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**DISINTEGRATION OF THE INDUSTRIAL FOREST ESTATE  
AND THE FUTURE OF SMALL-SCALE FORESTRY IN THE UNITED STATES**

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**ABSTRACT** The past ten years have experienced profound changes in the structure of the corporate forestry sector in the history of industrial forestry. Corporate consolidation, separation of processing capacity ownership from timberland ownership, and disinvestment from timberland ownership altogether has occurred on a global scale and at a dizzying pace. Vertically-integrated forest products companies, once the standard corporate model in the forestry sector, have all but disappeared. A new class of timberland owners comprised of institutional investors has rapidly assumed domination of the timberland estate. These new owners can be viewed as the most recent manifestation of capital from the core seeking rent in the distant periphery. While in this respect they resemble their industrial forestry predecessors, they differ significantly with regard to landholding objectives, time horizons, management capacities, and other characteristics.

The massive disinvestment of forestland by industrial owners has changed the context for small-scale forestry, introducing new challenges and opportunities. Many timber processing mills have closed, restricting markets for smallholder wood. Some former industrial forestland remains in industrial-style timber management. Some has been subdivided for “Highest and Best Use”, i.e. residential and recreational development. Smallholders have acquired some forestland, and conservation buyers have acquired conservation easements and fee simple ownership on large blocks. Innovative forms of ownership, including community forests, have emerged in response to market opportunities. Further fragmentation of the industrial forest estate is anticipated, presenting both challenges and opportunities to the owners of small-scale forest ownerships and adjacent rural communities.

With data from comparative research in the U.S. Pacific Northwest and South, this paper details the dynamics of forest ownership restructuring, and posits alternative future scenarios for small-scale forestry. **KEYWORDS:** Forestland tenure, forest ownership, timber investment management organization (TIMO), nonindustrial private forest.

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## INTRODUCTION

*Ownership establishes the right to decide how a piece of land will be used and fixes responsibility for that use. The benefits arising from land ownership are closely related to the size and value of land holdings and to the type of ownership interest. Land not only produces income but serves as a store of wealth and power (Lewis 1980,).*

Over the past decade, the map of private forest ownership in the United States has been redrawn. Not only have ownership boundaries shifted across the landscape; not only have some ownership types expanded while others have contracted; but entirely new forms of ownership have emerged. Driven by intense competition in global forest products and timber markets, and a quest for tax-efficient ownership structures, vertically-integrated forest products companies have spun off their timberland holdings to Timber Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs).

Four factors compel our investigation of these dramatic changes. First, the profundity of the forestland tenure change experienced in the past decade is unprecedented in modern U.S. history. Never before have so many acres of forestland not only changed hands, but moved out of one ownership class and into an entirely new ownership class so rapidly. Second, this transformation occurs at a time when many rural communities are already in precarious positions, having lost timber-related jobs, endured shrinking populations, and struggled to maintain critical social services. Many communities are striving to make the transformation from commodity-based economies to emerging alternative economic structures (Stauber 2001). Third, these changes may also open up opportunities for rural communities to engage in new ways with the forests that surround them. Some high capacity communities with strong leadership and access to capital may emerge stronger than they were under the previous tenure arrangement. Finally, the forestland tenure revolution has occurred with such rapidity that it has yet to attract significant scholarly attention.

This paper describes early observations from a new research effort focused on understanding the implications of rapid forestland tenure change for rural America. We begin with a brief review of relevant literature. We then document the current state of ownership change as derived from the best available data. Finally, we describe three probable trajectories for the industrial forestry estate and consider implications of each for small-scale forestry and rural communities.

## PREVIOUS WORK

*Land Tenure.* The literature on land tenure is a rich source of insight into how changes in forestland ownership patterns might influence rural communities. Land and resource tenure has long been a foundation for scholarly research on rural development in developing countries (Bruce and Fortmann 1992). Tenure analysts and scholars have built compelling arguments for the centrality of tenure institutions to understanding social organization and relations (e.g. Bliss 1988a, Geisler 1993, Singer 2000, Ribot and Peluso 2003); described the complexity of land tenure arrangements in the United States (e.g. Geisler 2000, Stanfield et al. 2002); and challenged prevailing, simplistic assumptions about rights and responsibilities in the U.S. tenure system (Bromley 1998, Yandel 2000).

*Forestland Tenure.* Changing forestland tenure patterns have received considerable attention in recent years, with forest policy analysts focusing on parcelization and concomitant forest fragmentation and loss of working forests (e.g. Egan and Luloff 2000, Sampson and DeCoster 2000, Butler et al. 2004, Franklin and Johnson 2004).

Institutional investment in forestland has received attention from forest economists (Binkley et al., 1996, Clutter et al. 2005), conservationists (Block and Sample 2001), and in the popular press (Braxton Little 2005), but significant scholarly attention has yet to be paid to social consequences of the emergence of institutional ownership of industrial forestland.

*Natural Resource Dependency.* Relationships between communities and forests have drawn the attention of social scientists for more than half a century (e.g. Kaufman and Kaufman 1946). A large literature on forest and other natural resource dependency informs the proposed research (Bailey et al. 1996, Bliss and Bailey 2005, Bliss et al. 1998b, Joshi et al. 2000, Machlis and Force 1988, Schallau 1990, Freudenburg 1992, Freudenburg and Gramling 1994, RSS Task Force 1993).

#### WHO OWNS THE INDUSTRIAL FOREST NOW?

Although a definitive, comprehensive accounting of timberland change has yet to be published, drawing from corporate websites, grey literature, and the few available regional research publications, we find compelling evidence that the transformation of forest industry to institutional investor ownership of forestland is almost complete throughout the United States. Using a large number of news reports, trade journals, and corporate websites, we have been able to identify 65 cases where forest products industries have sold or otherwise divested themselves of forestland (Table 1). Not included in the table are transactions involving forestland outside the U.S. Complete information was not available on every transaction, particularly where companies that are not publicly traded were involved. Nonetheless, we were able to identify transactions covering 27.4 million acres (most captured in Table 1) during the period 2001-2007. The largest sale we found totaled 4.7 million acres sold by Georgia-Pacific Corporation to Plum Creek Timber Company, though International Paper sold the most land, totaling 9.7 million acres during this period. Also notable were sales totaling 4.6 million acres by Boise-Cascade.

We have sales price data on only 18.8 million acres (69 percent of total acreage sold). These partial data give a total of \$21 billion between 2001 and 2007. From these data we estimate the value of all industrial divestiture to be approximately \$30 billion. These data are incomplete and one obvious objective of our proposed research is to develop a more comprehensive inventory of transactions. Nonetheless, on the basis of our preliminary work, we believe that the transfer of over 27 million acres valued at approximately \$30 billion is a matter worth investigating further.

In the overwhelming number of cases, ownership has shifted from traditional vertically-integrated forest products companies to various types of institutional investor organizations such as Timber Investment and Management Organizations (TIMOS) (Wilent 2004, Clutter et al. 2005). In 1996, about 95% of the industrial forestland in the country was owned by traditional, vertically integrated forest products firms; by 2006, at least one-half of that acreage was estimated to be under TIMO or REIT ownership

(Campbell Group 2006). In 1990, only two or three TIMOs existed in the United States; by 2006 there were 24 TIMOs managing timberlands valued at \$15.7 billion (Braxton Little 2005).

In the Northeast over the past two decades almost 24 million of the region's 26 million acres of timberland changed hands (Hagan et al. 2005). In 1994, forest industry owned almost two-thirds of the large forest tracts; by 2005, financial investors owned one-third, and forest industry ownership had declined to 15.5% (ibid.).

Clutter et al. (2005) report that some 18.4 million acres of timberland in the South changed ownership from 1996 through 2004. Over 85% of the affected acres moved to more efficient tax structures, such as REIT ownership, and over 75% of the acres started with a traditional vertically-integrated forest products company (Clutter et al. 2005).

In the Pacific Northwest, the pattern is similar. As of this writing, although several privately-held, vertically-integrated companies continue to hold forestland in the region, only one publicly-traded, vertically-integrated forest products company, Weyerhaeuser, remains. In Oregon, at least 1.9 million acres are now held by institutional owners, one large REIT (Plum Creek) holds 372,000 acres, and Weyerhaeuser continues to own 1.1 million acres (Kelly, 2007).

### THREE DIVERGENT PATHS FOR THE INDUSTRIAL FORESTRY ESTATE

At the present we have many more questions than answers regarding the future disposition of the industrial forestry estate. Even as we present the imperfect, tentative available data on timberland ownership, rapid change continues unabated. The last standing, vertically-integrated, publically-traded industrial forestry giant, Weyerhaeuser has begun the process of transforming itself into a REIT. Any predictions about future ownership patterns and the implications of same for small-scale forestry and rural communities are necessarily highly speculative. While the consequences for rural America of this vast ownership change are many and varied, three trajectories appear to be common: intensive timber production forestry, "highest and best use" parcelization and conversion, and conservation forestry.

#### *Intensive Timber Production Forestry*

In the first alternative, highly productive forestlands have been kept in forest production, albeit often under a new, more "intensive" management regime. Anecdotal evidence from industry participants and observers suggests that, relative to prevailing practices under previous forest products industrial owners, shorter timber rotations, fewer non-commercial treatments (e.g. pre-commercial thinning), and less investment in management infrastructure (e.g. road and culvert maintenance) are now the norm (Kelly 2007). Some observers have noted a dramatic increase in harvesting activity on these lands as the new owners seek to reduce acquisition debt (Kelly 2007). On the other hand, at least one TIMO is positioning itself as a "green" company by seeking Forest Stewardship Council certification of its management practices, and courting conservation easements on some of its property (<http://www.forestcap.com/>, accessed 1/29/08).

Investment forestry differs from industrial forestry in several key ways, including the reason for owning timberland; supplying a mill is no longer a primary concern of the forest owner. Thus mill viability continues to be a concern for rural communities that are

still reeling from the mergers, takeovers, and acquisitions of the past decade. Will investor-owned lands stay in timber production, or will they be sold into more profitable uses? Will they continue to supply wood to local mills, or will they find other markets for the wood they produce? Mill closures affect small-scale forest owners directly, as they are less able than their corporate competitors to access distant markets.

The disaggregation of the timberland owner from the mill leads to a disaggregation from the community in which the mill is located. Interviews with mill managers confirm the impression that the new owners are less engaged with the communities in their wood-producing regions. Their corporate offices are at some remove, and their mission is distinct from that of the mill owners. They are less likely to make investments in community capacity or social capital. Complex ownership arrangements and frequent turnover have increased the degrees of separation between rural people and the corporate landowners that control much of the landscape.

Moreover, the staffing levels of these new owners are far thinner than those of their industrial forestry predecessors. Many fewer field forestry professionals are employed per acre owned, reducing the level of attention that company lands receive. It also means fewer forestry professionals are available to interact with neighboring forest owners, participate in forestry associations, or contribute to local stewardship initiatives such as watershed councils. In short, accompanying the reduction in field staffing is a reduction in human and social capital available to rural communities.

#### *“Highest and Best Use” Parcelization and Conversion*

In the second alternative, properties designated “Highest and Best Use” (HBU) have been slated for sale or development as recreational or residential real estate. Researchers with the USDA Forest Service have raised alarms that urban sprawl represents a threat to the U.S. South’s forest resource base (Prestemon and Abt 2002). In rapidly growing parts of the West, private wilderness retreats in Montana and Idaho (Johnson 2007) are prominent examples of this path. There, Plum Creek, Potlach, and other REITs and TIMOs have aggressively marketed marginal timber-growing lands as lakeside, mountain view, and recreational properties. As much as 20 percent of these companies’ landholdings are being thus marketed, according to industry insiders (authors’ personal communication).

The long-term impact of such parcelization and conversion varies with location, development density, and state and local zoning laws. Fragmentation of the working forest will directly affect timber management and harvest viability, as new residents are unlikely to be comfortable with intensive forest management next door to their newly-acquired wilderness estates. This will likely put downward pressure on log supply, thereby affecting mill viability. Land parcelization will likely lead to forest fragmentation, thereby influencing wildlife habitat and migration patterns. Federal forest managers are very concerned about the increasing risks of wildfire ignition, the added complications and costs of fire suppression.

The proliferation of second (or third, or fourth) homes in the working forest landscapes of the West is also altering the region’s traditionally rural demography. “Equity migrants,” that is, individuals who purchase properties in rural communities using profits from selling urban real estate, are not a new phenomenon, but their numbers and influence are growing. They bring to rural America expectations, demands, and political views that are

often at odds with those of longtime rural residents. This clash of backgrounds and perspectives is a source of potential conflict. On the other hand, these owners are often well-educated, successful professionals with rich lifetime experiences. They can be seen as sources of human and financial capital potentially available for community development.

An alternative way of framing the land parcelization and forest fragmentation phenomenon is that it represents a democratization of the landscape. In this view, as the former industrial forestry estate is broken up into smaller ownerships, the hegemony of industrial forestry is broken, leading to new opportunities for a more diversified ownership pattern. Theoretically, small-scale owners including families, local entrepreneurs, and community organizations could benefit. If, as some analysts predict, REIT and TIMO core ownerships continue to shrink as they sell off parcels to more profitable uses, the landscape democratization view may become increasingly plausible.

However forest tenure dynamics are framed, forest ownership change and demographic change appear to be linked in such a way as to influence rural community dynamics significantly in the years to come.

### *Conservation Ownerships*

The third trajectory encompasses lands with exceptional ecological value and for which conservation buyers can be found. These may be thought of as “highest and best use” sales in which land trusts, conservation organizations, local communities and other conservation-oriented entities are the buyers.

In 2006, The Nature Conservancy conducted possibly the largest private land conservation purchase in U.S. history, involving some 700,000 acres of former International Paper and Plum Creek Timber Company land in 10 southern states, Maine, and Wisconsin (Woodard 2006).

In Oregon, Fidelity National Financial, a financial services company, is in negotiations with the Deschutes Basin Land Trust on a project that would carve a community forest from lands formerly owned by Crown Pacific, a forest products company (Deschutes Land Trust 2008). If successful, Fidelity National would create a new residential community on some 5,000 acres, and deed the remaining 27,000 acres to a newly-created entity, the Deschutes County Community Forestry Authority. The “Skyline Forest” is envisioned as a working forest in which ecological restoration, recreational access, and protection of the viewshed for the community of Bend are primary goals. This arrangement could provide a model of balanced development and conservation with relevance elsewhere in the West.

The emergence of conservation ownerships presents a mixture of challenges and opportunities. Some of the lands available for conservation purchasers, are in need of significant investments in restoration. The proposed Skyline Forest, for example, was heavily harvested as its former owners sought to avoid bankruptcy. Elevated protections and investments in restoration may indeed be warranted for such lands. It remains to be seen where funding for costly restoration activities will be found.

To the extent that conservation ownerships remove timber from local markets, they may be seen as having negative impacts on adjacent communities. This may be particularly

true where the new owners are distant. On the other hand, the breaking up of the industrial forestry estate has created many opportunities for communities to purchase and manage their own community forests.

## CONCLUSION

The rapid disintegration of the industrial forestry estate has generated an atmosphere of both anxiety and cautious optimism in rural America. Many rural communities and forest owners feel buffeted by external forces beyond their control. Others are poised to take advantage of changing circumstances. Our research goals for the coming years focus on documenting and understanding the changes underway, and identifying innovative coping strategies for forest owners and rural communities.

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**Table 1: Estimated U.S. Timberland Sales Grouped by Seller; 2002-2007 (Sales over 100,000 acres)**

<b>Seller</b>	<b>Buyers</b>	<b>States</b>	<b>Acres</b>
Boise Cascade	Hancock; Madison Dearborn Partners; Forest Capital Partners	Louisiana, Washington, Oregon, Idaho, Alabama, Minnesota	4,579,000
Bowater Inc.	State of Tennessee; Hancock	Tennessee, South Carolina, North Carolina	131,200
Campbell Group	Sierra Pacific Industries	Washington, Oregon	183,000
Corrigan Timberlands	RMK Timberland Group	Texas	115,000
Domtar	Chateaugay; Nature Conservancy	New York	104,400
Escanaba Timber LLC	Plum Creek Timber Company, Inc.	Michigan	650,000
Finch Paper Holdings LLC	The Nature Conservancy	New York	161,000
Georgia-Pacific	Plum Creek	Various	4,700,000
GMO Renewable Resources	Rayonier	New York, Texas, Oklahoma, Arkansas, Alabama, Louisiana	174,000
Great Eastern Timber Co.	Plum Creek; Rayonier	Arkansas, New Hampshire, South Carolina, Alabama	222,000
Harvard Management Co.	Hancock	Texas, Pennsylvania, New York, Washington	915,000
International Paper	Hancock; Nature Conservancy; Resource Mgt. Service; 6 others	Alabama, Michigan, Texas, Louisiana, Arkansas, New York, Maine, New Hampshire, Georgia, Virginia, South Carolina	9,706,530
MeadWestvaco Corporation	Penn Virginia; Wells Timberland; Forestland Group; Wagner Forest Mgt.	Alabama, Georgia, Ohio, West Virginia, Maine, New Hampshire	1,030,000
Menasha Forest Products	The Campbell Group	Washington, Oregon	135,500
State Teachers Retirement System of Ohio	The Campbell Group, Inc.	Oregon, Washington, California, Alabama, Arkansas, Florida, Mississippi, Tennessee	430,000
Stora Enso	Plum Creek Timber	Michigan, Wisconsin	309,000
TC & I Timber Co.	Molpus Woodlands	Alabama	165,000
Temple-Inland Inc.	The Campbell Group, Inc. affiliate	Texas, Louisiana, Georgia, Alabama	1,550,000
Trust for Public Land	Connecticut Lakes Timber Co.	New Hampshire	146,400
Western Pacific Timber, LLC	Potlatch Co.	Idaho	179,900
Weyerhaeuser	Hancock	Washington	324,000
<b>Total</b>			<b>25,910,930</b>

Sources: Corporate websites, news releases, and trade journals