extending conservation dollars.

Forest certification is another important tool for assuring sustainable management, but offer limited values during times of high land turnover.

Future issues

Several issues require further consideration as we prepare for upcoming land sales.

1. Although the Northern Forest is sparsely populated, it provides ecosystem services for the more concentrated populations to the south. With the disposition of huge swaths of the forest uncertain, how can we ensure that the region will continue to provide clean water, recreation areas, wildlife habitat, and clean air, plus renewable energy and climate change mitigation? What work is needed to quantify how much is at risk?

2. Landowner trends indicate a turnover of another 40,000 to 150,000 acres in the Mahoosuc region alone over the next five to 10 years. Despite local, state, and federal commitments to conservation, funding to conserve the region's forestland is inadequate.

What new tax policies, including revisions to current use and federal income tax laws, are needed to retain private investment in sustainable forest management? How can the Northern Forest attract the estimated billions of dollars that are becoming available for investing in carbon sequestration and climate change mitigation projects? What role can certification play in maintaining the land as forest as it transfers to new owners?

3. As elevated timberland prices meet the falling real estate market, landowners may increasingly seek scarce conservation dollars to achieve acceptable returns for investors. What would a buyer's market mean for conservation? How should public and private resources be deployed to maintain a forest base for economic, recreation, clean water, wildlife habitat, and other public values?

4. State agencies and land trusts need to stay informed and continue tracking ownership trends. What might be the effects of a forestland price bubble on the state's timber industry and future renewable energy targets? What will be the repercussions for local economies if landowners begin harvesting their lands aggressively or selling for development?

5. Landownership changes are affecting public access, land prices, jobs, and recreation access. What information about the trends do citizens need to make informed decisions about local land-use planning? What role might communities play in future ownership of forestland? Who will provide local governments and the general public with information about these issues?

Preparing for future landownership change requires calculating the true value of the Northern Forest for its economic, social, and ecological values and taking a new look at existing landowner incentives in the Farm Bill, state tax credits, and federal tax laws. Retaining our forests gives society the chance to explore options for climate change mitigation. Fee and easement purchases remain important strategies for stabilizing the future forestland base, but operating within the constraints of philanthropic and government funding will require a thorough understanding of timberland investors, their motivations, and the timing of future land sales.

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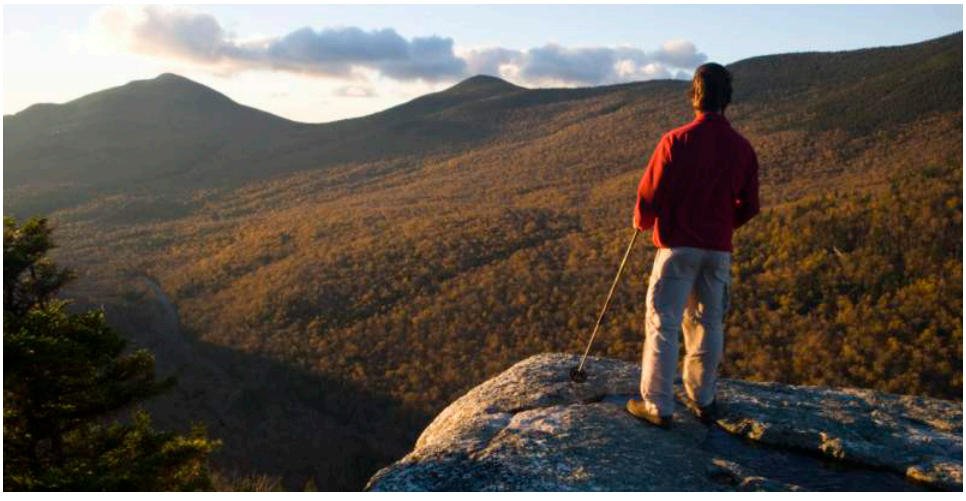

Jerry & Marcy Monkman ecophotography.com

The view of Grafton Notch, Maine with forest as far as the eye can see.

Sources

Acheson, J. 2006. Public access to privately owned land in Maine. *Maine Policy Review* 15(1): 18–30.

Binkley, C. 2007. The rise and fall of TIMOs. Research publication. Boston: International Forestry Investment Advisors.

Binkley, C., and J. Earhart. 2005. A global emerging markets forestry investment strategy. Washington, DC: Global Environment Fund and International Forestry Investment Advisors.

Block, N.E., and V.A. Sample. 2001. Industrial timberland divestitures and investments: opportunities and challenges in forestland conservation. Washington, DC: Pinchot Institute for Conservation.

Czerwonka, A., and P. Howell. 2007. Plum Creek financial model. Discussion Paper 2. New York: Open Space Institute and Industrial Economics, Incorporated. http://www.osiny.org/site/PageServer?pagename=Program_Institute_LandUse Projects_PlumCreek.

Evens, T. 2007. Is timberland a serious alternative? Perspectives from investors. In *Who will own the forest: Investing globally in forestland*. Proceedings of World Forestry Center conference, September 10–12, Portland, OR.

Federation of Hospital and University Employees. 2002. A question of stewardship: Yale and the environment. http://www.efc.be/ftp/public/PIPPIP/SummerAcademy2005/Presentations_and_materials/Article_Eva_and_Bengt.pdf.

Fernholz, K., J. Bowyer, and J. Howe. 2007. TIMOs and REITs: What, why and how they might impact sustainable forestry. Minneapolis: Dovetail Partners, Inc.

Flynn, B. 2007. China's timber supply and demand outlook. In *Who will own the forest: Investing globally in forestland*. Proceedings of World Forestry Center conference, September 10–12, Portland, OR.

Hagan, J.M., L.C. Irland, and A.A. Whitman. 2005. Changing timberland ownership in the northern forest and implications for biodiversity. Brunswick, ME: Manomet Center for Conservation Science.

Hagler, R. 2006. Why do pension funds invest in forests? Summary of presentation to New Zealand Institute of Forestry, April. Boston: Hancock Timber Resources Group.

Healey, T., T. Corriero, and R. Rozenov. 2005. Timberland as an institutional investment. *Journal of Alternative Investments*. Winter: 60–74.

Hickman, C. 2007. TIMOs and REITs. Unpublished report. http://www.timbertax.org/documents/TIMO_REIT_Paper_PDC.pdf. (14 January 2008).

Irland, L.C. 2004. Unpublished report to the Open Space Institute. New York.

Irland, L.C. 2007. Changing landownership in Maine's northern forest: Outlook, driving forces, and potential implications. Report prepared for Natural Resources Council of Maine.

LeVert, M., C. Colgan, C. Lawton. 2008. The unsustainable economics of a sustainable Maine forest. Prepared for Keeping Forests as Forests Study Group. Augusta: Maine State Planning Office.

Merrill Lynch. 2007. Timber survey: What will institutional investors do next? September 6. New York.

Polak, M., J. List, and K. Siegel. 2007. Mahoosuc region resources report. Bethel, ME: Mahoosuc Initiative. http://www.mahoosucinfo.org/reports.html.

Jerry Jenkins

Timberking cut-to-length machine thinning hemlock, Grand Lake Stream, Maine.

Ravenel, R., M. Tyrrell, and R. Mendelsohn. 2002. Institutional timberland investment: A summary of a forum exploring changing ownership patterns and the implications for conservation of environmental values. Yale Forest Forum. New Haven: Yale University.

Roberts, D. 2007. New markets for forests: Carbon, bio-energy and eco-services. In *Who will own the forest: Investing globally in forestland*. Proceedings of World Forestry Center conference, September 10–12, Portland, OR.

Vicary, B. 2007. Challenges with timberland appraisals. In *Who will own the forest: Investing globally in forestland*. Proceedings of World Forestry Center conference, September 10–12, Portland, OR.

Interviews

The following interviews were conducted in late 2007 and early 2008. These conversations inform much of the text; however, specific sources were not cited in the text to encourage individuals to be candid about specific owners and industry trends.

Andrews, Mark. Western Maine District Manager, American Forest Management. Telephone interview. 27 February 2008.

Binkley, Clark. Managing Director, International Forestry Investment Advisors. Telephone interview. 17 December 2007.

Casey, Paul. Manager, USF&W Lake Umbagog National Wildlife Refuge. Telephone interview. 9 January 2008.

Cashman, George. Land Specialist, Northern Acres. Telephone interview. 25 March 2008.

Collins, Chip. Co-Founder and Managing Director, The Forestland Group, LLC. Telephone interview. 17 December 2007.

Collins, Peter. Forestry Products Sales Manager, Southworth Milton, Inc. Telephone interview. 9 January 2008.

Dillon, Scott. President, T.R. Dillon Logging . Telephone interview. 15 February 2008.

Evans, Kevin. Dartmouth Forester. Telephone interview. 15 January 2008.

Feeney, Donald E. Former Chadbourne Forester. Telephone interview. 21 January 2008.

Ginn, Bill. Director, The Nature Conservancy's Global Forest Partnership. Telephone interview. 18 December 2007.

Grantham, Oliver. Board of Directors, New England Forestry Foundation. Personal interview. 14 March 2007.

Irland, Lloyd. Lecturer and Senior Research Scientist, Yale School of Forestry and Environmental Studies. Telephone interview. 15 February 2008.

Johnson, Pete. Seven Islands Land Company, Rangley Unit. Telephone interview. 15 January 2008.

Mahar, Eugene. Resource Supervisor, Plum Creek Timber Company. Telephone interview. 20 January 2008.

Rineer, Scott. Wagner Forest Management. Telephone interview. 13 February 2008.

Scarinza, John. Chairman, Randolph Town Forest Commission. Telephone interview. 5 January 2008.

Smith, Scott. Stone Mountain Mortgage. Telephone interview. 26 March 2008.

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Editor: Sally Atwater
Design: Jeffrey Jenkins
Cover Photos: (L to R) ***Connecticut Lakes,*** Jerry Jenkins; ***The West Branch of the Penobscot River***, Jerry Jenkins; ***For Sale by Owner***, OSI.

The Open Space Institute thanks the Bingham Betterment Fund for its generous support of this project. The authors thank the many interviewees who lent their time and insight, with special thanks to Clark Binkley, Lloyd Irland and others who reviewed early drafts of the report. Analysis and mapping by Cathy Poppenwimer of the Appalachian Mountain Club and Ann Ingerson of The Wilderness Society were invaluable.

Publications available from the Open Space Institute.

Other reports concerning the Northern Forest can be downloaded at www.osiny.org:

- *Conservation Easements and Biodiversity in the Northern Forest Region*
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