Winter 2007 · Vol. 16, No. 2· $14

MAINE POLICY REVIEW

A Joint Publication of the Margaret Chase Smith Policy Center and the Margaret Chase Smith Library

MAINE POLICY REVIEW

Maine Policy Review (ISSN 1064-2587) publishes independent analyses of public policy issues revelant to Maine.

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Volume Sixteen of *Maine Policy Review* is funded, in part, by the supporters listed above. Contributions to *Maine Policy Review* can be directed to the Margaret Chase Smith Foundation, 10 Free Street, P.O. Box 4510, Portland, ME 04112. Information regarding corporate, foundation, or individual support is available by contacting the Foundation.

FORUMS

MAINE'S FORESTS AND FORESTLAND

CONSERVATION

LAND USE REGULATION COMMISSION

Plum Creek's proposed Moosehead Lake Concept Plan has brought Maine's Land Use Regulation Commission (LURC) into the spotlight. Jerry Bley presents the history of this unique agency, the lands under its jurisdiction, how it has managed development, and what may lie ahead. In his commentary, Mark W. Anderson notes the need to recognize the strengths and limits inherent in what LURC does, while Mark Lapping's commentary outlines his view that LURC's mandate ought to be altered and enlarged.

COMMENTARIES

TOURISM

Can Maine's North Woods be a "world-class" tourist destination? The short answer is "not yet," according to David Vail in his article and Roger Milliken and Ann Czerwonka in their commentaries. The current mix of natural, cultural, and hospitality assets is not sufficiently unique, outstanding, or networked to draw large numbers of new visitors. Vail, Milliken, and the participants in Czerwonka's roundtable discussion offer some specific suggestions and examples of how Maine could develop world-class tourism for the North Woods.

COMMENTARY

Dear Readers,

Over one year ago, in response to the initial concept plan put forward by Plum Creek, we entered into a partnership with the New York-based Open Space Institute to develop this issue. Our mutual goal has been to elevate the increasingly polarized debate over whether LURC should approve or turn down Plum Creek's application. We wanted instead to weigh in on a set of longer-term, larger issues at play in the region.

We asked questions such as, what types of conservation and rural development models strike an optimal balance between ecological protection and community and economic opportunities for the region's residents? What has the last 20 years of conservation in Maine accomplished? Does Maine have the planning tools it needs to manage conservation and development in a region facing unprecedented transitions in ownership, investment, and uses? How do we establish world-class tourism experiences and markets? And, to what degree will tourism in the Northern Forest be shaped by eco-resort development?

We responded to these types of questions by asking experts from within and outside Maine to contribute on a broad range of topics spelled out in the table of contents. Our hope is that you—our readers—not only will take the time to read these articles for personal insight, but also that groups of people and organizations will use these articles as a basis for building constructive dialogue about the future of the region. The importance of the Northern Forest as a place of wilderness and wild habitat, as a source of livelihood and rural lifestyles, and as an area of unparalleled beauty demands nothing less than thoughtful, consensus-derived responses to the pressures and changes facing the people, communities, and lands of this region today.

On a personal note, I would like to express our deepest gratitude to Peter Howell and his team at the Open Space Institute. Through the process of conceptualization, research, pulling together experts and a stellar group of contributors, and finally, in production we have enjoyed a wonderful, collaborative partnership, the results of which we hope are evident to you. Finally, as editor for close to 12 years, this is also my goodbye. I am moving on to new challenges and a new position in the private sector. I leave the journal in the very able hands of its editorial board and my colleague, Ann Acheson, who for the last five years has served as managing editor. Their commitment to bringing to you in-depth, timely analysis of key issues affecting the region remains strong and unchanged—a tiny marker of stability amidst unprecedented changes afoot in Maine.

Best,

My Creed . . .

is that public service must be more than doing a job efficiently and honestly. It must be a complete dedication to the people and to the nation with full recognition that every human being is entitled to courtesy and consideration, that constructive criticism is not only to be expected but sought, that smears are not only to be expected but fought, that honor is to be earned but not bought.

Margaret Chase Smith

The Maine Woods: *A Legacy of Controversy*

by Richard W. Judd

In 1963 wilderness advocate William O. Douglas described the 10-million acre Maine North Woods as eastern America's "last natural frontier," a land of pristine beauty worthy of the nation's best efforts at preservation. Others portrayed it as an almost inexhaustible source of wood and fiber and a backbone for the northern Maine economy. These contrasts reflect some of the difficult choices ahead for those who use and love the woods. "Maine natives," journalist Richard Saltonstall once said, "have taken their rural backyard… pretty much for granted, enjoying it any old time without necessarily looking at it as something special" (Saltonstall 1974: 255). Yet like rural backyards everywhere, Maine's North Woods is changing. A brief history of this region puts these changes and choices in perspective.

The Northern Forest cascades off a discontinuous range of mountains running northeastward along the western boundary to the shores of the Gaspé. This forest has always been dynamic; its 50 or so tree species have been in the area only about 10,000 years and are still in the process of settling into balance with regional climate and soils. Euro-Americans, of course, accelerated these changes. By 1850 every river system in Maine had been logged, and since then, the second- and third-growth forest has responded to a dizzying array of pressures: agricultural expansion and contraction, a succession of wood markets, new technologies, and changing recreational and ecological sensibilities.

Land tenure has been no less dynamic. Maine bought the Massachusetts share of the state's unincorporated townships in 1853 and quickly conveyed these public lands to lumber operators and land speculators over the succeeding 20 years. Since then huge chunks of North Woods real estate have been sold and re-sold in national and global markets. None of this is unique, but here globalism confronts a New England town-meeting culture and a way of life that depends to a large degree on the illusion of isolation, making suspicion of outside ownership a familiar theme in Maine politics. Today's large landowners, no matter what their goals, encounter this residue of suspicion, and the claim to this "lost" land as a public resource remains a core ingredient in Maine political consciousness.

For all its complexity, the Maine North Woods is inseparable from the Maine way of life: it has been and remains a cultural and recreational commons. But deciding what we want from the Maine North Woods is complicated by the fact that it stands on the border of the most heavily urbanized region in North America, and our thinking about it has been shaped by a century of urban wilderness fantasies. Here at the interface of two vastly different value systems—rural and urban—forest management is practiced under the concerned eye of millions of

city dwellers, making this a land of wildly conflicting expectations.

Public interest in the Maine Woods developed slowly over the 19th century. Given the vastness of the woods and the remoteness of lumbering districts, Maine people initially left the timber industry mostly to its own devices. (Even as late as 1924, West-Coast forester Carl Stevens was amazed to find a seemingly wilderness region, alive with loggers: "one travels entirely by water," he wrote. "The whole country is a network of lakes and streams [providing] cheap transportation for the natural products of the region" [Stevens 1924: 49].) Logging generated little public concern through the first half of the 19th century. This changed with the arrival of the paper industry and the portable sawmill in the 1880s. Rapid expansion, mechanization, and intensive cutting triggered a strong sense of unease, particularly among farmers on the borders of the lumber districts who grew concerned about the fate of the small woodworking mills that undergirded the local economy. Having worked the land for generations, farmers appreciated the way trees were woven into the fabric of their society. Forests moderated the climate and stabilized the stream flow, ensuring a steady supply of water for their gristmills and sawmills. They shielded the meadows from floods and the fields from desiccating winds. Tree roots penetrated the earth, absorbed mineral and organic matter, and passed these nutrients on through sequences of growth and decay to pastures and fields. In the mosaic of farm and forest, farmers saw something moral and balanced and indeed beautiful, and they resented the scars spreading across their familiar landscape. Countless petitions, editorials, and proclamations show how closely they identified forests with the rectitude of rural life. Out of their work with the land, rural Mainers composed a conservation ethic for the Maine woods.

By the turn of the 20th century, others found reasons to lay claim to the North Woods as commons, in spite of the fact that the vast majority of the land continued to be privately owned. Local fish and game organizations defined it as habitat for publicly owned game and fish; resort owners viewed it as a foundation for the tourist landscape; textile mill owners required forested watersheds to stabilize the streams that powered their turbines; and women's clubs saw proper forestry as a way of ensuring Maine's future. These various claims to the Maine woods as commons blended into a call for state forest purchases and a state-imposed minimum cutting diameter.

Landowners countered with a proposal for publicly funded forest-fire prevention, and in 1909 the legislature compromised by levying a special surtax on forestland owners to fund the Maine Forestry District, devoted exclusively to forest-fire protection. In return, landowners promised continued recreational access to their forests, a concession that underwrote an elaborate system of sporting camps, guide services, and hotels. In his 1913 inaugural address Governor William T. Haines, himself a lumberman, capped the long debate over public control by proclaiming it "much better to leave all our wild lands as they are today, in the hands of private owners, with the right reserved…to everybody to go upon them for hunting and fishing, recreation and pleasure, which makes of them a great natural park, in which all of the people have great benefits and great interests" (Haines 1913: 24). As Haines suggested, the line between private and commons remained blurred.

How much of this old conservation legacy remains is difficult to say, but it does suggest some important considerations as we ponder the future of the Maine's North Woods. Today, as forest industry capital becomes increasingly liquid, a new threat has emerged in the form of precipitous corporate turnovers, liquidation forestry, subdivision, resort and second-home development, land postings, and clearcutting. A growing sense of crisis has re-opened the debate over public rights, while opinions on preservation and management have become increasingly polarized. Here we might turn to the lost history of conservation in Maine for guidance.

First, this history highlights the degree to which Maine people have always considered the North Woods a public resource, not only for recreation but for a variety of benefits we would consider today both ecological and aesthetic. The health of the forest is a concern to all: this valuable lesson emerges from the early conservation movement and must be part of the ongoing debate over the Maine Woods. Second, this history highlights the diversity of conservation thought in Maine. Too often we view conservation in monolithic terms, as a means of protecting a static and delicately balanced natural world from any human activity that might change it. We divide the debate into those who protect nature and those who exploit it. Turn-of-the-century farmers were no less the conservationists, but they saw nature in different terms: as a dynamic and unfinished world made perfect by human effort. They embraced change—often radical change—but they considered their husbandry and their forestry a part of the balance of nature. "I don't believe Mother Earth, if properly treated, will ever refuse to remunerate the husbandman for his labor," a Maine farmer said. But he noted, after a year of unusual drought, that "Nature sometimes forces her lessons with great severity, compelling man to endure hard penalties for his improvidence." This cautionary note was the kernel of rural conservation. The conservation community must make room for those who gained their sense of stewardship by working the

land. This stewardship has many voices—recreational, scientific, spiritual, practical—and past conservation efforts succeeded to the degree that they blended them into a unified theme, the Allagash Wilderness Waterway being one such compromise.

The future of the Maine North Woods depends on acknowledging the commons and the many claims upon it, on recognizing the priceless ecological heritage that so impressed Douglas as well as the legacy of change that makes these woods such a fascinating historical artifact. Thoreau venerated the woods not only because its wildness overwhelmed him, but because it revealed a tradition of Homeric confrontation with nature. Maine writer Elizabeth Coatsworth made the point several decades ago: "to most of us a wilderness is not very interesting. Human life must have been lived in a place, and have developed its…special pattern…. There must be some dignity of the [human] spirit to make earth and forest and river alive to us and part of us" (Coatsworth 1947: 212–213). What Maine needed, she implied, was a middle ground, a place made natural by people "living a certain way of life."

Coatsworth's sense of place incorporates the best of Maine conservation thought: preserving a wild forest haunted by the memory of Indians, voyageurs, trappers, loggers, and others who worked the woods and whose accomplishments are still part of the North Woods tradition. Such a forest would evoke images of ecological purity, but also give us moral lessons about human stamina, simplicity, and living in tune with nature. This powerful unifying theme combines the various claims on the commons, and this unity gives Maine agency in determining the future of our precious resource.

Recognizing divergent approaches will not end the debate over conservation, but perhaps the long tradition of public scrapping about the meaning of the Maine Woods is itself healthy. It suggests that the definition of nature has not become static and offers hope that the search for consensus will prevail in an acceptable balance of traditional wood use, tourist development, new value-added products, wilderness management, and conservation. This well-trammeled forest will meet these complex demands, as it has for 200 years, in good part because it resonates so deeply in the hearts of all Maine citizens.

Richard W. Judd is professor of history at the University of Maine, where he has been on the faculty since 1984 and has been the editor of Maine History. From 1981 to 1984 he edited the Journal of Forest History. His books include Natural States: The Environmental Imagination in Maine, Oregon, and the Nation; Common Lands, Common People: The Origins of Conservation in Northern New England; Maine: The Pine Tree State from Prehistory to the Present; and Aroostook: A Century of Logging in Northern Maine.

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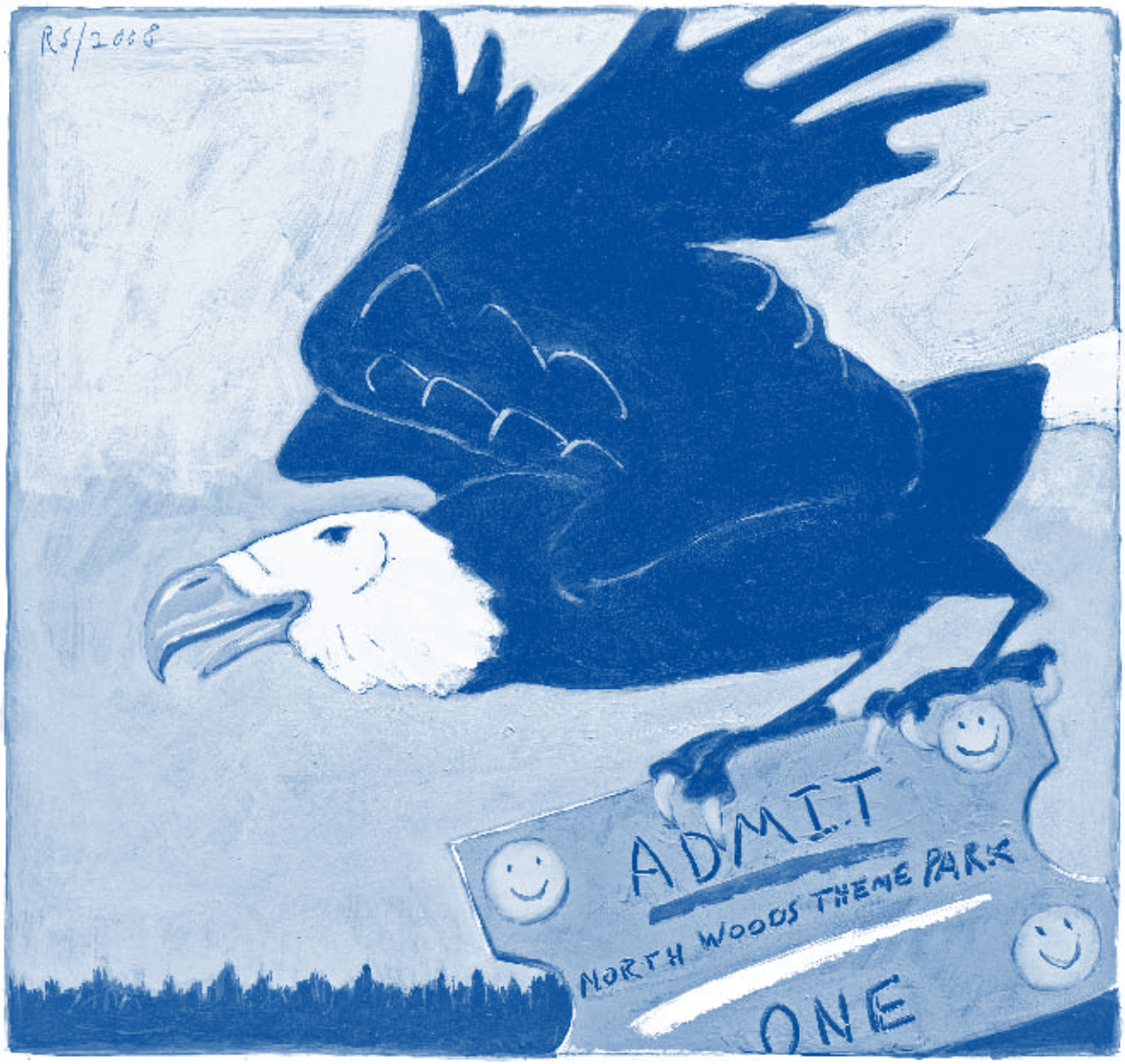
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Forging a Common Vision for Maine's North Woods

by Robert J. Lilieholm

Robert Lilieholm takes stock of the challenges and opportunities facing Maine's North Woods, the largest undeveloped forested block in the eastern United States. In the face of changing ownership patterns and development pressures, there is lively debate over current land use policies and trends. Lilieholm suggests that a broader, regional vision for the North Woods might better serve the long-term interests of both the area's forests and its struggling communities.

INTRODUCTION

For centuries, Maine's vast forestlands have served as an economic and cultural mainstay for the region. Over time, the people and landscapes have changed, but the forests' central role has endured (Irland 1999). Today, Maine's woodlands are experiencing change on a scale and pace rarely before seen. From massive land sales up north, to rising development pressures in the south and along the coast, the future of Maine's forests as a working landscape open to recreationists and yielding a host of environmental services is increasingly uncertain.

Maine's North Woods represent the largest undeveloped forest block remaining in the eastern United States. And while these forests will likely endure, growing uncertainty over changing ownership and development has fueled a lively debate over whether current land use policies and trends are sufficient to sustain the forests and communities of the region. In this paper I describe the challenges and opportunities facing northern Maine, and offer some insights—as a recent resident of the state—on possible ways forward. My intent is not to offer an "answer," for no single solution exists. Instead, I seek to take stock of where we are and where we seem to be headed, and describe how a broader, regional vision for the North Woods might better serve the long-term interests of the region's forests and communities.

MAINE'S FOREST-BASED ECONOMY

Nearly 90 percent of Maine is forested, and more than 95 percent of that, roughly 17 million acres, is classified as productive timberland, both the highest percentage for any state in the nation (NEFA 2007). In addition, more than 95 percent of Maine's timberland is privately owned, also the highest for any state.[1] The communities of northern Maine have long relied upon these forests to support the region's twin economic pillars: the forest products industry and the forest-based recreation and tourism sector. These two sectors contribute more than $11.5 billion each year to Maine's economy and support more than 50,000 jobs. Many of these jobs in the forest products sector pay twice the state's average wage and are located in rural areas with limited economic opportunity (NEFA 2007). In addition to these direct and indirect economic impacts, Maine's forests provide a wide range of unpriced yet increasingly valued environmental services such as soil and slope protection, clean air and water, flood control, wildlife habitat, biodiversity, carbon storage, scenic beauty, and open space for residents and visitors alike (Fausold and Lilieholm 1999).

From massive land sales up north, to rising development pressures in the south and along the coast, the future of Maine's forests as a working landscape open to recreationists and yielding a host of environmentalservices is increasingly uncertain.

Maine's forest products industry is comprised of thousands of firms and individuals engaged in the growing, harvesting, transport, and processing of a variety of forest products. These range from pulp and paper, to hardwood and softwood boards and various panel products. Also important are specialty wood products like dowels and tool handles, wood composites, Christmas trees, firewood, and maple syrup. And while Maine's forest products sector has experienced job losses from increased capitalization, it continues to provide about one-third of the state's manufacturing jobs, payroll, value added, and value of shipment receipts (NEFA 2007).[2] In fact, Maine ranks first in timber harvests and forest products output in the northeastern United States and second in the nation in paper production (Innovative Natural Resource Solutions 2005). Moreover, harvests are stable at or near long-term sustainable levels, while softwood and hardwood lumber production have increased 250 percent and 400 percent, respectively, since 1975 (Innovative Natural Resource Solutions 2005).

The state's recreation and tourism sector is comprised of businesses engaged in a broad array of recreational activities including hunting, fishing, and recreational camps; guiding and outfitting services; support industries for skiing and snowmobiling interests;

and various outdoor-oriented educational programs. Also dependent upon the state's forests and other natural amenities are a host of dining, lodging, and transportation providers that serve the needs of the estimated 44 million people who take day and overnight trips in Maine each year (Longwoods International 2005).

If from a historic perspective northern Maine's forests have turned an ecological corner, the fate of the region's communities is less certain.

PRESSURES FOR CHANGE IN THE MAINE WOODS

The economic health of Maine's forest-based economy, as well as the region's rural communities, is largely dependent upon access to the region's vast forestlands. This access is increasingly uncertain. Indeed, for much of the last century, huge expanses of Maine's North Woods were controlled by a handful of large, vertically integrated forest products companies as a means to ensure timber for their mills. These lands were typically open to public use, and over the years thousands of private camps were built on leased lands along the region's remote lakes and waterways.

This long-standing pattern began to unravel in the 1980s and 1990s due to changing tax and investment laws, globalization, intense competition within the forest products sector, and increased demands for residential and resort development (Lilieholm 1990). By 2000, the magnitude and pace of change had caught many by surprise. Indeed, in 1994, forest industry firms owned about 60 percent of the state's large tracts of timberland, while financial investors owned just three percent. By 2005, financial investors controlled approximately one-third of these lands, while industry control fell to just 15 percent (Hagan et al. 2005).

These new owners were a diverse mixture of financial and environmental interests, and a host of new terms entered the state's lexicon, from REITs (real estate investment trusts), TIMOs (timber investment management organizations), and MIMOs (mill investment and management organizations), to conservation-minded NGOs (non-governmental organizations) such as The Nature Conservancy, Maine Audubon, the Forest Society of Maine, and others.

Meanwhile, as northern Maine's forests experienced a frenzy of land sales, changing ownership, and parcel fragmentation, southern parts of the state saw the conversion of farms and forests to suburban and commercial development at unprecedented rates. According to a 2006 report by the Brookings Institution entitled *Charting Maine's Future: An Action Plan for Promoting Sustainable Prosperity and Quality Places*, between 1980 and 2000 Maine saw development alter the rural character of more than 850,000 acres, an area the size of Rhode Island. Nearly three-quarters of these lands were converted during the 1990s. Only the state of Virginia exceeded this statewide percentage loss in developable rural land. Moreover, this loss was the result of just 65,000 new residential dwellings making Maine's conversion rate of 10 acres per new housing unit the third highest behind Vermont and West Virginia (Brookings Institution 2006). Maine's newfound growth is largely driven by in-migration from nearby states. In fact, Maine's post-2000 in-migration rate of 6.3 residents per 1,000 ranks fifth behind Nevada, Arizona, Florida, and Idaho. And while Maine's population virtually stopped growing in the 1990s, since 2000 its annualized growth rate has grown to 0.72 percent, a rate that exceeds all New England states except New Hampshire (Brookings Institution 2006).

A growing number of studies suggest that these trends will continue. For example, a recent USDA Forest Service report entitled *Forests on the Edge* (Stein et al. 2005) placed three Maine watersheds, the Lower Penobscot, Lower Androscoggin, and the Lower Kennebec, within the top 15 of more than 1,000 watersheds nationwide based on the number of acres of private forestland that are expected to experience increased residential housing densities by 2030. In fact, Maine had by far the greatest forest area at risk to development within these top 15 watersheds, with the Lower Penobscot ranked first in the nation.

While development pressures are not new or unique to Maine, the potential for future growth is particularly strong given the state's predominance of private land, relatively low land prices, abundant scenic and cultural amenities, and proximity to major population and transportation centers. Even in remote areas, forestland values have risen to prices above that which can be solely attributed to long-term forest management (LeVert et al. this issue). And much of the lands leaving forest industry control are located mid-state near population centers and transport infrastructure (see maps, Hagan et al. 2005: 11), in short, lands rich with development potential.

Over time, these development pressures have the potential to adversely affect the state's forest-based economy (Alig et al. 2004) through

- increased parcelization of ownership;
- increased residential development and the fragmentation of forests, farms, and other open spaces;
- heightened concerns and regulation over timber harvests and recreational use;
- reductions in the land area available for timber harvests and recreation;
- decreased landowner investment in forest management;
- increased taxes as municipal budgets and demands for services rise;
- increased traffic and congestion that may affect timber hauling costs.

Rapid and haphazard development also has the potential to threaten Maine's unique quality of place—the combination of economic, environmental, and socio-cultural assets that are increasingly important to the state's economy and constitute the "Maine brand" that attracts both visitors and new residents to the state (Governor's Council on Maine's Quality of Place 2007). Protecting Maine's brand and its ability to attract new residents is especially important given the state's aging demographics and the continued out-migration of younger residents.

A HISTORIC PERSPECTIVE OF MAINE'S NORTH WOODS

In assessing the changes facing the forests and people of northern Maine, it is useful to first step back and consider the region from a historic perspective. Such a view would reveal that these landscapes, along with the communities that they support, are more resilient and dynamic than many suspect. One need only compare the region's current natural beauty with its rapacious past. Indeed, Bangor's rise as the "Lumber Capital of the World" in the mid-1800s was fueled by some of the most aggressive logging in history—at a time of little if any environmental restraint (Wilson 2005). The subsequent rise of the region's pulp and paper industry fouled both air and water in ways unimaginable today, as did the massive clearing of forests for agriculture a century earlier in more southern reaches of the state. This historic perspective tells us that what we see today is simply a snapshot in time of an ever-changing natural and cultural landscape.

Indeed, while some question the sustainability of today's commercial forest practices, Maine's forests have fallen to the axe perhaps a dozen times—and never with the level of regulatory oversight, protection, and professional forest management we see today. In fact, Maine's forest area has increased more than 60 percent since the late 1800s, while timber volumes have nearly doubled since the 1950s (McWilliams et al. 2005). With millions of acres under various forms of protected status and more than seven million acres of working forest under independent third-party environmental certification—the highest amount and percentage of any state (Maine Forest Service 2005)—in some respects the region's ecological future has never been more secure.

If from a historic perspective northern Maine's forests have turned an ecological corner, the fate of the region's communities is less certain. For the timber economy, growing competition has led to job losses despite stable harvest and production levels as firms invest in more efficient, less labor-intensive technologies. To some extent, these losses have been offset by growth in the tourism sector, although declines in visitation at popular Maine destinations such as the

Allagash Waterway (down 70 percent between 1999 and 2005), Acadia National Park (down 23 percent between 1996 and 2006), and Maine's state parks raise questions about tourism's ability to fill the void left by departing forest sector jobs.

In many respects, the tourism sector we see today is just a faint outline of its past, like the stone foundations that once supported the grand hotels and lodges—vestiges of an elegant yet rustic world hardly imaginable today. Consider the region around Moosehead Lake at the turn of the 20th century. Then, four railway lines brought visitors to the popular resort destination. From there, a fleet of as many as four steamships ferried tourists, and their automobiles in later years, to hotels such as the Kineo House, whose dining room in the early 1900s could seat 500 guests—roughly one-third of Greenville's population today (Parker 2004). Locals made a living working for the hotels and restaurants and as fishing and hunting guides for visiting "sports" and "rusticators" from "away." Nearby farms and orchards—forests today—provided fresh meat and produce. And it is not just the Moosehead region that has reverted back to forest. Hikers across Maine are often surprised to find reminders of the past scattered across the forests: stone foundations, rock walls, remnant orchards with wild apples, and, in the case of the Allagash, a pair of massive steam locomotives idled for nearly a century amidst millions of acres of dense forest.

Today, as the timber and tourism economies struggle, so too do the people and communities of northern Maine. The grand homes and once-vibrant downtowns of many rural communities bear witness to an era when hard work and wealth from the land built communities that thrived, when local goods served local markets and provided decent jobs in return, before Wall Street eclipsed Main Street by the ever-increasing mobility of capital. This past has been replaced by the steady pace of globalization, urbanization, and mechanization, and by a half-century of decline in the price of most natural resource commodities (Morisset 1998), which can increasingly be supplied from half-way around the world at lower cost due to cheap energy, low wages, and lax or nonexistent environmental protections.

FORGING A REGIONAL VISION FOR MAINE'S NORTH WOODS

The challenges facing the Maine Woods have spurred a growing call for action. Such calls are not new. From Percival Baxter's first acquisition in 1930 of what would later become Baxter State Park to Roxanne Quimby's controversial purchases today, from the Northern Forest Lands Council in the early 1990s to today's proliferation of market-based, collaborative partnerships (Ginn 2005), this legacy of public and private protection leaves little doubt of the region's enduring value. But one does sense an added urgency to today's concerns, an urgency deserving of a broader, more coordinated approach to protecting the region's forests and communities.

Adopting a Regional View

Efforts to protect the working landscapes and rural communities of northern Maine could benefit from a broader, more comprehensive view of the region and its challenges. Indeed, forest fragmentation, parcelization, sprawl, and rural economic development all transcend municipal and county jurisdictions, and suggest the need for a regional or landscape-level approach (Foster 2001). This approach should identify and strengthen the region's ecological, economic, social, cultural, and political assets, and place these within the larger context of Maine, New England, the Maritime Provinces, and beyond.

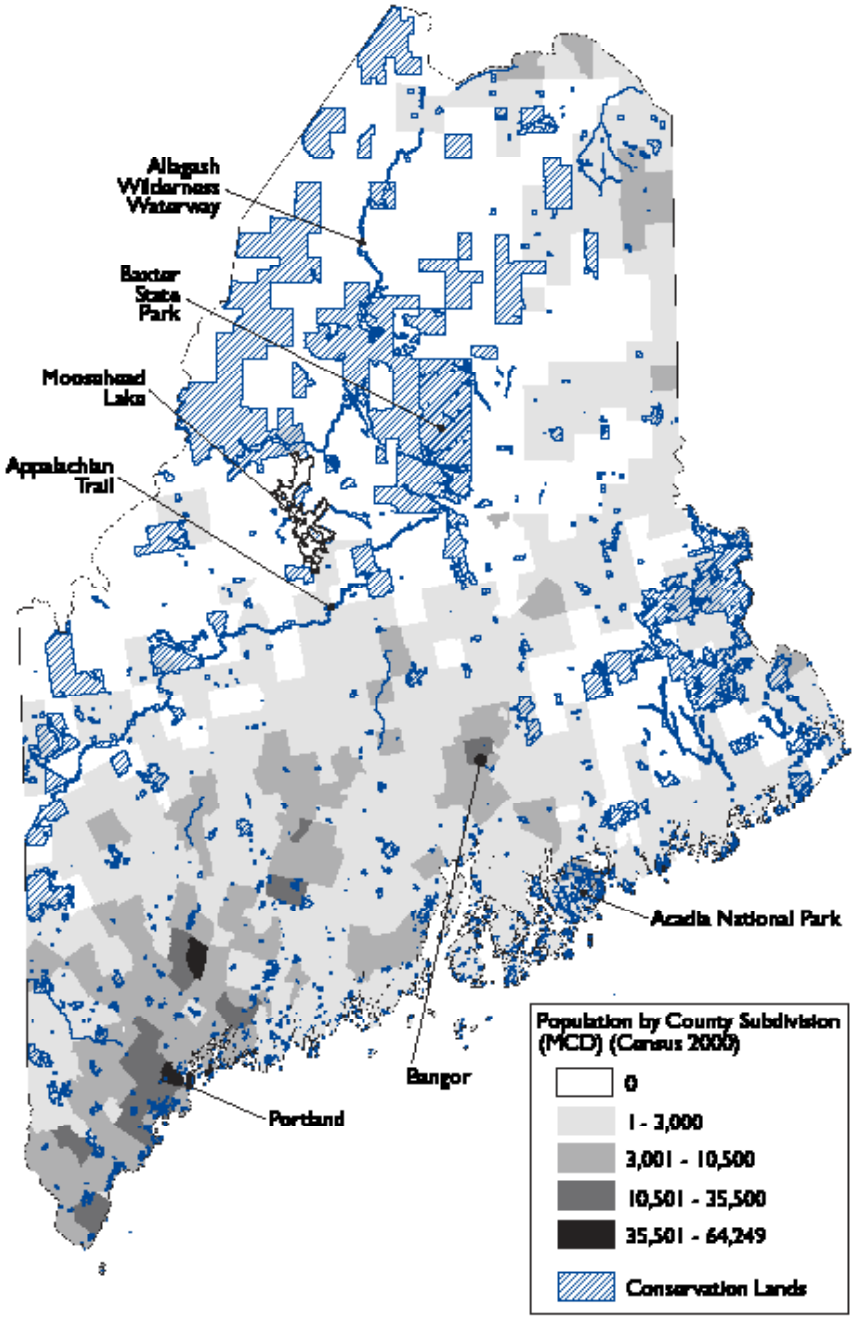
When it comes to environmental protection, the conservation community is well aware of the need for landscape-level approaches (R. Baldwin et al. this issue). In New England, these efforts have evolved under the dual goal of protecting both human and natural systems, a relatively new approach that stems in part from the region's abundant private lands and long history of forest use.[3] Indeed, at scales unequaled across the nation, groups such as The Nature Conservancy, the New England Forestry Foundation, the Forest Society of Maine, the Open Space Institute, Maine Audubon, the Trust for Public Land, and others have used their considerable resources and expertise to work with landowners, businesses, communities, and all levels of government to assemble an impressive portfolio of protected areas across Maine and the other

New England states (Clark and Howell this issue). These partnerships have been furthered by more than 100 local land trusts and thousands of conservation-minded landowners and residents. Many of these efforts have been leveraged through the state's popular Land for Maine's Future program, which has raised $114 million through a series of bond initiatives and protected more than 445,000 acres of critical lands since the program's inception in 1987.

Collectively, these public and private efforts have protected more than three million acres in the four-state Northern Forest Region (Maine, New Hampshire, Vermont, and New York) through outright purchase and conservation easements, along with additional millions of acres protected through long-term timber supply agreements and environmentally certified forest practices (Clark and Howell this issue). While these accomplishments are impressive, the resulting patchwork of protection, illustrated in Figure 1, reflects more opportunity than strategy. This in turns begs the question of whether such a complex and fragmented matrix of ownerships and objectives can lead to meaningful, long-term, landscape-level protection: in short, whether the whole is even equal to the sum of its parts (Fairfax et al. 2005).[4]

The rapidly evolving science of landscape-level conservation has much to offer northern Maine. Indeed, a regional approach using core protected areas such as Baxter State Park, buffers of working forestlands, corridors, and a variety of easements, could offer lasting protection (R. Baldwin et al. this issue; E. Baldwin et al. this issue; Clark and Howell this issue). This approach would give special recognition to public access and working forestlands vital to the region's communities and economy. It would also target wetlands, ponds, lakes, and waterways—areas increasingly at risk from development that are critical to the region's

FIGURE 1: Maine's Protected Lands



The map depicts protected public and private lands, which are primarily held in fee simple ownership and conservation easements, along with a small amount of leased land.

Sources: Land for Maine's Future and The Nature Conservancy

quality-of-place, recreation and tourism sector, and the provision of a wide range of ecosystem services.

A regional vision also would nurture the recreation and tourism sector by leveraging the state's already strong "brand recognition." Indeed, 150 years ago one of history's most celebrated ecotourists, Henry David Thoreau, made his way to Maine's North Woods on three occasions. Even today, much of what inspired Thoreau endures in what remains the largest "wilderness" east of the Mississippi River. From Mount Katahdin in Baxter State Park to Moosehead Lake, the Allagash Waterway and the Appalachian Trail, the region's already-protected amenities provide a strong foundation for a world-class tourist destination (Vail this issue). Efforts to strengthen the sector should embrace the region's rich cultural and historic heritage as well, linking the North Woods with Maine's coastal tourist markets in an effort to attract more visitors for longer stays through scenic travel routes and destination lodges in gateway communities such as Bangor, Greenville, Millinocket, and Jackman.

A regional vision for the North Woods should adopt as its foundation the sustainability of ecosystems and ecosystem processes, working forests, recreational access and tourism, and rural communities.

Already, a host of conservation-driven regional studies are underway. These range from large-scale, multi-state and transnational efforts spanning the broader Northern Appalachians region (e.g., The Nature Conservancy's Conservation Design, a Wildlands Network Design by the Wildlands Project, a human footprint developed by the Wildlife Conservation Society, and several human footprint futures scenarios by Two Countries, One Forest), to more localized efforts such as The Trust for Public Land's "Greenprinting" initiative for the greater Bangor area and The Nature Conservancy's Moosehead Conservation Framework. These efforts, which clearly represent the early pieces of what could emerge as a regional strategy, would benefit from a broader social and economic perspective (see, for example, Katz 2000; Foster 2001; Porter and Wallis 2002), including the adoption of an "alternative futures" planning framework (see Hunter et al. 2003; Steinitz et al. 2003; Baker et al. 2004; Lilieholm et al. 2005). Indeed, what is largely missing from these efforts is the economic development component of a regional strategy—the mix of forestry, residential/resort development and tourism needed to sustain the cultural and natural landscape of the region.

Embracing Sustainability

A regional vision for the North Woods should adopt as its foundation the sustainability of ecosystems and ecosystem processes, working forests, recreational access and tourism, and rural communities. This vision should also recognize that the prospect of peak global oil production, possibly to occur within a decade (Simmons 2005), will challenge our notions of sustainability as never before. Indeed, the effects of declining oil production and rising extraction costs will be amplified by increased global demand as the world's population grows from six to nine billion by 2050. These thresholds have the potential to radically alter the global economy and virtually every aspect of our lives. It will also test our ability to sustain forests, farms, and communities as we transition toward a renewable resource-based "bio-economy" (OECD 2006; Smil 2006).

In truth, no one knows what the emerging bio-economy will look like. But if it resembles anything like the last bio-economy, the 1800s, we will rely on our farms and forests more than ever to supply a greater array of goods and services to a much larger population. In this respect Maine is well positioned, for it was the region's abundant forests, fisheries, and waterways for hydropower and navigation that drew settlers here in the first place. In an energy-limited future, these assets might once more be valued as distance to market reasserts itself as a cost factor in commerce (Kunstler 2005).

Transitioning toward a more sustainable future means favoring sustainably produced goods with limited environmental impact and low energy demands.

Here, wood is the material of choice: recyclable, renewable, biodegradable, carbon neutral, low-energy input, and versatile. In addition, during wood's decades-long solar-powered production, forests provide habitat, sequester carbon, purify the air and water, protect soils, recycle nutrients, and reduce flood risk. In a sustainable world economy, wood will increasingly replace energy-intensive and environmentally costly nonrenewable substitutes such as metals, plastics, concrete, and glass.

Already, a host of emerging technologies promise to create "biorefineries" producing a range of new forest-based bioproducts such as plastics, resins, and polymers, as well as liquid transportation fuels like cellulosic ethanol.[5] Also encouraging is the growing bioenergy market. Indeed, Maine's forests already supply 25 percent of the state's overall energy needs and more than 20 percent of its electricity (NEFA 2007). These trends have the potential to displace imported fossil fuels and reduce greenhouse-gas emissions while creating local jobs and stimulating rural economies. In addition, emerging markets for ecosystem services have the potential to increase the economic returns to forests by recognizing their role in sequestering carbon and providing a host of other unpriced yet socially valued goods and services (Pagiola et al. 2002).

A regional vision for the North Woods should also embrace sustainable tourism. Vail (this issue) describes some of the challenges to creating a world-class tourism sector in northern Maine. Efforts to overcome these obstacles should showcase "eco-resorts," LEED certified "green" design and construction, and "smart growth" principles, including the siting of new development within existing gateway communities where services and infrastructure are already in place. Such an approach would reinforce the role that rural communities play in sustaining these landscapes. Indeed, by concentrating new development within existing downtowns, industrial sites, and neighborhoods, rural communities would benefit by attracting much-needed jobs, residents, and investment while avoiding costly duplication of services and new infrastructure (Burchell et al. 2005). These logical growth centers would further serve as natural conduits to channel development away from working forests, recreational lands, and ecologically sensitive areas.

Reconsidering a Federal Role in Protection

Reaching a common vision for Maine's North Woods would require a regional effort that transcends both jurisdictional and public/private boundaries. Such an effort should not stop at the state's borders, but instead include a federal partnership to leverage available leadership, expertise, and resources. Unfortunately, a strained history of state-federal cooperation with respect to land use has, in the minds of many, largely removed this option from consideration (Judd and Beach 2003). Contributing to this reluctance is lingering controversy from efforts to promote a Maine Woods National Park, a vision of federal involvement perhaps least suited to the region given its near absence of federal land and overwhelming private ownership. Indeed, visions of a massive federal land acquisition program "locking up" millions of acres of working forests have served to galvanize opposition to any federal role (E. Baldwin et al. this issue). This opposition, widely held across the state, should be reconsidered.

First, as demonstrated by E. Baldwin et al. (this issue), key participants and decision-makers in Maine appear largely unaware of the wide range of federal options that could offer forest protection while leaving unchanged and even strengthening existing land use and ownership patterns. These options range from National Heritage Area designation to a more comprehensive approach such as the National Reserve model used to protect New Jersey's Pinelands from development in the 1970s. There, a highly successful regional planning effort was used to safeguard nearly one million acres of forests, farms, and groundwater from haphazard development by channeling new growth into existing communities through a market-based program of transferable development rights (Lilieholm and Romm 1992). (See sidebar, p. 20.) The parallels between the challenges in the North Woods and those facing the Pinelands 30 years ago are striking, and the subsequent success of the Pinelands model warrants careful examination.

In fact (and unbeknownst to many), federal dollars are already at work in the North Woods. Clark and Howell (this issue) note the critical role that federal funds through the USDA Forest Legacy Program have made in the past in acquiring key parcels in partnership

New Jersey's Pinelands National Reserve

The Pinelands of New Jersey cover over a million acres of scrub oak, pitch pine, and Atlantic white-cedar swamps amid the nation's most densely populated state. It is home to a wide range of unique ecological zones, with many rare and unusual plant and animal species reaching their northern- or southern-most geographic limits within the region. Located in the heart of the New York-Philadelphia-Atlantic City region, the Pinelands faced a growing list of development threats, from residential and commercial construction to retirement villages and, at one point, an ambitious proposal for a 43,000-acre international airport.

As development pressures rose, so too did efforts to protect the region's unique culture and ecology. Of particular concern was safeguarding the 17-trillion-gallon aquifer underlying the Pinelands' sandy soils—one of the largest and least-spoiled aquifers in the Northeast. Protection efforts culminated in 1978 with the creation of the 1.1-million-acre Pinelands National Reserve, the first of its kind. Although national in status, just 10 percent of its lands are federally owned, and management is largely determined by state and local governments. As a protection model, the Pinelands National Reserve sharply contrasts with more common national parks and monuments, where federal ownership prevails. In fact, 55 percent of lands within the reserve are privately owned, and federal ownership is limited to just 110,000 acres, most of which was held prior to the reserve's creation in several military installations and national wildlife refuges.

The reserve is roughly broken into two contiguous regions: a 288,300-acre preservation area that includes lands having scientific value of national importance, and a 566,000-acre protection area. While most land in the preservation area was already under protection as a state forest, the protection area includes both public and private lands. Land uses in this second zone range from forestry and agriculture to peripheral growth centers designed to concentrate development that otherwise would have penetrated and spread across the entire region. A comprehensive management plan (CMP) guides development away from environmentally sensitive areas and into designated growth centers.

The reserve is managed by a 15-member Pinelands Commission, with representation equally split between the state and affected counties (seven members each) along with a single federal appointee. Since the viability of the reserve depends on balancing growth and protection, the Pinelands model contains a number of novel features to ensure flexibility in land use, equity among affected interests, and sustained effectiveness in preserving the region's unique features. For example, landowners in the protection area receive transferable development credits to compensate for land use restrictions. These can be sold to developers in growth centers, allowing them to build at higher densities. Local governments receive payments-in-lieu-of-taxes to compensate for lost tax opportunities, and funding for the reserve comes primarily from state and federal sources.

After 30 years, many agree that the Pinelands National Reserve has successfully balanced growth pressures in the region, protecting the Pinelands and traditional land uses such as forestry and agriculture without placing excessive burdens on any particular groups. County and local planning boards have complied with the CMP to a degree that surpasses other regional planning efforts in the United States, and the plan has successfully channeled new development away from environmentally sensitive areas.

with the state and NGOs. The USDA Forest Service's recently announced Open Space Conservation Strategy, designed to work in partnership with landowners and communities to conserve open spaces and working landscapes, promises to expand opportunities (USDA Forest Service 2007). The resources and expertise provided by an expanded state/federal partnership would greatly enhance the region's national and even international visibility and offer obvious boosts to the recreation and tourism sector. Such a partnership, thoughtfully directed, could ensure continued access to working forestlands while increasing the visibility of the region's natural amenities, drawing new residents and investment just as other federally recognized, amenity-rich landscapes have experienced across the United States.[6]

A Future Built on Shared Prosperity

Whatever vision emerges for Maine's North Woods, it should include a firm commitment to shared economic prosperity for the region's communities and residents. Indeed, the dichotomy of "Two Maines," one vibrant and prosperous, the other struggling, is increasingly unsustainable as chronic poverty stresses the region's families, communities, social capital, and institutions. And more than ever, these problems are being compounded by rising energy costs, high state and local taxes, regressive federal payroll taxes, and the out-migration of younger residents in search of a better future (Acheson 2006).

A regional vision should seek rural renewal through economic diversification strategies that take advantage of the region's social and natural assets. This is not a debate over "timber vs recreation." Indeed, both have served the region for over a century. In the forest products sector, new technologies such as advanced engineered wood composites and biorefineries have the potential to extract more value and jobs from each unit of wood processed. To realize this potential, the state should continue its already substantial investment in research and development within the forest products cluster.

A similar commitment is needed to expand local opportunities in the tourism sector. Here, efforts should seek to enhance the region's "green infrastructure" such as trails and visitors centers (Vail this issue), including those found within Maine's struggling state park system, in an effort to extend both visitor stays and the tourism season. In addition, coordinated efforts are needed to expand the range of tourist destinations to better match the needs of a diverse and growing range of potential visitors. For example, the region currently offers a host of camping opportunities, while largely missing out on the lucrative and fast-growing demand for amenity-rich destination resorts (Mongan et al. 2007). As resort professionals discussed with Czerwonka (this issue: p.123) in a recent roundtable, resort goers "will continue to demand excellence with more comfort than home." They noted that many resorts are offering ever-increasing levels of services and amenities to create market draw, and that a resort that "genuinely reflected the aesthetic of the North Woods and captured what is unique about it" might prove successful (Czerwonka this issue: p.121). The demand for and compatibility of such destinations in northern Maine is witnessed by the growing popularity of the many historic lodges located throughout our national park system. Attracting a greater range of visitors to the region would not only generate additional jobs and income, but would yield an array of social benefits by fostering improved public health and environmental literacy (Louv 2006). Realizing these benefits would require additional investment in education and training in order to foster business development and improve service levels within the industry.

Realizing shared prosperity for the North Woods requires more than developing the timber and tourism sectors. By protecting northern Maine's landscapes and communities, the region would attract new residents and businesses. Already, Maine has 16 percent of its housing stock in second homes, the highest percentage in the nation (Bell this issue). Although an abundance of seasonal housing can challenge local communities, such high levels of investment hold testament to the state's desirability and generate much-needed tax base while demanding relatively little in the way of public services. To better attract new residents and businesses, the region's quality-of-place assets should be leveraged through improved infrastructure, incentives such as the Pine Tree Development Zone program, and the creation of building codes and tax incentives that favor the renovation of the region's historic structures.

LURC, Plum Creek, and the Vision

One cannot consider the future of Maine's North Woods without addressing the Land Use Regulation Commission (LURC) and Plum Creek's Concept Plan (2007) for more than 400,000 acres in the Moosehead Lake region. Indeed, as Maine's largest-ever development proposal, the plan has generated intense debate across the state and beyond. This debate, long-overdue, has served an invaluable role in focusing public attention on landscape fragmentation, sprawling development, and the plight of the region's rural communities. The debate has also revealed important schisms within the state. The first divide largely reflects the two Maines described above—rural residents eager for economic development and a largely suburban contingent concerned about forest loss and sprawling development. The second divide lies within the conservation community. There, some view Plum Creek's proposal as unacceptably large and as setting a dangerous precedent. Others feel that like it or not, change is coming to the North Woods. This latter group, based on past experience, has weighed the threats and opportunities embodied in the proposal, and has cautiously supported Plum Creek's plan (Forest Society of Maine 2007).

LURC, as the region's primary planning and zoning authority, is currently engaged in its own visioning exercise as it works to develop its 2008 Comprehensive Land Use Plan (Bley this issue). How the agency ultimately weighs in on these issues is anyone's guess, but based on the vision described

above, Plum Creek's plan may have much to offer. Foremost is the plan's conservation of roughly 95 percent of the area, or 431,000 acres (Forest Society of Maine 2007). Indeed, if Plum Creek's plan is to be seen as a precedent, then its 95 percent conservation benchmark represents a significant threshold for future development proposals. Also important is the plan's adoption of smart-growth principles that concentrate development in and around existing communities, thereby limiting environmental impacts while serving local desires for economic development. But in a broader sense, the concept plan represents at its heart Plum Creek's willingness to undertake a massive investment in the North Woods, a necessary first step in creating a viable tourism industry for the region.

Realizing these benefits would require that development be thoughtfully designed and carefully implemented. Done intelligently, the proposal could create a flagship destination to anchor the region's tourist economy. In meeting this challenge, one could look to the past to find guidance in the large, historic inns that have graced many western national parks for over a century: Yellowstone's Old Faithful Inn, Glacier's Lake McDonald Lodge, the Grand Canyon's El Tovar Hotel, and Yosemite's Ahwahnee Hotel, to name just a few.

REALIZING THE VISION

In 1871, 14 years after Thoreau last walked the Maine Woods, a young Theodore Roosevelt began what would become his own series of trips to the region. As an impressionable teenager sent by his father to be "toughened-up," Roosevelt thrived under adversity, and many consider his adventures in Maine as an important catalyst in the development of his conservation ethic and legacy. Indeed, Roosevelt's visits roughly coincided with Maine's peak lumbering years, and the perceptive future president must have understood the social, economic, and environmental consequences of the large-scale, uncontrolled logging taking place at the time.

Roosevelt left Maine with a vision and drive that would guide him the rest of his life, and his radical embracing of scientific forest management, sustainable harvesting, and wildlife conservation would set new standards for his time. Indeed, as president from 1901 to 1909, Roosevelt's conservation vision reshaped the natural landscape of the United States more than any other person before or since, creating the first wildlife reserves, the first national forests, and the first national monuments, many of which would later become national parks. Roosevelt's vision, forged in Maine's North Woods, would lead to the permanent protection and management of 194 million acres of forests and rangelands.

Writing in 1918, just months before his death, Roosevelt wrote of his "personal debt to Maine," expressing gratitude to the friends and experiences that had served him so well in life. Were Roosevelt alive today, he would no doubt marvel at the recovery of the North Woods. He would also have something to say about today's threats to the region: forest fragmentation and sprawling development. Indeed, the challenge today is how to achieve lasting protection for a landscape under private ownership, protection that allows for the sustained production of timber and environmental services while accommodating recreational access for current and future generations, and protection that balances public and private rights and responsibilities in land (Anderson this issue). Reaching such a vision would require a level of cooperation and commitment rarely seen today. Yet in seeking such a goal, returning Roosevelt's foresight and vision to its original birthplace, Maine's North Woods, seems particularly germane.

As noted by E. Baldwin et al. (this issue), there is widespread support for a comprehensive vision to sustain the North Woods' social, cultural, and natural assets. Reaching such a vision raises a host of difficult yet important questions: *"What is it that we value about these landscapes?"* And, *"What are we willing to spend to protect them?"* And perhaps most important, *"What is our obligation as a society to the region's communities?"*—to the people who plow the roads, pump the gas, maintain the power lines, cut the trees, run the mills, and teach the kids. How we respond to the challenges facing Maine's North Woods will not only decide the region's fate, it will also reveal much about ourselves as a people, and in doing so establish our own legacy for the future.

ENDNOTES

1. Today, major forestland owners in Maine include families and individuals (32 percent), followed by the forest products industry (31 percent) and "other corporate" (31 percent). The state of Maine owns just four percent of forestlands, followed by federal (one percent) and local (one percent) ownerships (McWilliams et al. 2005).
2. Employment within the forest products sector has declined in step with state and national manufacturing trends, falling from 27,400 jobs in 1990 to 18,600 in 2005, a decline of 32 percent, with the largest decreases in the pulp and paper sector. These job losses disproportionately affect rural communities due to their relatively high pay, benefits, and year-round employment. For example, the average 2000–2003 wage for Maine papermill and sawmill employees was more than $47,000 (Innovative Natural Resource Solutions 2005).
3. There are roughly 117 land trusts operating in Maine, including land- and easement-holding NGOs such as The Nature Conservancy. Of the 85 land trusts with mission statements listed with the Maine Land Trust Network, 85 percent cite ecological and social reasons for protecting lands. Forty percent cite economic goals, including the protection of working forests and agricultural lands.
4. The rapid growth of conservation easements in the United States has in many respects outpaced the full understanding of their legal implications. Indeed, while the vast majority of conservation easements are granted in perpetuity, their "permanency" is coming under increased scrutiny. McLaughlin (2005, 2006) describes the intricacies of holding, amending, and terminating conservation easements. A recent case in Johnson County, Wyoming, where a perpetual conservation easement was terminated at the request of new landowners, is sure to spur increased interest.
5. The Energy Independence and Security Act (EISA) of 2007, signed into law on December 19, 2007, includes a "Renewable Fuels Mandate" that will increase the use of renewable fuels by 500 percent. Under EISA, fuel producers are required to supply 36 billion gallons of ethanol by 2022, nearly 60 percent of which is to come from cellulosic (i.e., non-corn) sources such as trees, switchgrass, and agricultural wastes.
6. A growing body of literature documents how rural gateway communities in amenity-rich U.S. counties have economically outperformed communities in amenity-poor counties (Haefele et al. 2007). The existence of national forests, national parks, and other public lands contributes to this trend by raising a region's visibility while providing both long-term environmental protection and recreational opportunities (Stein et al. 2007).

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Robert J. Lilieholm is E.L. Giddings associate professor of forest policy in the University of Maine School of Forest Resources, where he has been since 2006. He spent 18 years at Utah State University in the College of Natural Resources, where he was named "Professor of the Year" in 1994. He has authored numerous publications and reports through funding provided by the National Science Foundation, Ford Foundation, U.S. Agency for International Development, U.S. Environmental Protection Agency, and other funding sources. Lilieholm has worked for Plum Creek Timber Company as an expert witness on forest management issues in the western U.S.

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Are the Economics of a Sustainable Maine Forest Sustainable?

by Mike LeVert,

Charles S. Colgan,

and Charles Lawton

Mike LeVert, Charles Colgan and Charles Lawton discuss the transformation of the economic environment of Maine's forests over the past two decades. Paper companies have sold most of their holdings; residential and conservation demand for land has increased; forestland prices have skyrocketed; and new classes of landowners have different strategies, objectives, and time horizons than the old industrial landowners. The authors believe that management of Maine's forests must now address changes in the economic environment with the same intensity as threats such as the spruce budworm were addressed if we are to keep Maine's forests as forests.

INTRODUCTION

Maine's North Woods are a state and natural treasure. The volume and quality of land, natural beauty, wildlife habitat, productive resources, and recreational opportunities are unmatched in the eastern United States. Over the past two decades, this unique area has experienced greater change than it has seen over the previous century. The industrial structure of the forestry business has changed; the ownership structure of forestland has changed; the residential and conservation demand for this land has increased; and the price of the land has risen to unprecedented levels. For those responsible for managing the forest, the question naturally arises, "Do these changes constitute a threat to the forest's long-term sustainability as a source of productive and recreational value?" To examine this question, a group of land- and mill-owners, government officials, and academic foresters and naturalists have formed the Keeping Maine's Forests as Forests Study Group. This article is based on a paper prepared to serve as the kick-off agenda for this group. It is intended to assemble the scattered, confusing, and often apparently contradictory data on Maine's forestland into a concise statement of both the baseline facts and the public policy issues they raise.[1]

THE CHANGING ECONOMIC ENVIRONMENT OF MAINE'S FORESTS

In the past two decades Maine's North Woods have experienced rapid and unprecedented changes. The traditional structure of the relationship between the forest ownership and the forest products industry that characterized most of the 20th century has been dismantled and reorganized. What was once a forest used primarily to supply fiber to lumber, paper, and other manufacturing industries while providing a mixture of relatively low-impact recreational opportunities has become a forest of highly diverse ownership serving many different purposes. Industrial landowners have sold most of their timberland holdings, replaced by new classes of landowners—investment firms, logging contractors, developers, conservation groups, high net-worth individuals—with different ownership objectives, strategies, and time-commitments.

Rising demand for land has pushed up land prices at the same time that the forest products industry has faced loss of market share in a number of product lines and several older mills have closed or reduced capacity (Innovative Natural Resource Solutions 2005). This price increase coupled with current and future threats to pulp, paper, and lumber demand (e.g., paper mill closures, machine shut-downs, and the slumping housing market) indicates that some new owners are looking beyond wood products to justify their investment, at least in the near term. As the gap widens between income from harvesting activities and income from other uses such as development and conservation easements, keeping forests as forests (that is, as sources of a sustainable supply of wood fiber, permanent wildlife habitat, and a broad range of public recreational activities) becomes harder to justify financially. Returns primarily from supplying raw materials for forest products may no longer be enough for landowners to achieve their financial objectives.

The industrial structure of the forestry business has changed; the ownership structure of forestland has changed; the residential and conservation demand for this land has increased; and the price of the land has risen to unprecedented levels.

The difficulty of realizing an adequate return on investment by managing land for forest products portends an era where keeping land forested becomes less economically feasible, particularly for lands with high amenity values such as those accessible to lake or river shore frontage or mountain lands with significant views. Increasing prices for these and other types of forestlands in the face of at best stable returns for stumpage suggests that land buyers are speculating on the rising value of the land. One of the results of this dynamic could be that landowners significantly increase the level of aggressive harvesting to cover the opportunity costs of rising land values.

Forestland sold for development is clearly likely to be an issue at the fringe of the forest where access is easy, close to amenities such as lakes and rivers, and

towns are nearby to support development. How far this trend may spread into the interior of the Unorganized Territories is uncertain. Many locations north of Millinocket with waterfront or viewsheds are not accessible by deeded right of way. (Cabins and camps in this region are held by lease rather than deed.) Until infrastructure such as public roads and utility lines becomes available or landowners choose to shift to selling rather than leasing land, the development potential (and by extension, the conservation value) of these parts is reduced and timber production probably remains the highest and best use of that land for the foreseeable future.

Higher timberland prices, reflecting real and perceived growing demand for other uses, threaten sustainable forest management.

Maintaining timber production as an economically viable use of forestland matters because Maine's forests are a unique resource in the eastern United States, as the largest contiguous tract of forestland east of the Mississippi, and as the dominant player in the forest products markets in New England (Innovative Natural Resource Solutions 2005). By comparison with other forest areas around the world, Maine's forests are a model of sustainable management (Maine Forest Service 2005). While harvest levels have approximately doubled since the 1950s, standing timber volumes have increased by 87 percent, and natural regeneration is not a problem. This resource helps to maintain a wood products and recreational/tourism industry that contributes significantly to the overall Maine economy.

The questions are: what are those paying historically high prices for Maine forestland expecting from that land? And, more importantly, will they undertake actions on their land that will jeopardize its availability for traditional management, forest product harvesting, and public recreation in the future? The purpose of this paper is to outline ways to answer these questions and to highlight some of the implications they pose for public policy in Maine.

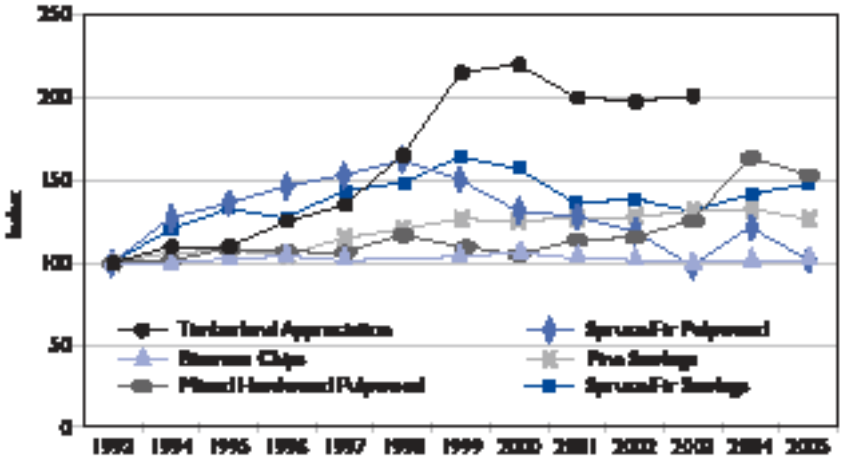
RECENT PATTERNS OF FORESTLAND PRICES IN MAINE

The prices landowners have recently been willing to pay for large tracts of forestland lead to the conclusion that many buyers are speculating on extracting income from the land from sources other than long-term, sustainable forest management. With timberland prices reflecting demand beyond that of raw material for forest products, forest landowners not directly involved in the forest products industry must consider options other than sustainable forest management to justify their investment. Non-industrial owners may hold land on the expectation of simple long-term price appreciation, but their options for assuring an adequate return also include development, sub-divisions, the sale of conservation easements, the sale of kingdom lots, and aggressive harvesting strategies. If development or unsustainable harvesting becomes the rule rather than the exception, what will Maine's forests—and communities dependent on those forests—look like in a decade or two?

Higher timberland prices, reflecting real and perceived growing demand for other uses, threaten sustainable forest management. As buyers expend more capital to purchase forestland, pressure increases to extract more of the non-speculation value from the land, that is, to remove the value of the standing timber. For example, highly leveraged buyers typically need to realize a substantial return in a very short time period. Harvesting above levels of sustainable yield becomes an attractive option when asset appreciation or the realization of that appreciation is based primarily on the bare land value's rising market price, independent of the trees. Development of high-amenity parcels such as waterfront is an example. Recent demand for conservation is another. Conservation organizations may choose to buy or protect land for strategic purposes, even after an aggressive harvest above sustainable yields has substantially reduced the timber and ecological value (Hagan et al. 2005).

Even if the opportunity cost of sustainable forest management decreases (i.e., demand for alternative, non-forestry uses declines or demand and/or price for other wood-based products increases), new buyers will be challenged to realize adequate returns from invest-

FIGURE 1: Index of Returns from Maine Timber and Timberland, 1993–2005



Sources: Maine Forest Service; Lutz 2003; author's calculations

ments in some types of sustainable harvesting practices. Maine Revenue Services reports that the average value of net new growth per acre per year over the past 50 years is $13. Likewise, Maine's Tree Growth Tax Law calculates the value of Maine's forestland in the North Woods as ranging from $86 to $142 per acre based on its productivity as a timber-producing asset (northern Maine average of $114/acre; statewide average of $158/acre). As an illustration of the difficulties new forest landowners will face to keep their land as sustainably managed forests, in 2005 an independent appraiser valued approximately 7,700 acres in Maine's North Woods at greater than $700 per acre (total value of $5.5 million) (Maine Forest Service n.d.). Annual revenues from net growth were calculated at less than $15 per acre per year, implying that even at favorable loan rates, using the land for sustainable-yield timber harvests (simply defined as cutting no more than annual growth) was not a viable financial strategy (Maine Forest Service n.d.). Such a parcel held for 50 years would have an internal rate of return of less than 0.2 percent if only the annual growth were harvested and sold at $15 per acre (this rate of return assumes no income is realized by land appreciation or sale of the property).

Returns from timberland come from both operating income, as mentioned above, and from appreciation realized by a final sale. Land prices have generally increased steadily over history, and buyers are either hoping for a rapid increase in the value of land because of possible shifts to other uses or are simply awaiting continued land price appreciation. Maine forestland, which is generally much lower priced than other forestlands in the U.S., may also be seen as having greater appreciation potential even if no change of use is anticipated. Indeed, appreciation rates in Maine have accelerated above their long-term average since the mid-1990s.

It is also likely that the drivers of appreciation vary by region. In far northern regions where a lack of infrastructure limits development options, appreciation may primarily be driven by a tight supply of timberland (more buyers than sellers) and an improved ability of sophisticated investors to capture the full value of the land compared to paper and lumber industrial owners. In regions closer to population centers and amenities, appreciation has more likely been driven by speculation on the potential for development.

The existence of a speculative component of timberland prices (an expectation that land will increase in value whatever is done with it) can be observed from evidence that land is being sold and marketed at prices well above its standing timber value. James W. Sewall Company reports that prices as a percentage of gross timber value are at an all time high for Maine. Recent transactions "reflect significant buyer expectations of non-timber products and revenues" (James W. Sewall Company 2005: 4). An index of Northeast timberland returns, based on operating income and land appraisals, indicate that timberlands appreciated in value by 12 percent and 17 percent in 2003 and 2004, respectively. Given modest increases in stumpage prices during these years (see Figure 1), these gains can be attributed primarily to appreciation of the bare land value, that is, the non-forestry value of the land (James W. Sewall Company 2007). Bill Ginn, of The Nature Conservancy and longtime observer of the North Woods, stresses the demand for recreational use of the forestland, "Increases in prices are being almost exclusively driven by recreational interest. Investors are not paying more for land because trees are worth

more, but because of increased interest for recreational use" (personal communication). Recreational use, in this context, includes buying forested tracts for personal purposes, e.g., a camp, retreat, second home.

Further evidence of speculation comes from observed sales. One appraiser reports observing an estimated 10 percent to 15 percent increase in the sale prices of large parcels over 50,000 acres since 2004. An Internet search for parcels currently on the market (December 2007) shows 11 parcels over 1,000 acres for sale in northern and western Maine, averaging $700/acre. Well-known sales where timber may have been of secondary concern include the 25,000 acres sold by J.D. Irving, Limited, to Gardiner Land Company near Baxter State Park for $1,000/acre (2003); 19,000 acres in Bowerbank sold by Hancock Timber Resource Group to Plum Creek Timber Company for $800/acre (2004); 4,100 acres on Square Lake purchased by Lakeville Shores (a.k.a. Haynes) from William Moscovic for $912/acre (2002); John Malone's purchase of 7,500 acres near Spencer Lake from Plum Creek Timber Company for $1,000/acre; Roxanne Quimby's purchase of 24,000 acres from J.D. Irving, Limited, for $500/acre (2003). (These sales are primarily on the edge of the North Woods and are not representative of land values in far northern sections of the Unorganized Territories without infrastructure.)

Researchers in Georgia suggest $800/acre as a regional threshold for impending land use conversion (Wear and Newman 2004). Maine's threshold will be different, but the recent rate of appreciation in land prices begs the question: At what price does forest management in the North Woods no longer makes sense economically?

WHAT LIES BEHIND CHANGES IN FOREST OWNERSHIP?

Increasing opportunities for purchasing land in the North Woods were precipitated by the widespread divestiture of timberland by vertically integrated forest products firms (that is, firms that own forestland and used the output from the land as input to paper or lumber mills, hereafter referred to as industrial firms). The abandonment of vertical integration as a business strategy by traditional industrial firms, particularly the pulp and paper companies, has led to the decoupling of timberland assets from production facilities and the sale of millions of acres of former industrial owned land.

This divestiture was accompanied by globalization of the forest products industry, with the pulp and paper, lumber, and secondary wood product markets losing market share to lower cost competitors from Latin America and Asia since the mid-1990s (Innovative Natural Resource Solutions 2005). Pressure to improve financial efficiencies led to consolidation, specialization, and a reorganization of the U.S. forest products industry. Widespread divestiture of industrial timberland began in the late 1980s, partly to pay down debt incurred from consolidation of firms, partly to provide capital to invest in specialized products and markets, and partly to provide immediate returns to shareholders (Binkley et al. 2005; Hagan et al. 2005). The sale of 2.3 million acres of former Great Northern Paper land by Bowater, Inc., to 15 different owners in the early 1990s served as the seminal event leading to the end of forest products industry's dominant ownership of Maine's forestland (although International Paper had effectively separated its land and mill operations as separate profit centers within the company in the 1970s).

This reorganization of the forest products industry has been accompanied by growing demand from other sources for forestland in the North Woods, facilitated by two major trends. First, the rise of investment firms such as timber investment management organizations (TIMOs) and real estate investment trusts (REITs) provided a cash-rich supply of timberland buyers. Investors are attracted to timberland because of high historical risk-adjusted returns, low risk relative to other types of investments, and low correlation with inflation and other investments (Binkley et al. 2006; Lutz 2006). Further, provisions of the Internal Revenue Code made timberland attractive as an investment vehicle for these types of organizations, particularly compared with traditional corporations. Such ownerships, while often focused on management and income from timber harvesting, have very different investment horizons than the vertically integrated forest products landowner. Where the vertically integrated company owned land to feed mill investments that were expected

to last 50 years or more, the new ownerships expect to own land for perhaps 10 to 15 years, capturing as much value as possible in that period of time and then turning the land over to a new owner, at, it is hoped, an appreciated price.

At the same time, a substantial increase in demand from other users of forestland has occurred. The most visible has been demand for recreational properties, which has increased dramatically and has shifted from traditional camps to second homes, including in some cases, luxury second homes. In the Unorganized Territories, the population has grown by five percent each decade from 1970 to 2000, with an accelerated rate of growth since 2000. The Western Mountain and Moosehead regions of the Unorganized Territories have experienced the bulk of this growth, 17 percent and eight percent, respectively. Growth in the number of houses has outpaced population growth, rising by 16 percent since 1990 (Planning Decisions 2006). Seasonal homes increased by 18 percent in the 1990s (White 2006), with net land accounts in the Unorganized Territories increasing 31 percent from 1985 to 2005 (Planning Decisions 2006). (A net land account is a parcel of land or two or more contiguous parcels of land owned by the same individual or entity.) Parcelization and the sale of "kingdom lots" are two manifestations of increased demand for properties used for personal recreational purposes. Maine forestland prices may be much higher than historical norms or the underlying value of the standing timber would suggest, but their sheer abundance makes them appear very cheap relative to almost any other privately owned forested region in North America.

Another new use is conservation, the purchase of large tracts of land to prevent development. Eleven conservation easements of 10,000 acres or more were established between 2000 and 2005 (OPLA 2006).

Taken together, the rise of timberland investors and increased demand from other users has provided an outlet for the divestiture of industrial timberland. The results have been dramatic. In the 15 years from 1990 to 2005, the share of ownership by industry fell from 60 percent to 15 percent, with one firm, J.D. Irving, Limited, a family-owned Canadian company, owning 1.2 of the 1.8 million acres of remaining industrial land. Investment firms, including TIMOs and REITs, increased their share of forestland ownership more than tenfold to 4.7 million acres; logging contractors increased their ownership more than fivefold to more than 500,000 acres; non-profit conservation groups increased their ownership twelvefold to more than 350,000 acres; and "kingdom buyers," individuals with high net worth buying land primarily for private recreation, have accumulated well over 100,000 acres (Hagan et al. 2005). (The preceding statistics on landownership changes refer to transactions and parcels greater than 5,000 acres in size.)

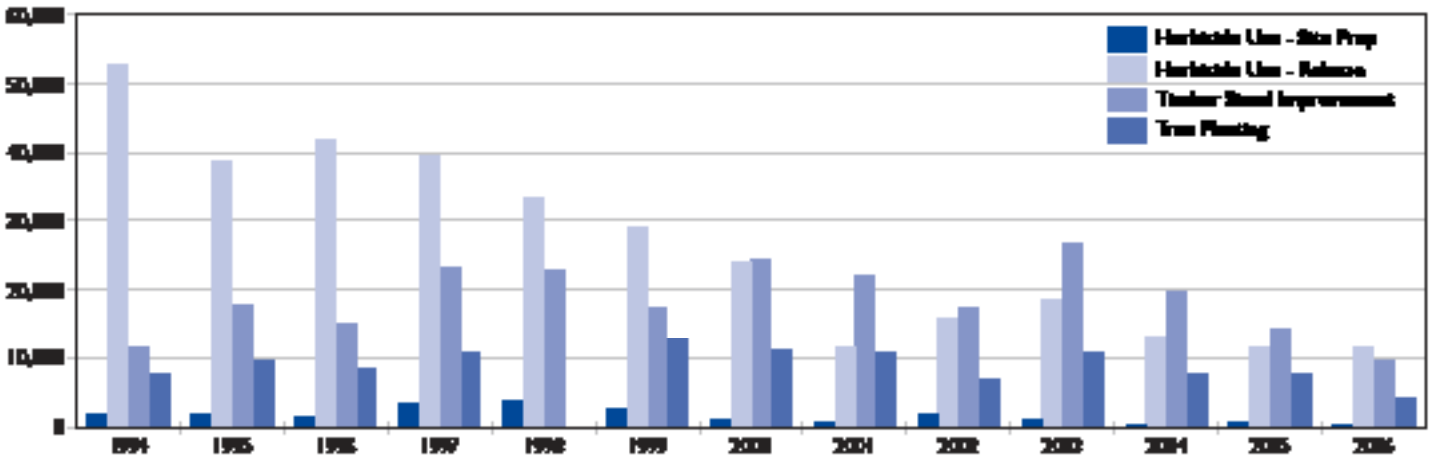
> The abandonment of vertical integration as a business strategy by traditional industrial firms, particularly the pulp and paper companies, has led to the decoupling of timberland assets from production facilities and the sale of millions of acres of former industrial owned land.

IMPLICATIONS OF THE CHANGES

The effect of these changes has been a paradigm shift. Whereas vertically integrated forest products companies owned land almost solely to provide a steady supply of raw material to their mills, *non-industrial owners view forest products as only one of a myriad of choices to monetize their asset.* Competing uses and rising land values have increased the opportunity cost of holding land solely to grow and sell timber at rates consistent with the principle of sustained yield, making intensive harvesting, land use conversion, and further parcelization more likely events.

Many new timberland owners also hold different views towards intensive silviculture and forestry research than their industrial predecessors (Clutter et al. 2005; Hagan et al. 2005). In a survey of Maine

FIGURE 2: Investments in Silviculture in Maine, 1994–2006



Source: Department of Conservation, Maine Forest Service, Silvicultural Activities Reports, 1994–2006

landowners, Hagan et al. (2005) find financial investors are significantly less likely to engage in intensive management. Clutter et al. (2005), in interviews with senior forestland managers, notes that TIMO managers view silviculture as a commodity. The decision to apply silviculture treatments boils down to "What will the market pay for this treatment if applied?" Investments in silviculture and/or research and development only make sense when one can "cut the value out with a saw" (Clutter et al. 2005).

The Maine Forest Service reports a 60 percent reduction in investment in intensive forest management activities such as planting, pre-commercial thinning, and competition control in less than 15 years. In 1994, approximately 70,000 acres were treated by these techniques. By 2004, that number had declined to less than 30,000 (Figure 2). Virtually all the treated acres were on the remaining industry-owned lands (Don Mansius, Maine Forest Service, personal communication). The reasons for this decline are complex. Changing ownership objectives provide one reason, but the level of investment in silviculture such as pre-commercial thinning and herbicide application for competing species control has also been influenced by the changing characteristics of the Maine forest in the wake of the spruce-budworm outbreak of the 1970s and 1980s. However, it is clear that owners with greatly shorter time horizons for ownership will be unlikely to undertake expensive silviculture investments whose return will not be fully realized for some decades after they expect to hold their land, unless they have reasonable assurance that future purchasers of the their land will pay them back for their investments. Future buyers may indeed do so, much as a future buyer of a house may repay the owner for the investment in a new roof. But the owner still takes a risk that the market conditions at the time of sale will encourage the buyer to pay for the roof.

Likewise, there has been concern that non-industrial owners may invest less in research and development than their industrial counterparts. However, the University of Maine's Cooperative Forest Research Unit (CFRU) may be one of the reasons investments in R&D have remained high in Maine and continue to make economic sense. The CFRU provides an opportunity for landowners to voluntarily contribute to research designed to improve forest management strategies and is one of the longest running and largest research cooperatives in the nation. Essentially it centralizes research and development dollars and provides information to landowners to further sustainable forest management practices. Member organizations contributed $583,000 for R&D during 2005–2006.

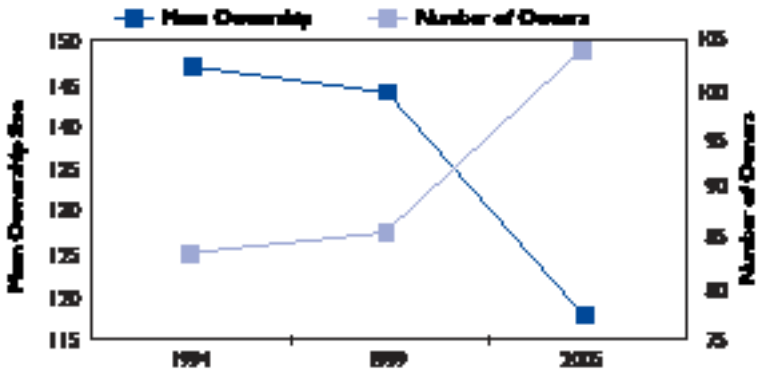
The multitude of owners and their heterogeneous objectives matters a great deal in shaping a coherent sustainability strategy for Maine's forests. In Maine's North Woods from 1994 to 2005, the number of

owners with 5,000 acres or more increased 30 percent, while the mean parcel size decreased 20 percent (see Figure 3, reproduced from Hagan et al. 2005). Southern New England offers an example of the problems of a fractionated landownership pattern, which has contributed to the loss of the forest products industry and wildlife habitat diversity in that area. Because, in general, the owners of small forested parcels do not actually manage them for timber (Butler and Leatherberry 2004), these areas have become largely monotypes of middle-aged stands of hardwoods and what harvesting does take place is often high-grading.

Fragmented ownership may also make a large difference in the ability to realize other values from Maine's forests. Though Maine's forests have been distinguished by the highest rate of private ownership in the U.S., access to these forestlands for recreation purposes has generally been quite open and low cost for the general public. New owners may or may not view public recreational access the same way. Owners more focused on private recreation or preservation may be incompatible with traditional public access. Recent statewide surveys to landowners indicate a substantial attitude shift on the part of landowners toward public access. Surveys of members of the Small Woodland Owners of Maine (SWOAM) show a substantial increase in number of properties restricted to public access, from 14.9 percent in 1991 to 39.4 percent in 2005 (Acheson 2006: 25). The National Woodland Owners Survey estimates 18,000 family owners posted their land in 2006, a 300 percent increase from 6,000 owners in 2003 (Butler 2008). These trends are mostly indicative of changes in southern and central Maine, and surveys by the Maine Forest Products Council of landowners with more than 50,000 acres show little or no change in access practices. However, as northern woodland areas become more similar to southern areas through parcelization and the development of kingdom lots, and as landowners feel more pressure to find new ways to monetize their woodlands, Maine's long-standing tradition of low-cost and widely available public access to private land may be threatened. (See Acheson [2006] for a detailed discussion of public access to privately owned land in Maine.)

Clearly high-amenity land will be under increasing pressure for conversion to developed uses, particularly

FIGURE 3: Number of Owners and Mean Ownership Size, > 5000 acres, 1994–2005



Source: Hagan et al. 2005

in areas such as Rangeley and Moosehead, where road access and local communities provide the regional infrastructure that can support development. But the extent to which this type of demand extends beyond accessible high-amenity lands is uncertain. While most of the North Woods now lies within a mile or so of decent private roads (Maine Forest Service 2005), much is still remote from supporting infrastructure or services. Unless and until this changes and LURC endorses investments in public roads and utilities, the development potential of much of the interior of the Unorganized Territories remains limited.

At the same time, demand for wood as input to manufactured products is likely to grow despite recent problems in the lumber and pulp and paper industries. Exchange rates now favor exports of Maine forest products, which have traditionally been Maine's largest export by volume and value. The interest in using wood chips and pellets to replace oil has increased dramatically. On the horizon are potential technology developments such as cellulosic ethanol and bioplastics, which could greatly increase the demand for wood as a raw material. New timberland buyers may also be considering potential timber shortages with increased demand from developing countries such as China. Such developments probably do not explain the recent run-up in forestland prices, but do suggest there are new industrial uses for wood products that could create additional demand for forestland in the future.

What is clear about the recent changes in the structure of the forest industry, of forestland ownership,

and of the prices of forestland is that Maine's forest is a much more economically complex and dynamic place than it was 20 years ago. Determining appropriate forest management policies to assist forest landowners in keeping forests as forests while realizing a reasonable financial return has become correspondingly complex. The growing demand for forestland for non-harvesting uses and differences across large portions of forestland caused by fragmented ownerships make for particularly difficult challenges.

…the economic environment has changed dramatically in ways that call into question how much of Maine forests can be retained as lands actively managed for timber production that continue to improve in condition.

THE CHALLENGE AHEAD

In many ways, the biological and ecological environment of Maine's forestlands has stayed stable or even improved in the years since the last spruce budworm cycle ravaged the forests. But the economic environment has changed dramatically in ways that call into question how much of Maine forests can be retained as lands actively managed for timber production that continue to improve in condition. The management of Maine's forests must now address the changes in the economic environment with the same energy and intensity with which threats such as the budworm were addressed.

While the general nature of the problems can be identified, much remains unclear. Developing a policy for forest management that keeps Maine's forests as forests and ensures sustainable management for the multiple values that arise from the Maine woods requires much clearer answers to several questions that could not be answered here. We identify several key questions that arise from our brief assessment of recent economic trends and challenge the community of public, private, and non-profit organizations with responsibility for Maine's forests to find appropriate answers:

1. How can land transactions and prices be better monitored to create data for analysis that is spatially and temporally consistent? Much of the evidence for the changing economic environment is comprised of anecdotal evidence from occasional transactions. Much of it is also confined to the edges of the North Woods, where the majority of recent transactions have taken place. This makes extrapolations to the interior of the Unorganized Territories challenging. Public systems for recording land sales and prices are currently not capable of producing data that would allow detailed analysis over time of what is happening in the markets for Maine forestlands. Can these systems be improved in a timely and cost-effective manner?
2. How are differences in the economic environment manifesting themselves in different parts of the Maine woods? Do rising land prices in interior parts of the Unorganized Territories suggest different expectations than along the fringes? Does a lack of public roads or utilities in far northern Maine effectively limit development there and confine it to places like Moosehead and Rangeley? Or will this leading edge eventually be pushed northward?
3. What are the expectations of the owners of Maine's woods about the future demand for forestland, timber, and forest products? How, if at all, are owners factoring possible changes such as the rising demand for high-amenity retirement and recreation lands, for possible new commodity forest products like energy in the form of chips, pellets, or cellulosic ethanol, or for using forestlands in carbon sequestration strategies to deal with climate change? Is everyone just focused on the next

five to 15 years? Will current turbulence in capital and real estate markets affect views about the long term appreciation trends in forestland? If so, how, and with what implications for the market for Maine forestland?

4. What does the future hold for investments in silviculture and research and development? What level of investment makes sense economically to the new owners of Maine's timberland? Is this level enough to ensure a sustainable forest and viable forest products industry?

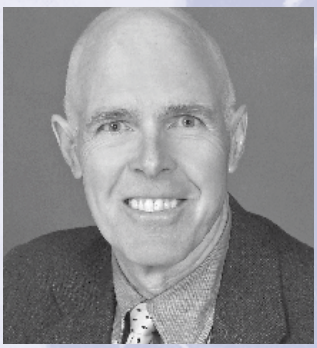
5. What is and should be the role of conservation strategies in the new economic environment? Given strained state and federal budgets, how can the amount of money needed to buy conservation easements be matched with the demands? How can conservation strategies be matched with harvesting strategies to better support long-term sustainability of the forest as a whole?

6. What is the public's role in the new economic environment? Maine cares a great deal about its forests and has made significant efforts to assure their health and sustain a diversity of uses. State government has some tools at its disposal, such as harvesting regulation, its own land conservation activities, taxes, and planning and zoning. How can these tools be best deployed in the new environment? What new approaches could be taken to meet landowners' objectives while ensuring public values for the future (timber supply, wildlife habitat, clean water, public access, etc.)?

These are admittedly complex and difficult questions, most without definitive answers. However, the future of the largest forest in the eastern United States, the Maine North Woods, hinges on our understanding of at least the range of plausible answers to these questions.

Mike LaVert is an economist with the State Planning Office, specializing in econometrics and natural resource economics. He serves as staff economist on the Governor's Council on Maine's Quality of Place and the University of Maine's Center for Research on Sustainable Forest's "Keeping Maine's Forests as Forests" study group.

Charles S. Colgan is a professor of public policy and management in the Muskie School of Public Service at the University of Southern Maine. He is chair of the Community Planning and Development Program and associate director of the Maine Center for Business and Economic Research and the University of Maine System Center for Tourism Research and Outreach (CenTRO). He also chairs the State of Maine Consensus Economic Forecasting Commission.



Charles "Chuck" Lawton is chief economist at Planning Decisions, Inc., specializing in economic policy, fiscal impact studies, smart growth and economic development studies. He writes a weekly column on the Maine economy for the Maine Sunday Telegram.

Please turn the page for article endnotes and references.

ENDNOTE

1. An initial version of the paper was presented to the first meeting of the Keeping Maine's Forests as Forests Study Group held on February 15, 2008, at the University of Maine in Orono. This is a slightly revised version of that paper, benefiting from the comments of the members of the group who attended that meeting.

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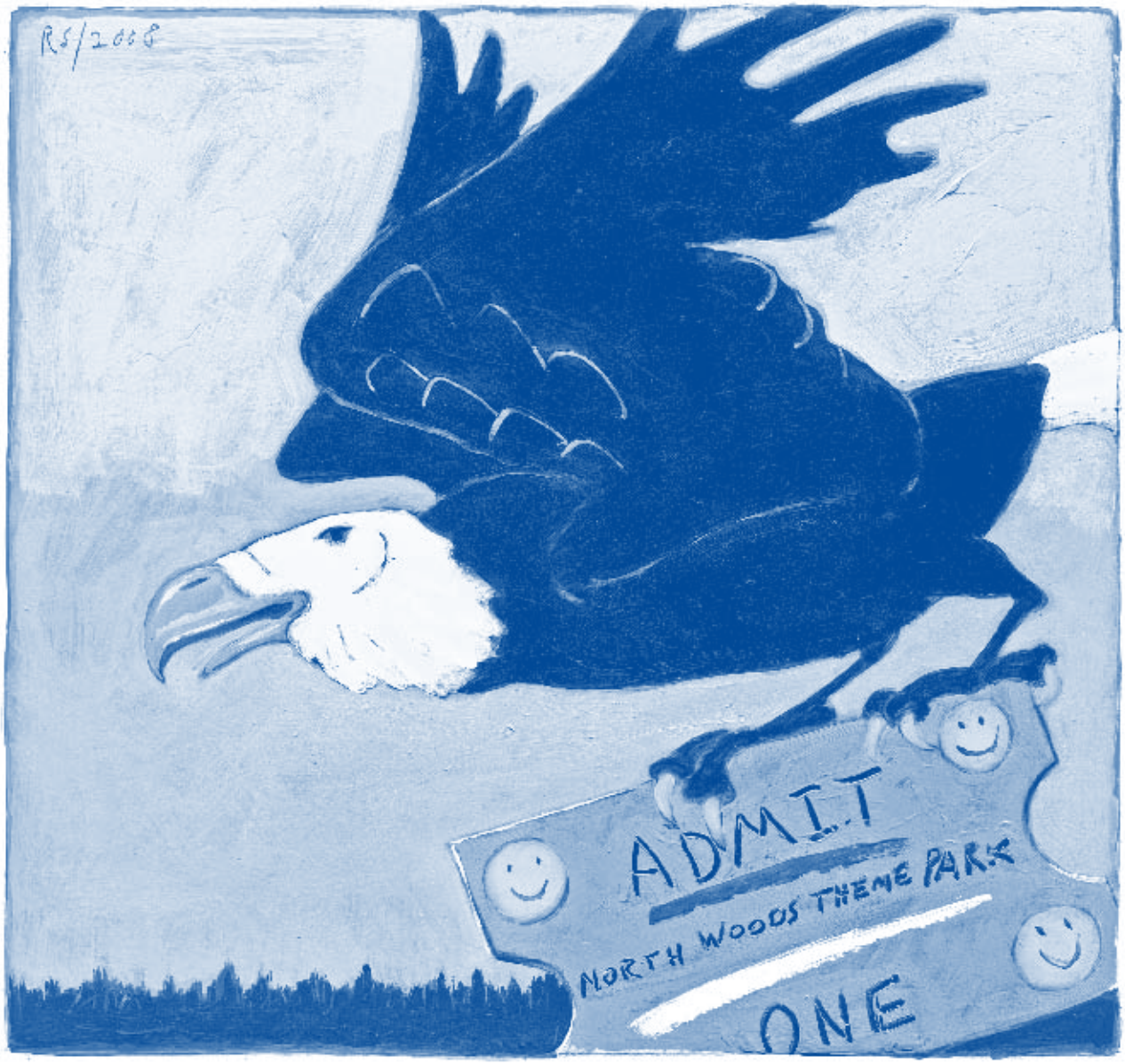
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Seeing the Forest for the Trees:

The Future of Timber Investing in the North Woods

A Conversation with Clark S. Binkley

by Peter Howell

In this conversation with Peter Howell, Clark Binkley draws on his long-term experience as a timberland investment manager to give his analysis of and forecast for timber markets and timber investing in the Northern Forest. While he is not optimistic about the current prospects for such investments, he does believe that there are some opportunities in conservation easements, residential development, and possibly biofuels and carbon credits.

Dr. Clark Binkley, former chief investment officer of Hancock Timber Resource Group, was responsible for timberland investments totaling $3.5 billion during his eight-year tenure with Hancock. Hancock, which once owned a large portfolio of properties in the Northern Forest, sold its entire portfolio in the region between 2003 and 2004. Binkley left Hancock in 2005 to start International Forestry Investment Advisors, LLC (IFIA) to develop and implement innovative, socially responsible timberland investment strategies. At the moment, IFIA manages just under a half billion dollars of investments in two funds, one related to intensively managed hybrid poplars in Oregon and Washington, and the other focused on emerging markets. Just back from a trip to Asia, Binkley sat down with Peter Howell recently in New Hampshire to offer his perspective on timber markets and timber investing and what the future might hold for both in the Northern Forest.

Question: *So what's so interesting about Southeast Asia that you can't find in Maine?*

Binkley: Low-cost land, fast-growing trees, and good access to the rapidly expanding markets in Indonesia, Vietnam, and China.

Question: *So if you could, would you buy timberland in Maine?*

Binkley: No, probably not.

Question: *So you're still less than sanguine about your backyard. Why?*

Binkley: There are three key problems:

1. I think you're going to see continued downward pressure on the forest products industry in the region due to more competitive mills elsewhere in the world. At its factory in Old Town, Bounty is producing paper towels from processed eucalyptus pulp that is shipped up from South America—a classic coals to Newcastle story. But it's cheap, and it's great pulp. Timberland owners need markets for their pulpwood and logs, and if the forest products manufacturing base deteriorates then the risks of holding timberland increase.
2. Land costs have risen to the point that returns have fallen to levels that cannot justify ownership for timber production.
3. There is little opportunity to leverage forestry biotechnologies such as the use of elite varieties and intensive management to offset higher land costs.

Traditionally, high-quality hardwoods have paid much of the freight for timberland ownership in the region. To grow high-quality hardwoods, you have to have something to do with the very large quantity of low-quality materials that you are producing along the way, and historically, the pulp mills in the region have performed that function. I don't think you'll see a new pulp mill in Maine. With their decline, this is becoming more difficult. And high-quality hardwoods increasingly are grown in fast-growing plantations.

We are going into a major housing slump. Timber prices in some cases have fallen and in other cases are going to have to fall just to come down to be in line with lumber prices. So you are going to look at a couple of years of probably pretty poor operating economics. It's a very tough time in the lumber business right now. Single-board-foot prices are at their lowest level in 40 years.

The hardwoods business isn't terribly strong either, and historically that's been the great strength of the Northeast. The United States furniture industry has fallen by about 50 percent, and most of the loss has gone to China, Vietnam, and Indonesia. The furniture manufacturers in Southeast Asia do need wood, and some wood from the Untied States that might have gone to U.S. manufacturers will go there instead. But firms in these countries are also sourcing their wood from a much broader and closer supply chain than the United States. And also there are getting to be substitutes for native hardwoods from plantation-grown hardwoods. All this translates into a lot of negative pressures on cash flows in timber industry in the Northern Forest.

Question: You sound like a real Dr. Doom and Gloom. Any bright spots anywhere?

Binkley: Well, there are some positives. The biofuels business might replace pulp markets. But it's a tough business. There's a lot being said about cellulosic ethanol, which would create demand for pulp. But most of the business plans for these things show the price of their inputs—wood—as zero. That doesn't help us much. Carbon credits could also play a role. If you assume, perhaps a little rosily, that forests in the Northeast might grow perhaps two tons per acre per year and that carbon credits will fetch $25 a ton, that's a lot of money. But it's completely a function of regulation: will we get a legal framework to capture this value? Within the environmental community there are highly mixed views about whether you should get credits to grow natural forests. But in my view, carbon could become the largest market for forests in the Northeast.

On the timber-supply side, one of the underappreciated phenomena in North America is the impact of the mountain pine beetle in British Columbia. It is basically killing every single pine tree in British Columbia. The industry is doing as much salvage logging as it can so there's a lot of supply on the market right now, but that is a relatively temporary phenomenon. In maybe 10 to 15 years, supply is going to fall off fairly dramatically in British Columbia. This could reduce the wood supply in North America by 20 to 30 million cubic meters of wood. Just to give that a kind of point of reference, New Zealand cuts about 20 or 25 million cubic meters annually. So, in the longer term, that should be favorable for timber prices in the United States.

And finally, one bright side for the industry is, ironically, the prominence of so called higher and better use (HBU), or sale of timberland for development. You have seen that in New England, but it is also a broad phenomenon in North America. The timber REITS (real estate investment trusts) (including Plum Creek) and the TIMOs (timber investment management organizations) now make about a third of their cash flow from land sales.

Question: So why are investors buying land specifically in northern New England?

Binkley: That's a good question. Many of them bought in the past on the basis of bullish predictions of future value. I don't think you'll see a lot of large institutions buying in the region for a while. Smaller investors, real estate developers and loggers are likely to make up the bulk of the purchasers. Prices are simply too high for the traditional, classic timberland investor to make good returns.

Question: Timberland prices remain strong. How do you square your pessimism with what seems like continuing optimism on the part of many investors?

Binkley: As economists are fond of saying, "optimists control markets!" More seriously, in valuing timber, there are two questions: what are the cash flows over time? And what discount rate do you use to bring those cash flows back to the present? The reason that timber asset values have stayed high is a curious blend of the two. Generally, cash flows have dropped overall rather significantly, suggesting valuations should have fallen. But, the discount rate has also fallen, from perhaps eight percent to 4.5 percent. The impact of reductions in discount rates has more than offset the reductions in expected cash flows, so timberland asset values have risen in the face of deteriorating fundamentals.

Will the discount rate continue to fall? I just don't think it can. One benchmark, 10-year U.S. Treasury bonds, is at a cyclically low level already. If the discount rate doesn't fall, or if it begins to increase, it seems to me that asset values will have to fall at some point. Of course, timberland prices may not fall a lot and may not fall quickly. Prices may be a bit "sticky" downwards in part because appraisals tend to look backwards rather than forwards, and the past has been full of high prices. And, timberland asset values may be propped up by development or carbon values. I just think the future may look different from the past.

Question: Yet there still seems to be a lot of money going into timber investment?

Binkley: Yes. There is a great deal of money coming into the asset class looking for land that, after the last big sell-off by industrial companies, is relatively scarce. There are several very large European pension plans that have decided that they want to invest in timberland and a couple of very large Canadian ones. These funds may be worth $100 billion to $200 billion, and they typically are looking to place perhaps one to three percent of their value in timber to diversify their holdings. A billion dollars may not be much to them, but it's a lot of timberland!

Question: But what effect has the credit crisis and the meltdown on Wall Street had on timber investing?

Binkley: The recent turmoil in capital markets has meant two things for timberland. First, borrowing has gotten a lot more expensive for everybody. If you wanted to buy timberland and do it with lot of debt, you probably won't be doing that anymore. Recently, TimberStar bought a lot of forestland in Texas, and they did it with a debt structure that looks a lot like the debt structures that have all collapsed around us in the mortgage business. Second, it means that returns on U.S. Treasury bonds have fallen a good deal, and this will cause people to look for higher yields elsewhere. Timberlands historically have offered reasonable returns so I imagine the credit crisis has re-emphasized the low risk of timberland.

Question: So, one trend seems to maybe slow aggressive investment and the other would seem to favor timberland vis-á-vis *other assets?*

Binkley: That's right. Historically, people have invested in timber as an asset because it wasn't correlated with the stock market. But what's unclear is what will happen in the future. Right now forward-looking returns—that is, what investors think the future return will be—have fallen about 300 to 400 basis points (that is three to four percentage points) in the last three years. The question is: are investors really going to be interested in investing in timberland when they are generating only 200 basis points above real treasuries? It just seems to me that the bloom is a little bit off the rose with conventional U.S. timberland investments.

Question: How will all this affect the timber investors' approach to timber harvesting and to conservation?

Binkley: Well, you may see more pressure on some investor landowners to cut harder to increase cash flow. As for conservation, that's the really interesting question. Easements have helped timberland investors by reducing their cost on the front end and thus increasing their internal rate of return. Lyme Timber, a TIMO, has done magnificently well with their investments by partnering with conservation groups on easements.

Question: What about development? Aren't investors betting on increased returns through development?

Binkley: Historically, many timber investors have. Since about 2000, a lot of timber investors have included a premium for development in their business plans for timberland acquisitions. But I think many have realized their rural real estate development is far riskier than the timber business and that they may have mis-valued that element of the timberland asset.

Question: But isn't there growing development pressure in the region? If they weren't right then, aren't they now? Isn't this Plum Creek's business model?

Binkley: It is, and it may be a winning one. Plum Creek clearly is further ahead of other timber investors in thinking about HBU (highest and best use). But I think the picture is much more complicated. There surely is a lot of heterogeneity in land in the Northeast. There's a lot of timberland, particularly in Maine, that just does not now have and is not likely to ever have any material HBU. development value because it is too distant or it lacks any distinguishing characteristics. I shouldn't

say that it will never have it, but it might only have it in the context of being part of a 10,000-acre kingdom lot or something like that. There is only so much waterfront, there are only so many prime lakes and hills, etc. So, both the amount and kind of economic productivity of the land varies tremendously.

Question: Many observers have commented that even if there isn't immediate development, land sales are likely to lead to greater parcelization? Do you see that, and is it a concern?

Binkley: It absolutely is occurring as larger ownerships become divided into smaller ones. But, until the land use changes, all you have is more landowners. Fragmented ownership does not necessarily mean a fragmented forest. What does fragmented ownership mean ecologically, economically? There's a great deal of fuzzy thinking, and little empirical work, to answer this question.

Question: Are there any structural limits for investors to capturing real estate value?

Binkley: Yes, a potentially very significant one. If a timberland investor repeatedly makes HBU sales, the IRS considers that investor to be in the business of dealing in land. This activity then becomes a business unrelated to the timberland business, and is taxed at ordinary income, not capital gains tax rates. Plum Creek has appropriately gotten around this problem by creating a separate, taxable subsidiary for its real estate activities, but not all timberland investors have done so. I am frankly a bit surprised that there has not been more tax-related concern about the amount of real estate sales being made by traditional timber investors.

Question: If you were a policymaker, what policies would you pursue to ensure the continued health of the forest in northern New England?

Binkley: I think that one of the most effective tools is continued funding for conservation easements. Conservation easements take out the development value without having to do the development. This increases an investor's return and keeps the land from being developed. Carbon credits also can play a role. I would have thought that given all the concern about forestry and forests in New England the Regional Greenhouse Gas Initiative (RGGI) would have a strong program that would have linked accounting for carbon credits as part of a conservation program. This could have been another way to fund conservation easements. The RGGI rules are still in flux, but to date have not been very positive for forestry. If structured correctly, I think that carbon credits could be a very powerful lever for protecting forestland.

Peter Howell is the executive vice president of the Open Space Institute where he oversees the conservation research and finance programs. Previously he designed and implemented national grant-making programs focused on wildlife habitat conservation at the Doris Duke Charitable Foundation and on urban park creation and restoration at the Lila Wallace-Reader's Digest Fund.

Clark S. Binkley is managing director of International Forestry Investment Advisors (IFIA), a firm he founded to develop and implement innovative, socially responsible timberland investment strategies. Prior to founding IFIA, he was managing director and chief investment officer of the Hancock Timber Resource Group, the world's largest timberland investment advisory firm serving private-equity clients. Before joining Hancock, he was dean of the Faculty of Forestry at the University of British Columbia, and from 1978 to 1990 was on the faculty at Yale University. He has written more than 100 books and articles on forest economics and is known worldwide for his research on timberland investments.

Houses in the Woods:

Lessons from the Plum Creek Concept Plan

by Kathleen P. Bell

Residential growth pressures have arrived at the edge of Maine's North Woods. Kathleen Bell in this article examines changes in the economics of rural land use in Maine. She notes that public debate over Plum Creek's proposal for development in the Moosehead region reminds us that we need to increase our understanding of the interactions between residential growth pressures, changing landownership patterns, and new expectations for Maine's forestlands.

INTRODUCTION

At the heart of the debate over the 2007 Concept Plan proposed by Plum Creek (2007) are myriad issues related to the conversion of forestlands to residential use or more informally, houses in the woods. The ecological, social, and economic impacts of these houses, their residents, and associated infrastructure are central to the ongoing discussions and review of the proposed Concept Plan. In what follows, I will avoid the difficult task of delineating these impacts. Thankfully, these are being studied by other researchers as part of the Concept Plan's review. Instead, I will take a broader view and share what I perceive are three valuable lessons to be learned from Plum Creek's Concept Plan. Some aspects of my discussions of these lessons are new. Other aspects are, quite frankly, restatements of established ideas and Maine policy questions.

My perspective is shaped by my training as an economist, my years of researching residential development in rural areas throughout the United States, and my experiences as a resident in the changing landscapes of Massachusetts, District of Columbia, Maryland, Washington, and Maine. I begin with general remarks on the economics of rural land use change and a summary view of recent changes in population and housing units. This overview is followed by a discussion of Maine's landscape, with emphasis given to its unique qualities. The paper next turns to the significance of the Plum Creek proposal and its concomitant public dialogue. I conclude with specific reflections on what I consider to be three valuable lessons from the submission and review of the Concept Plan.

ECONOMICS OF RURAL LAND USE CHANGE

Many landscapes in rural areas throughout the United States are increasingly subject to residential development pressures (Heimlich and Anderson 2001; Theobald 2001; Egan and Luloff 2005; Bell et al. 2006; Snow 2006).[1] Whether these pressures arise from encroaching suburbs or seasonal-home developments, the underlying dynamics of the land market are frequently similar. When returns to residential lands greatly exceed those of forest and agriculture uses, pressures mount and conversions increase. In their analysis of land use in Maine, Plantinga et al. (1999) found support for this economic model and evidence of these dynamics, demonstrating linkages between land use patterns and relative land returns and predicting future decreases in private timberland and increases in urban land. An economics perspective of rural land use change reminds us of the interdependencies between residential growth and agricultural and forest markets.

…some landowners can earn significantly more through residential development than through forest and agricultural activities.

Similar predictions emerged in a recent national study of watersheds dominated by private forestlands (Stein et al. 2005). These authors ranked watersheds according to risk of forestland conversion to developed uses. Three Maine watersheds (Lower Penobscot, Lower Androscoggin, and Lower Kennebec) appear in their "top 15" (out of 1,026 watersheds nationwide), a group distinguished by the acreage expected to shift from rural to exurban or urban. The recent report by the Brookings Institution Metropolitan Policy Program (2006) offers yet another reminder of these conversions in its discussions of rural sprawl and urbanization, noting the potential impacts of changing development patterns on the "Northern Forest" brand and the capacity of these lands to support a variety of forest-based industries.

Across Maine, changes to our landscape increasingly offer evidence of the disparity between residential returns relative to agricultural and forest returns. In some instances, the rapid increase in this relative return provides a strong catalyst for conversion. Simply put, some landowners can earn significantly more through residential development than through traditional forest and agricultural activities. Of course, for these gains to be realized there must be willing sellers, demand for residential housing, and laws permitting development. Otherwise, the premiums will not prevail.

Coupling these land market trends with national growth in income and population, changes in transportation and communications, and the retiring

FIGURE 1A: Population by County Subdivision (2000)

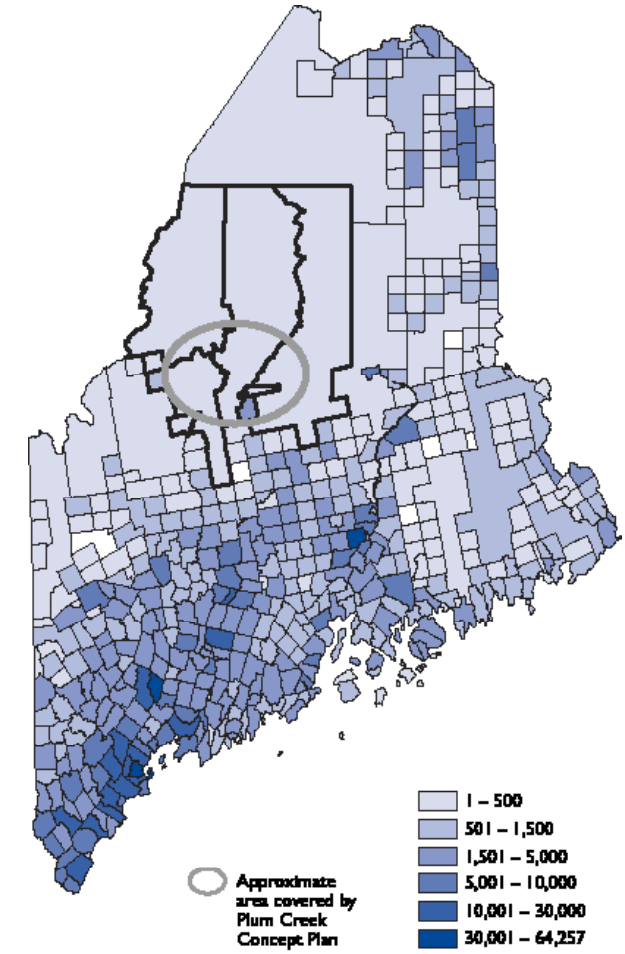
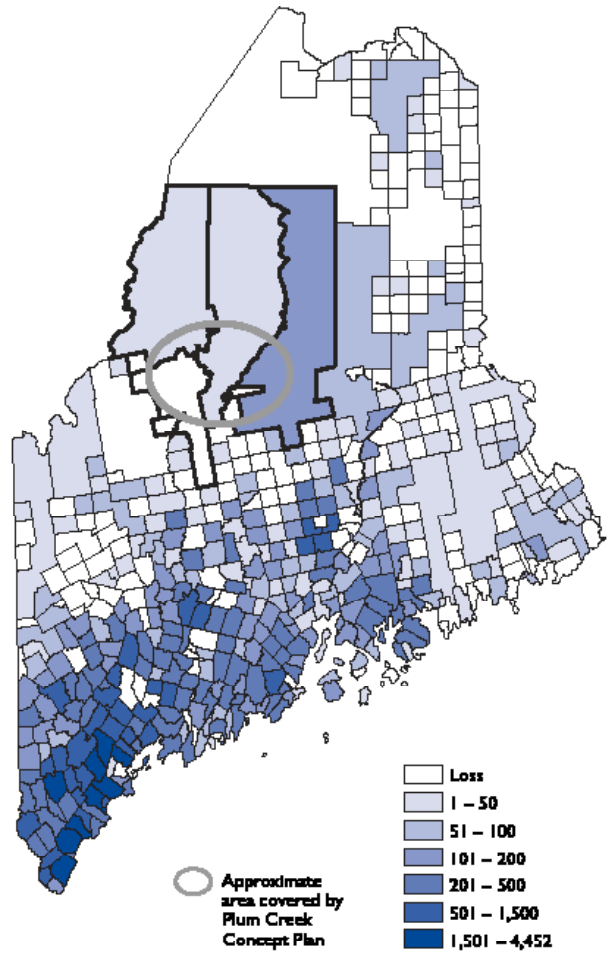


FIGURE 1B: Population Change by County Subdivision (2000–1990)



baby-boom generation, it is not surprising to find private landowners, such as Plum Creek, pursuing returns from increased development, even in a somewhat remote region of Maine. This brings us to the *first lesson* from the proposed Concept Plan—Maine is not immune to residential development pressures experienced elsewhere. This is not a new lesson. The challenge or opportunity for Maine, as has been noted elsewhere (Dominie 1990; Colgan 2004; Richert 2004; Brookings Institution Metropolitan Policy Program 2006; Maine Governor's Council on Quality of Place 2007), is how the state will respond to these pressures. Coastal areas have been under intense pressures for decades. Suburban areas, particularly those in the southern counties and the Bangor metropolitan area have experienced considerable change in the last decade (Richert 2004). Shoreline and recreation-based developments are constant themes in Maine's land use history (Judd and Beach 2003). These pressures have now intensified in a different part of Maine's landscape. Although some of these pressures may be tempered by instabilities in financial markets and economic recession, growth pressures are likely to persist in Maine's forests because, among other factors, land and housing in these areas are less costly than comparable areas in neighboring states and many other rural regions of the U.S.

FIGURE 2A: Housing Units by County Subdivision (2000)

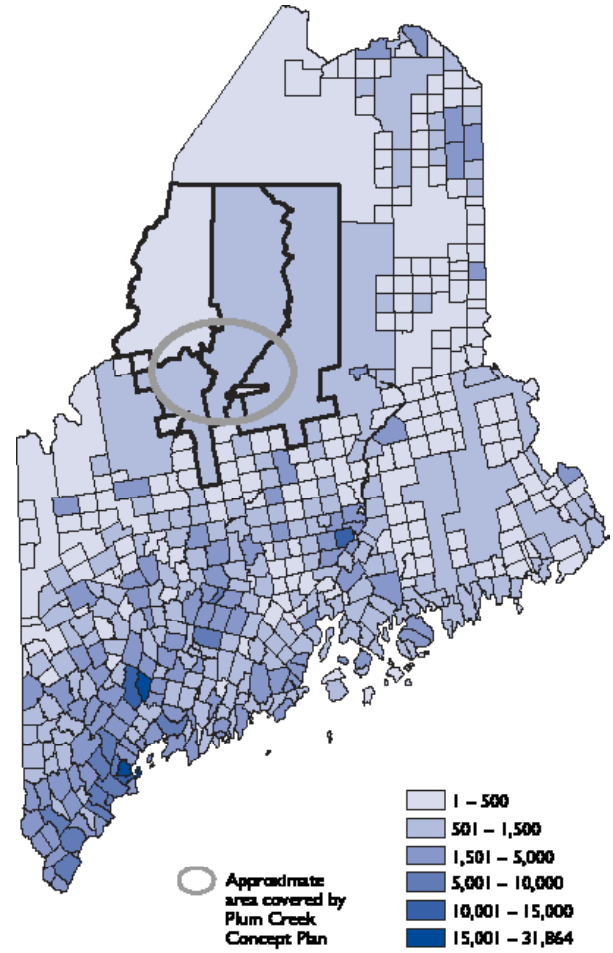
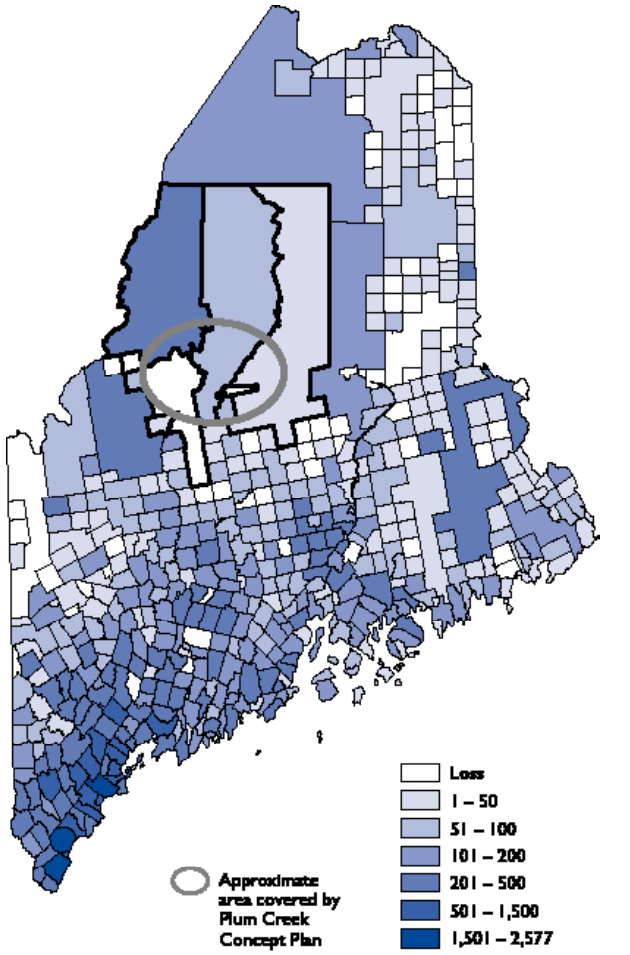


FIGURE 2B: Housing Units Change by County Subdivision (2000–1990)



RECENT CHANGES IN POPULATION AND HOUSING UNITS

A comparison of the two most recent decennial census data (1990 and 2000) offers one view of recent population and housing trends. Overall, Maine experienced modest population growth (3.8 percent) and housing unit growth (11 percent) between 1990 and 2000 and had approximately 1.274 million residents and 651,901 housing units in 2000. Changes in population and housing were not homogenous over space, however, with population and housing increasing more dramatically in southern and mid-coastal areas and outside of urban areas statewide.

Figures 1 and 2 show by county subdivision the spatial variation in absolute levels of population (1A) and housing (2A) in 2000, and the changes in those levels from 1990 to 2000 (1B and 2B). County subdivision is a unit employed by the U.S. Census Bureau that corresponds with towns, cities, plantations, townships, and unorganized territories in Maine. Interestingly, population and housing did not always move in the same direction over this time period. The majority of county subdivisions in Maine (64 percent) experienced gains in both population and housing units. A subset experienced losses in both population and housing units (eight percent). A small group (two percent) experienced gains in population and losses in

housing units, and an intriguing but significant group of county subdivisions (26 percent) experienced losses in population and gains in housing units. The experiences of this latter group can partially be explained by increases in seasonal housing units. Moving forward, discussions of houses in the woods should consider the broader context of these changes. Additions to the housing stock of established, growing communities are distinct from increases in seasonal housing units in communities experiencing reductions in year-round populations.

…areas with higher levels of natural amenities and accessibility (and hence returns in residential use) are experiencing greater residential growth pressures.

Changes in housing units are one metric of residential growth pressures. The impacts of a given change will vary by community. For example, 50 new housing units in Portland may go unnoticed, whereas more attention may be given to the emergence of 50 new housing units in West Forks. The images and statistics behind these maps remind us of the variation in population and housing densities across the state. However, there are drawbacks to using U.S. Census Bureau data to describe changes in the human aspects of Maine's landscape. For example, focusing on new housing units overlooks important changes driven not by new units but by conversions of seasonal units to year-round homes. In addition, while the U.S. Census Bureau data offer valuable descriptions of year-round residents, they do not readily allow us to understand seasonal residents. They are, however, one of very few data resources collected in a consistent manner statewide to describe the human aspects of Maine's landscape.

Looking more closely at a subset of county subdivisions that include or border lands to be rezoned by the Plum Creek Concept Plan (and having wider outlines in Figures 1 and 2), we observe an area with modest amounts of year-round residents and housing units, and variability in terms of growth in housing and population from 1990 to 2000. In 2000, there were about 5,998 housing units and 3,564 year-round residents in the nine county subdivisions of Beaver Cove, Greenville, Jackman, Moose River, West Forks Plantation, and the unorganized Northeast Piscataquis, Northwest Piscataquis, Northeast Somerset, and Seboomook Lake territories. Of these nine county subdivisions, three experienced gains in population and housing units from 1990 to 2000, three experienced losses in population and housing units from 1990 to 2000, and three experienced losses in population and gains in housing units.

A recent report prepared by Planning Decisions, Inc. (2006) provides a useful and comprehensive assessment of demographic and socioeconomic trends in the Land Use Regulation Commission's (LURC) jurisdiction from 1970 to 2000. This analysis identifies the Moosehead Region as one of the fastest-growing areas in the LURC jurisdiction, finding recent growth in population, housing units, and land accounts.[2] Overall, population in the LURC jurisdiction has increased by about five percent per decade since 1970, with an estimated 12,461 year-round residents in 2005 (Planning Decisions, Inc. 2006: 15). From 1970 to 2000, housing units in the LURC jurisdiction doubled, with an estimated 18,936 housing units in 2000 (Planning Decisions, Inc. 2006: 20). Comparing population and housing unit estimates from 1990 to 2000 across regions within LURC's jurisdiction conveys valuable information about recent spatial variation in these changes. The Western (17 percent increase in population; 21 percent increase in housing units), Moosehead (seven percent increase in population; 18 percent increase in population), and Downeast (seven percent increase in population; 21 percent increase in housing units) regions experienced the greatest relative increases in both population and housing units. In 2000, the Moosehead Region had a year-round population of approximately 1,120 (1,173 in 2005) and approximately 3,629 housing units, with 547 new housing units added between 1990 and 2000 (Planning Decisions, Inc. 2006: 16, 20). Notably, the number of land accounts in this region rose by 93 percent from 1985 (1,805 accounts) to 2000 (3,486

accounts). (A land account is a parcel of land or two or more contiguous parcels of land owned by the same individual or entity.) What can we learn from these numbers? In short, changes were underway prior to the Plum Creek Concept Plan.

Not surprisingly, Planning Decisions, Inc. (2006) observe certain locations in LURC's jurisdiction appear more vulnerable to residential growth pressures, including those in proximity to major roads, bodies of water, and service centers. Permits issued by LURC from 1972 to 2005 are clustered somewhat, with 40 percent of the permits issued in four percent of the jurisdiction's communities (Planning Decisions, Inc. 2006: 42). My own research of land cover transitions in Somerset, Penobscot, and Piscataquis counties confirms these findings, indicating a higher likelihood of conversion to developed land cover from 1992 to 2001 for lands located closer to rivers, lakes, major roads, and other developed lands and in proximity to minor roads and service centers. To some extent, these analyses confirm the obvious: areas with higher levels of natural amenities and accessibility (and hence returns in residential use) are experiencing greater residential growth pressures. Changes are underway, though variable over space.

MAINE'S UNIQUE LANDSCAPE

The manifestation of residential growth pressures in Maine is influenced by numerous factors, including the novel attributes of its landscape. Among these attributes, the great extent of forest cover, high degree of private ownership, and variation in land use policies are striking. Approximately 90 percent of Maine's landscape was in forest cover in 2003, making it the most highly forested state on a proportional basis (McWilliams et al. 2005). Throughout much of the United States, discussions of development in rural areas focus on conversions of agricultural land to residential housing—houses in the fields rather than the woods.[3] In many respects, Maine's forest-dominated landscape presents a more complex setting for assessing, evaluating, and managing change. This latter point is accentuated by a second unique attribute of Maine's landscape—its high rate of private land ownership (approximately 92 percent). Also unique to Maine is the variability in land use policy. The contrast between the local policies of the organized portions of the state and the regional policies in place in the unorganized territories is noteworthy, as are the town-to-town variations in local policies and traditions of home rule. Accordingly, a diverse set of responses to growth pressures and houses in the woods is expected statewide. These responses will inherently and inextricably be linked with changing forests, changing private landowners, and changing preferences for services from forests.

In the 1980s, discussions of forestland ownership change in the Northeast resulted in the Northern Forest Lands Study and the formation of the Northern Forest Lands Council (Northern Forest Lands Council 1994; Irland 1999). Concerns surfaced over the sustainability of the ecological, social, and economic systems of the Northern Forest region. The urgency of this discussion has intensified within the last decade in Maine with the increased diversification of forest landowners (Hagan et al. 2005; McWilliams et al. 2005; Sader and Jin 2006). Hagan et al. (2005) stress the significance of recent shifts in forestland ownership: marked reductions in industrial owners and increases in timber investment management organizations (TIMOs) and real estate investment trusts (REITs); increased diversification in the types of owners, including individuals and land conservation organizations; and increased fragmentation of ownership, resulting in larger numbers of owners and reduced parcel sizes. In 1994, the forest industry and financial investors owned approximately 60 percent and three percent of large tracts of timberland (>5,000 acres), respectively. In 2005, after considerable changes in ownership, the forest industry and financial investors owned about 15.5 percent and 33 percent of these tracts, respectively (Hagan et al. 2005: iii). The implications of these ownership changes are not well understood. However, it is safe to assume that owners may now be operating under different land-management objectives. Whether or not these owners are more or less likely to subdivide or convert their land to residential use remains an open question. As the numbers and types of owners increase statewide, so too does the complexity of coordinating owners and managing lands at a landscape scale. This brings us to our *second lesson*—changing ownership patterns matter.

FOREST SERVICES

Maine has a tremendous amount of forests, and the diverse services provided by these forests (e.g., timber, habitat, recreation opportunities, locations for housing, and community character) are largely under the control of private landowners. From an economic perspective, this pattern of ownership is interesting for several reasons. First, it raises an interesting social welfare question: namely, do the individual decisions of numerous private landowners support a landscape that is socially desirable? A second and related question arises from the extent to which land markets (and land returns) reflect the full range of services provided by lands in different uses. If markets do not exist for some services (e.g., recreation access, habitat), prices will not reflect the full social value of the lands in that use, undermining the ability of markets to align private and social interests. Many concerns over residential growth in rural areas inevitably link back to external effects, where the decisions of one private landowner have spillover effects on other parties, and missing markets, where the values of certain services are disregarded.

Throughout Maine's history, there are examples of struggles to find the "right" balance and offer joint respect for private property rights and social welfare when managing the use of lands. The nature of these struggles varies over time, responding to both changing public preferences for forest services and to changing forest product markets (Judd 1997: Chapter 4; Judd and Beach 2003: Chapter 6; Irland 2000). Consider the discussions in the 1970s over Bigelow Mountain and the series of forest management referenda in the 1990s. Regulations and norms have responded to ownership patterns, landscape features, and public demands of these forests. Examples of such responses include laws such as the Forest Practices Act and the Great Ponds Law, and traditions such as the "open land" tradition and seasonal camps. Acheson (2006) emphasizes the significance of these traditions and their vulnerability to change. Maine is home to a variety of unique institutions that have guided the joint provision of various forest services by numerous landowners, including forest industry groups, land trusts, sporting and recreation groups, woodlot owner associations, lake associations, and conservation organizations. The Land Use Regulation Commission itself is an artifact of this balancing process.

Formed in 1971 by the Maine Legislature to serve as the planning and zoning authority for the state's plantations and unorganized areas, LURC emerged as a response to housing and development pressures in the 1960s as well as clashes among paper companies, environmentalists, and tourism officials regarding the future of the North Woods (LURC 1997; Judd and Beach 2003). Its origins were not free from controversy, and the Commission has evolved over time in response to changing issues. As noted previously, the contrasting land use planning approaches within the organized and unorganized portions of the state are striking. In the organized portions of Maine, the extent of private landownership coupled with local authority of land use management is noteworthy. Within the unorganized territories and state's plantations, the authority of LURC over an area in excess of 10.4 million acres is likewise remarkable.

In contrast to the regulatory setting in the organized portions of the state, LURC is designed to accommodate large-scale planning. However, it is not clear the resources and process dictating the commission's role are suited to do so, especially as development pressures increase, demands for forest services diversify and grow, and pressure for major energy and communications projects intensify. Consider the jurisdiction's four principal values: (1) the economic value of the jurisdiction for fiber and food production; (2) diverse and abundant recreational opportunities, particularly for primitive pursuits; (3) diverse, abundant, and high-value natural resources and features; and (4) natural character values such as vast forested areas and remoteness (LURC 1997). Maintenance of these values guides various decisions, including the appropriate locations of development. To date, there has been moderate success in balancing these values in the North Woods. This success is partially explained by historical patterns of few and large landowners, the management objective of those owners, interest in primitive recreation activities, and modest development pressures.

The *third lesson* to be gleaned from Plum Creek's proposed Concept Plan is that changing preferences for forest services matter. We are increasingly asking more of our forests and landscapes. As a result, the balancing

of private and social interests in a forest-dominated landscape such as the North Woods has become more complex. Accordingly, I expect LURC's job to get more difficult and varied, as re-interpretations of and tradeoffs across these values will ultimately be inevitable. In turn, demands for information about the jurisdiction and these relative values will increase.

Writing in 2000 about the future of Maine's forests, Lloyd Irland (2000: 76) pointed to a pragmatic vision "blending Maine traditions with a practical eye on the new century." Looking ahead, it will be interesting to see if such a vision is realized. It remains unclear how working forests will evolve over the next century. Changes in energy markets are likely to have a meaningful impact, as will changes in emerging markets for ecological services. Varying preferences for recreation, tourism activities, and housing locations will also be important as will be the growing conservation networks surfacing in the region. The jurisdiction's forests are dynamic and under pressure from a variety of changes. Accordingly, we will continue to see the evolution of Maine traditions, laws, and institutions in response to these changes.

REVIEW OF THE PLUM CREEK CONCEPT PLAN

Plum Creek's Concept Plan seeks the rezoning of approximately 408,000 acres (Plum Creek 2007: 1). At the center of the debate and the final proposal are the approximately 20,000 acres to be rezoned for development to support 975 housing lots, as well as two resorts with 1,050 resort accommodations (Plum Creek Timber Company 2007: 4–5). Approximately, 91,000 acres under permanent conservation easements are offered to balance the impacts of these additional developed lands, and an additional 340,000 acres (295,500 acres in the Concept Plan Area and 45,000 acres at Number 5 Bog) makes up the Conservation Framework. Under this framework, approximately 266,000 acres will fall under a working-forest conservation easement and approximately 74,500 acres (29,500 in the Concept Plan Area and 45,000 acres at Number 5 Bog) will be sold to a conservation buyer (Plum Creek Timber Company 2007: 3).

The proposed Concept Plan for the Moosehead Region reflects elements of change within Maine's landscape. In many respects, the emergence of the plan is a reminder of the significance of residential growth pressures, changing landownership, and changing forest preferences. We observe a relatively new landowner in a relatively new landownership class (REIT) seeking to increase its financial return by integrating objectives for working forests and residential development. Two discussion papers prepared by Open Space Institute and Industrial Economics, Inc. (2007a, 2007b) offer insights regarding these financial motivations. A key point made in their first discussion paper is the appropriate baseline against which to assess the plan. By comparing a future landscape without the concept plan versus a future landscape with the concept plan, these researchers provided a valuable service by framing the debate wisely and pointing out that considerable development could occur under the current zoning and land use regulations. Discussions of future landscapes benefit from consideration of alternative futures. Comparisons to the status quo are of less value. Change is inevitable. If the Plum Creek proposal does not move forward, there will still be development in the Moosehead Region, possibly in a more sprawling form.

We are increasingly asking more of our forests and landscapes. As a result, the balancing of private and social interests in a forest-dominated landscape such as the North Woods has become more complex.

The location of development and how various impacts may change with these locations were central to the public debate and technical review of Plum Creek's proposal. As we accommodate more housing in the woods, improved knowledge of such relationships is essential to "smarter" growth patterns. Because of the irreversible nature of conversions to residential use, there is an added urgency to acquiring such knowledge. Investing in improved data describing the locations and

attributes of housing (and marrying these with datasets describing other aspects of the landscape) is central to understanding the suitability of different locations for development. Gauging the preferences of individuals for different types of housing (Maine State Planning 1999a, 1999b) in lake-rich and forested landscapes also may help inform future discussions and support novel forms of development. Similarly, paying attention to heterogeneity in both housing and residents is central to understanding potential social, economic, and ecological impacts (Egan and Luloff 2005; Ploch 1988). Housing is one of many services offered by our forests. Maine stands to learn from the experiences of other lake-rich states, such as Wisconsin, that have experienced greater residential development pressures.

The interactions among residential growth pressures, changing land ownership patterns, and changing preferences for forest services are essential to the future of Maine's forested landscape.

Another interesting aspect of the Plum Creek Concept Plan is the conservation proposal linked with the approval of the plan. This proposal speaks to both changing landownership patterns and changing preferences for forest services. The conservation framework has created some unique dynamics in terms of the proposal review and underscores the various objectives of the region's landowners and the likelihood for novel and innovative partnerships moving forward. The public debate raised myriad relevant questions over the terms of the conservation easements. These questions and the related public dialogue have advanced the public's understanding of land conservation activities, forcing individuals to consider the tradeoffs of different forms of land conservation and the resiliency and adaptability of our landscape over time.

To seek approval, Plum Creek has responded to the Land Use Regulation Commission's criteria for approval of concept plans. These criteria have therefore influenced the public debate and the framing of the public dialogue. Among the constructive topics of discourse include the satisfaction of community economic development and quality-of-life issues, reflection on the jurisdiction's principal values, the impacts of the proposed development on these values, and the balancing of increased development with comparable conservation measures.

By initiating these dialogues, inventories have been started to help us to better understand the Moosehead Region and its place in the broader landscape of Maine. This includes gathering information on the region's economic, ecological, and social systems. In many instances, there were few data to support such inventories, and these uncertainties have muddled the debate. In addition, connections among these systems are not necessarily well understood. What is important, however, is that discussions of planning, futures, and values about this region are being held.

Arguably, this proposal has prompted greater recognition of the complexities of Maine's landscape and its management as well as the interdependencies of different demands on this landscape and the reality of the issues that lie ahead. Many of our forest services extend from landscape-scale processes. The Plum Creek Concept Plan offers a unique opportunity to manage lands at this scale. In writing about the transformation of rural communities throughout the Western United States, Donald Snow (2006: 11) warns of a process called "rurbia" — "the arrival of urban/suburban forms of growth in the middle of rural places." Reflecting on how communities might prepare for this new form of growth, he urges communities to not forget their "intangibles." Moreover, he suggests they make these hard-to-describe factors central to the debate of management of future growth. As I listened to the comments of individuals at the public hearings on the Plum Creek Proposal, I was struck by the frequency of references to such intangibles and fascinated by the variation in beliefs regarding the protection and maintenance of these elements.

Regardless of the outcome of Plum Creek's proposal, there are benefits to be gleaned from the public debate. Three positive outcomes include heightened awareness of ongoing landscape changes, some

understanding of the limited information and resources to support detailed planning and related analyses, and a general appreciation for the challenges faced by many rural communities in the Maine North Woods, as they attempt to diversify their economies beyond reliance on the forest products sector.

CONCLUDING THOUGHTS

I will close by repeating the three basic lessons that provided the structure for this paper:

1. Maine is not immune to residential growth pressures. They come in all shapes and sizes, and they have arrived at the edge of Maine's North Woods. The challenge or opportunity for the future is how to respond to these pressures. Change is inevitable. When thinking about the future, the appropriate baseline is not the status quo or no change. Constructive dialogues will follow from consideration of alternative futures and the support of multiple uses of Maine's landscape. Moreover, the responses to residential development pressures in one part of Maine's landscape will have spillover impacts on other portions of the landscape.
2. Changing landownership patterns matter. The number and objectives of landowners influence the services provided by forestlands. In the last decade, there have been considerable changes in forestland ownership in Maine, including higher numbers of owners and greater heterogeneity in terms of management objectives. The implications of these changes have yet to be fully understood.
3. Changing preferences for forest services matter. As a society, we are asking more and more of our forests, including but not limited to the provision of forest products, wilderness, ecological services, recreational opportunities, community economic development, and rural character. Forest and land management strategies, in turn, are responding to changes in the demand for these services by Maine residents, visitors to Maine, as well as individuals throughout the globe.

The interactions among residential growth pressures, changing land ownership patterns, and changing preferences for forest services are essential to the future of Maine's forested landscape. The proposed concept plan has reminded us of our limited understanding of these interactions, while raising awareness of Maine's changing landscape.

Kathleen P. Bell is an associate professor of resource economics and policy at the University of Maine, where she has been on the faculty since 2001. She has written extensively on the economic aspects of land use change and recently co-edited a text entitled The Economics of Rural Land-Use Change. She is currently conducting research on residential development and sustainable lake management in Maine, funded by a grant from the U.S. Environmental Protection Agency.

ENDNOTES

1. It is important to note that not all rural communities are experiencing growth pressures. In fact, some are struggling with a lack of residential growth pressure.
2. Refer to Planning Decisions (2006: 12) to discern how they define the Moosehead region. This region is smaller in scope than the nine county subdivisions discussed previously.
3. My selection of the title of this paper was influenced by John Gorka's song entitled "Houses in the Fields," which speaks broadly to changing rural communities.

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From Diamond International to Plum Creek:

The Era of Large LandscapeConservation in the Northern Forest

by Sara A. Clark and Peter Howell

The last two decades have seen dramatic, unprecedented growth in conservation lands in the Northern Forest, stretching from upstate New York through Maine. The conservation community, in coordination with public agencies, has been able to take advantage of changing forest ownership structure and a significant expansion of public and private funding to support this increase in protected lands. As Sara Clark and Peter Howell discuss in this article, Maine has been a laboratory for some of the largest and most innovative land transactions. Maine is unique in having land conservation strategies focused almost entirely on permanent protection of privately owned land rather than any significant increase in public ownership, and has served as a testing ground for innovative market-based conservation tools.

When the Diamond International Corporation, headed by timber tycoon and corporate raider Sir James Goldsmith, sold nearly a million acres of land in 1988 in New Hampshire, residents of the Northern Forest had a widespread concern that the sale would usher in an era of unchecked development. Those fears, fortunately, were never realized. Though industrial timber companies sold huge amounts of land—almost 24 million acres—in the ensuing two decades, there was little underlying change in land use. It was not until the Plum Creek Timber Company unveiled in April 2005 its controversial proposal to develop almost 1,000 lots and two resorts in the Moosehead Lake region in Maine that it seemed former timberlands would be converted to large-scale development.

Instead, the last two decades have seen a burst of creative conservation action that resulted in protection of almost 3.3 million acres of land in the four-state region. From the Tug Hill Plateau in western New York to Maine's Downeast Lakes near the Canadian border, national and regional land trusts purchased land and easements across large segments of the region. Having strained previously to purchase 20,000-acre tracts, the land trust community now found itself assembling tens of millions of dollars to complete 200,000-acre and 300,000-acre projects. Thus was born the era of large landscape conservation in northern New England, a unique and unprecedented period made possible by readily available public and philanthropic capital, collaborative leadership within the land trust movement, and innovative financing tools.

SETTING THE STAGE FOR CHANGE

The 26-million-acre swath of the Northern Forest stretching from New York through Vermont and New Hampshire and up to Maine is known as the last great wildlands east of the Mississippi. The region contains more than 70,000 miles of rivers and streams and one million acres of lakes. It provides habitat for threatened or endangered species, such as the Canada lynx and the bald eagle, but also for species such as moose, loon, and wild brook trout that have become symbols of the region. The forests provide for human beings also—jobs in the forest products and tourism industries, high-quality groundwater, secluded retreats for traditional camps and seasonal homes, and recreational opportunities for both residents and the millions of visitors to Maine each year.

Historic landownership patterns provide a starting point for understanding the unprecedented conservation that occurred in this region in the last two decades. Unlike the great forests of the western United States, the vast majority of the Northern Forest is and has been privately owned. Throughout much of the 20th century, industrial timber companies owned expansive landscapes. Though timber and pulp production were their primary goals, these owners invested in ensuring their lands remained productive in the long term. This pattern of ownership served the region well, supplying jobs, protecting the land from fragmentation, and providing ample opportunity for hunting, hiking, and other types of recreation (Northern Forest Lands Council 1994). By the late 1980s, however, change was coming, and at a scale that few imagined possible.

> …the last two decades have seen a burst of creative conservation action that resulted in the protection of almost 3.3 million acres of land in the four-state region [of the Northern Forest].

Beginning with the sale of nearly one million acres by Diamond International Corporation in 1988, the vertically integrated forest products industry and traditional family owners began to vacate the Northern Forest region. In 1994, traditional industrial owners held 60 percent of all parcels greater than 5,000 acres, but by 2005 that percentage had dropped to 15.5 percent (Hagan et al. 2005). A number of trends had converged to create such massive turnover in ownership across the Northern Forest. First, the structure of the forest products industry underwent a dramatic transformation between the 1980s and the present. Vertically integrated forest products companies realized during the 1980s that increased profits could be made by decoupling the harvesting of raw resources from the production of timber and paper. With this new understanding, mill managers began to buy pulp from

overseas and timber from sources beyond their own land base, where cheaper prices could be found. This change meant that traditional industrial owners no longer needed control of the Northern Forest landscape, and large blocks of land were soon up for sale.

A second aspect of the change in ownership was the new tax laws available to both timber investment management organizations (TIMOs) and real estate investment trusts (REITs). Beginning in the 1990s, these ownership structures offered lower tax rates than for traditional paper companies, which paid taxes at both the corporate level and on shareholder dividends (Ginn 2005; Dechter 2006). Thus, both TIMOs and REITs became the primary purchasers of lands that traditional paper companies were putting up for sale (Hagan et al. 2005).

This dramatic growth in the acres of lands protected was a result of both new opportunities and a significant expansion in public and private funding for conservation.

The second-home market, fueled by the giddy stock market of the late 1990s and the first wave of baby boomer retirement, was also heating up. With mills purchasing raw forest materials from overseas, land that had once been profitable for timber or pulp production became more profitable when sold for development, particularly those lands located near shorefront or other recreational amenities. The stability of ownership that had silently protected the Northern Forest's natural resources, timber industry jobs, and public access to recreation has given way to uncertainty and flux (Irland 2000).

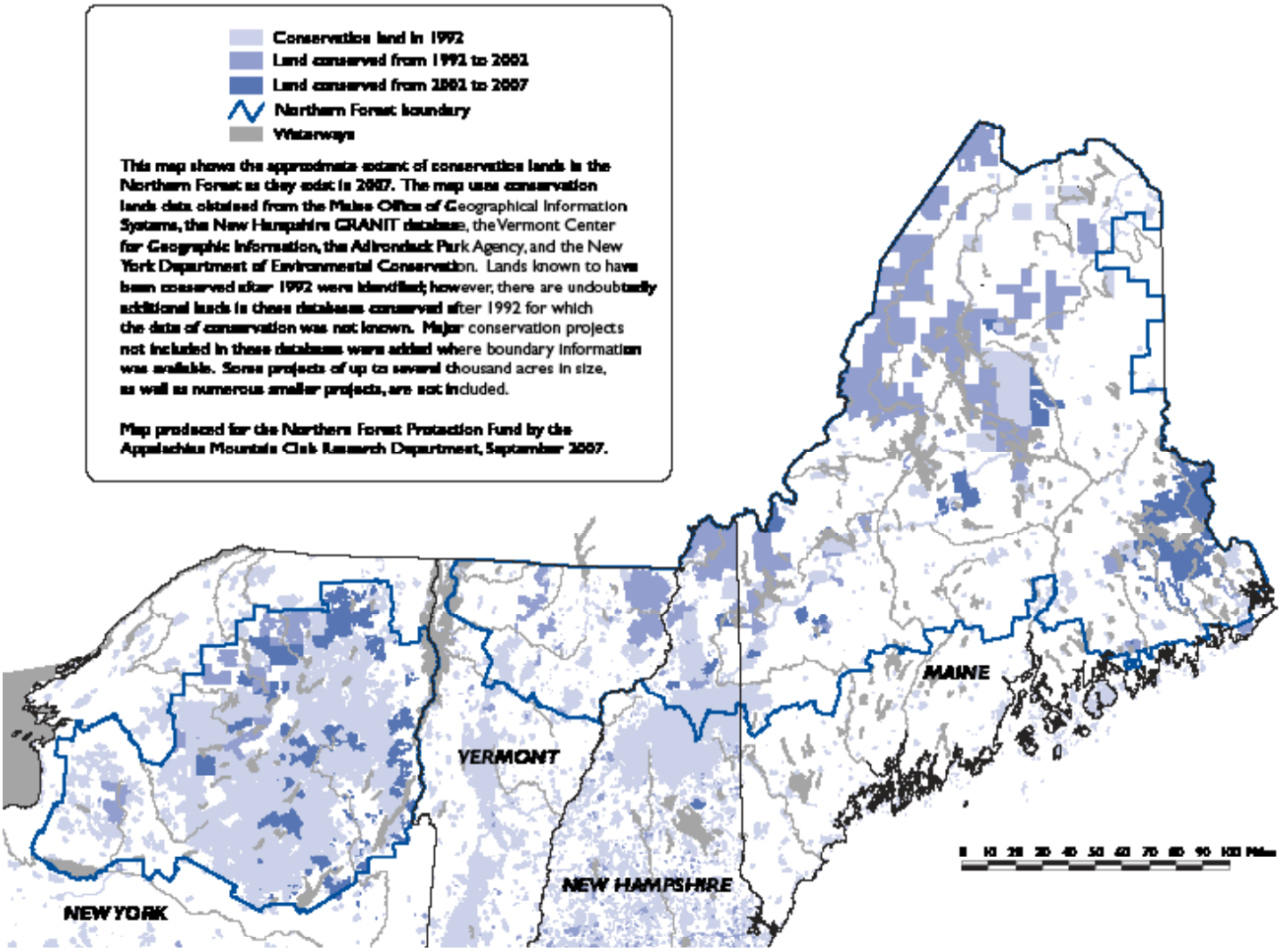
UNPRECEDENTED CONSERVATION

Changes to the forest ownership structure also brought great opportunity for land conservation. Anticipating such changes, the conservation community had done extensive planning to establish protection priorities, creating blueprints for acquisition that continue to be refined (see R. Baldwin et al. this issue). Both within the Northern Forest region and across the country, the scale of conservation that has occurred in Maine since 1988 stands out. According to data collected by the Land Trust Alliance, the number of acres conserved in Maine by land trusts and other conservation organizations ranks second nationally, just behind California. Land protection in Maine accounts for nearly 15 percent of all land protected across the United States (Aldrich and Wyerman 2006).

This dramatic growth in the acres of lands protected was a result of both new opportunities and a significant expansion in public and private funding for conservation. First, in the late 1990s, a federal budget surplus and conservation-friendly administration helped secure millions of dollars of Forest Legacy funding for the region. By 2005, the program had contributed more than $82 million across New York, Vermont, New Hampshire, and Maine, protecting nearly one million acres of land throughout the region. The structure of this funding was particularly well adapted to the working-forest protection model that was being developed in Maine at the time. It was enormously flexible, offering practitioners the choice of outright fee purchases or conservation easements. It provided block grants to the states, which could regrant the funds to specific projects with local input. The focus of Forest Legacy on working forests allowed timber companies to retain ownership and keep traditional uses in place.

Second, the work of the Northern Forest Lands Council (NFLC), a collaborative group convened by the governors of the four Northern Forest states in 1990, established landscape-scale conservation as a priority for the region. This conservation was to take place through two mechanisms: first, by providing incentives for better stewardship on private land, and second, by acquisition of key habitat, recreation or resource areas (Northern Forest Lands Council 1994). This report and the discussion it provoked created a catalyst for landscape-scale protection and a strategic framework for the steps necessary to accomplish it. Environmental advocacy organizations helped to raise the profile of the region and demonstrate the need for public funding to complete key transactions.

FIGURE 1: Conservation Land in the Northern Forest – 2007



Last, the changes in the forest products industry altered the relationship between the conservation community and forest owners. Some players in the timber industry were looking to leave the region entirely and needed willing buyers for their vast acreage. While TIMOs and REITs bought significant tracts of these lands, the conservation community also acted as a major buyer, becoming the fourth largest purchaser of timberland in the United States in 2003 (Ginn 2005). Other timberland owners sought partners that could help them monetize the development values of land they wanted to use predominantly for timber harvest. The conservation community was uniquely positioned to provide this service through the purchase of conservation easements. The relationship between environmentalists and forest owners, once characterized by animosity and mistrust, had changed, creating opportunity for permanent protection of a landscape at a scale never before possible.

In 1998, the Conservation Fund was the first to move, brokering a 295,000-acre deal with Champion International across Vermont, New Hampshire, and

Ten Largest Conservation Transactions in Maine, 1989–2006

Pingree Easement, 762,192 acres (1999). No-development easement purchased by the New England Forestry Foundation on the Pingree ownership.

Sunrise Tree Farm, 311,648 acres (2005). Working-forest easement purchased by the New England Forestry Foundation on lands owed by Typhoon, LLC, and managed by Wagner Forest Management.

West Branch Phase II, 282,000 acres (2003). Working-forest easement held by the Forest Society of Maine, using funds from the Forest Legacy Program.

Katahdin Forest, 241,000 acres (2006). Innovative partnership between TNC and Great Northern Paper to create a 200,000-acre working-forest easement and a 41-acre reserve around Mt. Katahdin.

St. John Watershed, 189,000 acres (1998). The Nature Conservancy's purchase of lands formerly owned by International Paper.

West Branch Phase I, 46,985 acres (2003). Owned by the state of Maine to protect lands with high ecological and recreational values.

Katahdin Iron Works, 37,000 acres (2004). Working-forest purchased in fee by AMC, using new market tax credits.

Farm Cove Community Forest, 27,080 acres (2004). Working-forest easement purchased by the Downeast Lakes Land Trust.

Nicatous and West Lakes, 22,370 acres (2000). Easement negotiated by the Trust for Public Land, the Forest Society of Maine, and the Maine Coast Heritage Trust, using Forest Legacy and Land for Maine's Future funding.

Boundary Headwaters, 22,000 acres (2005). Easement held by the Forest Society of Maine to protect the watershed around the headwaters of the Kennebago River.

New York. The Nature Conservancy (TNC) followed suit, purchasing 185,000 acres from International Paper in Maine's St. John River Valley. This $35-million deal was, at the time, the most expensive purchase that TNC had ever made in any of its programs. The New England Forestry Foundation pursued a different model, purchasing only the development rights on the dispersed Pingree family ownership in Maine. At 762,192 acres, this project is the largest conservation easement ever held by a land trust. While these deals protected five times the acreage conserved in the previous decade, it was not a time for the conservation community to rest on its laurels. In 1999 alone, more than 3.8 million acres changed hands in the Northern Forest, and more change was coming fast (Hagan et al. 2005).

The result of these trends over the last two decades has been unprecedented conservation across the Northern Forest. Since 1994 the results have been particularly striking. A quick glance at the time series maps shown in Figure 1 illustrates the magnitude of protected lands—more than 3.3 million acres across four states.[1] Large complexes of conserved lands are beginning to form, including one million acres of land stretching from the Crown Lands in New Brunswick, Canada, into Downeast Maine. Other impressive places include the Connecticut River headwaters in northern New Hampshire, the Moosehead to Katahdin corridor, including the mammoth 329,000-acre West Branch easement and the 241,000-acres Katahdin Forest transaction, which includes 40,000 acres of reserve and 200,000 acres of eased working forestland, and the mix of public and private lands in New York's Adirondack Park. These large landscapes undoubtedly provide significant natural resource protection, wildlife habitat, and recreational opportunities.

Maine has been a laboratory for some of the largest and most innovative land transactions. Three trends in particular stand out. First, land conservation in Maine is a result of both strong private land conservation organizations and significant federal and state government support. Second, land conservation strategies in Maine have focused almost exclusively on the permanent protection of privately owned land, rather than any meaningful increase in public ownership. Last, Maine has been the testing ground for new and

innovative conservation tools, including the use of new market tax credits and debt refinancing.

Private Land Conservation Organizations and Public Support

Currently, 85 different land trusts operate in Maine, the sixth highest number of any state (Aldrich and Wyerman 2005). Maine is home to one of the strongest and most effective land trusts in the nation, the Maine Coast Heritage Trust, which recently concluded a $100 million campaign to protect coastal Maine. More than 94 percent of the acreage protected in Maine since 1994 has involved, at least as a partner, one or more nonprofit land trust or other conservation organization.[2] Conservation organizations across Maine represent the diversity of the field. Some, such as TNC, the Trust for Public Land, and the Conservation Fund, represent large international organizations with significant access to capital, broad membership bases and considerable staff capacity. While involvement of these organizations was critical for bringing attention and funding from outside the region, other regional and local groups, such as the Appalachian Mountain Club, the New England Forestry Foundation, and the Forest Society of Maine, also played an important role in securing local support and developing important political partnerships. Additionally, a number of local land trusts also operate throughout Maine, providing ways for individual communities to be involved in land-protection efforts nearby. Some of these local land trusts, such as the Downeast Lakes Land Trust and the Rangeley Lakes Heritage Trust, have taken on momentous challenges over the last decade. For example, in 2004 the Downeast Lakes Land Trust purchased the 27,080-acre Farm Cove Community Forest, which protected both outstanding recreational opportunities important to the local tourism economy and habitat for bald eagles, Atlantic salmon, and an array of other wildlife (Downeast Lakes Land Trust n.d.).

Despite the prevalence of private land conservation groups in the protection of the Northern Forest, such momentous protection could not have been accomplished without significant commitment from public agencies. As noted above, the Forest Legacy Program provided federal support for protection of working-forest landscapes across the Northern Forest region. State programs, especially in Maine, also played important roles. The Land for Maine's Future program since its inception in 1987 has protected more than 445,000 acres, often in partnership with nonprofit land conservation organizations, which have provided requisite matching funds. The $72 million it has provided through a series of voter-approved bond measures has undoubtedly made protection of the Northern Forest region possible.

Private philanthropy also was critical both in catalyzing and in finishing transactions. A small group of mostly small private foundations laid the groundwork for conservation success with their support of the Northern Forest Alliance, which helped to brand the region and make the case to policymakers for its protection. In addition, many foundations and individuals provided invaluable matching capital for signature transactions (see Sidebar).

The partnership of private nonprofit organizations and public agencies in the Northern Forest creates both strengths and weaknesses for conservation. The diversity of players allows each organization or agency to find its particular niche. For example, nonprofit organizations can often work outside the political process, which allows them to negotiate more quickly and privately when timberland owners decide to sell (Dechter 2006; Irland 2000). Public agencies can secure public funding and provide transparency and accountability in conservation policy. Different organizations can focus on different conservation goals, including recreation and public access, biodiversity protection, or sustainable forestry, ensuring that all aspects of the conservation field are supported. On the other hand, the diversity of organizations can create difficulties. With many organizations and agencies, each working with different goals and for diverse constituencies, it is inevitable that conflicts can arise. The sharing of information and the development of regional strategies can be challenging.

Private Land Strategies

A second characteristic of land protection in Maine over the few last decades is the focus on private lands. In 1994, only 7.7 percent of the lands in Maine were owned by federal, state, or local agencies. By 2004, that percentage had barely changed, reaching

TABLE 1: Acres Protected Per Year in Maine, 1989–2006: Conservation Easements and Fee Purchases

	Fee Purchases	Conservation Easements	Total
1989	589	0	589
1990	50,084	1,877	51,961
1991	585	0	585
1992	1,053	13	1,066
1993	3,730	0	3,730
1994	8,187	830	9,017
1995	164	108	272
1996	671	8,726	9,397
1997	0	596	596
1998	189,336	2,105	191,441
1999	272	762,192	762,464
2000	10,098	22,223	32,321
2001	3,628	430	4,058
2002	17,738	11,309	29,046
2003	55,491	305,593	361,084
2004	71,570	823	72,393
2005	18,430	334,270	352,699
2006	14,334	196,421	210,755

only 8.7 percent (Hagan et al. 2005). Efforts to increase the amount of publicly owned land have been largely ineffective because of a general distrust of public ownership. The proposed creation of a new national park in Maine is a case in point. Many citizens want to retain traditional access to the land, for both timber harvesting and recreational activities, including hunting, trapping and snowmobiling. They fear that public ownership, including a new national park, could put an end to these practices.

As such, land-protection strategies in Maine are predominantly focused on protecting land remaining in private ownership. One of the most common methods to accomplish this type of conservation is the use of conservation easements. These legal contracts divide the rights of land ownership between two parties. A land trust or a government agency assumes the development rights associated with a particular tract of land. Other rights, such as the right to harvest timber or the right to buy and sell the underlying ownership, remain with the landowner. Given the flexibility permitted in structuring the easement, additional rights, such as access or mineral extraction, may be assigned to either party. Conservation easements have become increasingly complex over time as they attempt to better protect natural resources, working forests, and recreational opportunities. They may include provisions for sustainable timber harvesting, trail access, or biodiversity protection, or they may assign enforcement rights to third parties to ensure their stewardship in perpetuity.

Conservation easements have played a significant role in the protection of Maine's Northern Forest. With more than 1.5 million acres under easement, conservation organizations in Maine hold nearly one-quarter of all the land under easement in the United States (Aldrich and Wyerman 2005). The growth in conservation easements has been particularly strong since the New England Forestry Foundation secured its 762,192-acre easement on the Pingree lands in 1999, a trend that can be seen in Table 1. Currently, almost 80 percent of all conservation land in Maine is protected by easements.[3]

Despite their widespread adoption, a number of questions have arisen over the future of conservation easements. First, concerns have been voiced over long-term stewardship, monitoring, and enforcement of large easements. No-development easements, where only the development rights are removed from the land, are relatively simple to monitor. Aerial photography can be used to monitor large areas and requires only limited on-the-ground work. With newer working-forest easements, particularly those designed to protect biodiversity and promote sustainable timber harvesting, monitoring can be much more intensive and require extensive fieldwork. These requirements are both time consuming and expensive and represent an on-going responsibility for the land trusts and state and local governments that hold these easements.

Second, the extent to which working-forest easements can protect biodiversity and other values effectively has been debated. While it is clear they prevent the kind of fragmentation and development that can devastate wildlife habitat, timber harvest practices play a large role in determining the extent of that protection. While some easements have specific provisions to protect biodiversity, others contain little that offers

explicit protection. A recent assessment found that working-forest easements can be a blunt tool, sometimes stipulating what might be higher than necessary standards of forest management on lands containing moderate biological diversity while failing to require stringent enough harvesting restrictions on areas, typically smaller in size, containing significant biodiversity (Jenkins 2008). Beyond biodiversity, conservation easements have been touted as a mechanism for providing recreation access or preventing wilderness sprawl. As has been discussed elsewhere, it is questionable whether the use of conservation easements is always effective accomplishing these goals as well (Lewis 2001).

The long-term viability of the timber products industry in the North Woods, and thus, the long-term relevance of working-forest easements, is also questionable. Many of the current timberland owners, especially the TIMOs and REITs, are unlikely to remain invested in the Northern Forest for the long term. While it seems likely that some kind of forest products industry will remain to derive value from the wood products of the Northern Forest, be it timber, pulp, or bio-energy, the scope and profitability of the industry remains in flux. As such, alternative uses of the forest, such as recreation and tourism, carbon sequestration, or watershed protection may play more important roles in driving the future forest economy. As easements are crafted for perpetuity, it is important to recognize the dynamic nature of the region.

New Tools

Another characteristic of conservation efforts in Maine and elsewhere in the Northern Forest has been the willingness of various actors to test new and innovative tools for land protection. In particular, working with timber companies has required the conservation community to become savvy in market-based strategies. By leveraging business tools, nonprofit organizations such as the AMC and TNC have been able to put together larger deals than traditional conservation tools have allowed.

In late 2000, Congress authorized the use of new market tax credits (NMTCs), to encourage private investment in areas experiencing severe economic distress. The NMTCs provide credit against federal income taxes for certain equity investments and are awarded yearly on a competitive basis. The ability to use NMTCs for sustainable forestry projects represented a new source of funding for conservation organizations working in the Northern Forest.

The protection of the 37,000-acre Katahdin Iron Works property as part of the AMC's Maine Woods Initiative provides an example of how NMTCs can work. AMC formed a partnership with Coastal Enterprises, Inc., a community development corporation that was successful in securing NMTC funding for other projects throughout Maine. Working together to apply for competitive funding, AMC and Coastal Enterprises, Inc., were able to secure $2.35 million in federal NMTC funding for the purchase. The AMC continues to operate nearly 27,000 acres of the property as a working forest. The use of the NMTC, as well as other creative financing, altered the economics of owning working forestlands such that sustainable forestry practices could be used effectively.

A second market-based tool in use in the Northern Forest falls into the category of a "debt-for-nature" swap. This language has been predominantly used to describe the act of forgiving loans taken by developing countries in exchange for the permanent protection of significant natural resources. In the Northern Forest, the term is used on a smaller scale to describe an innovative collaboration between Great Northern Paper Company, TNC, and Hancock Life Insurance.

Though Great Northern had once been the largest landowner in Maine, by the late 1990s, rough times for the paper industry had put the company in a precarious position. Its only remaining assets included two mills at Millinocket and East Millinocket and 300,000 acres of forest, which served as collateral for a $46 million note held by Hancock Life Insurance. Knowing that Great Northern was in trouble, TNC sought a creative way to protect the company's land holdings, which included portions of the Debsconeag Lakes and 15 miles of the Appalachian Trail, without destroying the role Great Northern played in the region's economy. The note held by Hancock turned out to be the lynchpin. TNC was able to buy the entire $46 million note and leverage it into protection of nearly all of Great Northern's holdings. In exchange for $14 million in debt relief, TNC took ownership of 41,000 acres

around the Debsconeag Lakes. The remaining amount on the note was re-loaned to Great Northern at a lower interest rate in exchange for a conservation easement over a 200,000-acre working forest. Though the deal allowed Great Northern to forestall bankruptcy for only a short time, the mills at Millinocket remain open under new ownership, and TNC prevented the sale of the landscape under foreclosure.

PLUM CREEK: BACK TO THE FUTURE?

Plum Creek's plan for the Moosehead Lake Region represents the latest and most challenging chapter in the story of large landscape conservation in the Northern Forest. Unlike its industrial timber brethren who independently sold land or easements to conservation organizations, Plum Creek has tied its conservation measures to a proposed rezoning that would enable it to undertake significant development around Moosehead Lake. In a more sophisticated reprise of Diamond International's strategy two decades ago, Plum Creek is seeking to monetize its assets not through timber harvesting alone but also through development. Specifically, Plum Creek has agreed to donate an easement on 91,000 acres and sell land and a "bargain" easement on another 340,000 acres around Moosehead Lake, provided Maine's Land Use Regulation Commission approves its plan to develop 975 house lots and as many as 1,050 potential resort accommodations on 21,079 acres of land (Plum Creek 2007). As this issue went to press, Maine's Land Use Regulation Commission (LURC) was mulling a decision on Plum Creek's plan.

Whichever way LURC rules, Plum Creek's plan poses new challenges for the conservation community. On one hand, the company's proposed land donations and sales would lead to the permanent protection of significant acreage, including lands and easements to be owned by The Nature Conservancy, the Forest Society of Maine, and the Appalachian Mountain Club. But because conservation is directly tied to proposed development, the plan has put land trusts in an uncomfortable position and created tension with the region's environmental advocacy organizations, which overwhelming opposed the overall plan. If land trusts in the past prided themselves on steering clear of the regulatory process and dealing only with willing sellers, the world became much more complicated with Plum Creek's proposal. They now find themselves in the thick of the regulatory process and are having to ask themselves the fundamental question that faces LURC in weighing its decision on Plum Creek: does the proposed rezoning strike the right balance between conservation and development? With many landowners looking on in eager anticipation of LURC's decision, the issue of how to set the balance between conservation and development is likely to reverberate, at least in Maine, for some time to come.

CONCLUSION

The last 20 years of conservation have been unprecedented in the Northern Forest. A quick glance at the time-series map above (Figure 1, p. 59) provides an indication of just how much land the conservation community has been able to protect in a relatively short period of time. While changes to the forest products industry created the opportunity for such conservation, it has been the hard work of a number of dedicated state and federal agencies, skillful nonprofits, and a supportive public to convert the opportunity into protected acres. Changes such as Diamond International's sale and Plum Creek's proposal remind us that the future is uncertain, but also show what can be accomplished when the environmental community invests time and energy in finding new solutions.

While the acreage totals continue to rise and the complexes of green protected land continue to grow on maps of the Northern Forest, questions do remain. Will conservation easements effectively protect biodiversity? Will they stand the test of time and potential legal challenges? What is the future of the forest product industry and what is likely to happen when the TIMOs and other institutional investors sell? What role will regulation play in shaping land use? Answers to these questions are likely to provide clues to what the economic and environmental future of the Northern Forest will look like.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the assistance of David Publicover and Cathy Poppenwimer at the Appalachian Mountain Club and Tim Glidden at Land for Maine's Future.

ENDNOTES

1. Total acreage was determined from data compiled by the Appalachian Mountain Club for the Northern Forest Region, 1994–2006. It only includes large conservation transactions (generally 1,000+ acres) and therefore underestimates the total acreage of protected lands.
2. Data used to calculate this figure come from the Appalachian Mountain Club, the Land for Maine's Future program, and the federal Forest Legacy program.
3. Data used to calculate this figure come from the Appalachian Mountain Club, the Land for Maine's Future program, and the federal Forest Legacy program.

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Sara A. Clark is currently a law student at the University of California, Berkeley School of Law. She began her work in land conservation as a land specialist at the Peninsula Open Space Trust in Palo Alto, California, and continued as a research intern at the Open Space Institute in New York City. Her academic interests include conservation policy, environmental law, and land use planning, particularly within the boundary of urban and rural landscapes.

Peter Howell is the executive vice president of the Open Space Institute where he oversees the conservation research and finance programs. Previously he designed and implemented national grant-making programs focused on wildlife habitat conservation at the Doris Duke Charitable Foundation and on urban park creation and restoration at the Lila Wallace-Reader's Digest Fund.

The Importance of Maine for Ecoregional Conservation Planning

by Robert F. Baldwin, Stephen C. Trombulak, Karen Beazley, Conrad Reining, Gillian Woolmer, John R. Nordgren, and Mark Anderson

Ecoregional conservation planning aims at protecting biodiversity within a realistic social and economic framework. The authors of this article suggest that Maine's forests are the ecological core of the entire Northern Appalachian/Acadian ecoregion, which spans four states and five Canadian provinces. Using mapping and mathematical models of the "human footprint," they note that Maine has a large, contiguous, undeveloped and unfragmented forest compared with neighboring states and provinces. However, compared with its neighbors Maine also has the largest proportion of unprotected forest. The authors conclude with the hope that land use policy and planning can be better informed through the active integration of recent ecoregional conservation mapping models.

As with many places around the globe rich in natural resources, Maine's diverse ecosystems have attracted the attention of many conservationists from both inside and outside of the state. A plethora of conservation groups has periodically proposed strategies for protecting the state's forests, waters, plants, and animals. Some of these proposals and projects represent successful public-private partnerships and are the result of careful, science-based planning. For example, several recent large-scale conservation easements strategically protect vulnerable landscapes and allow sustainable forestry and recreational access. On the other hand, proposals for large-scale wilderness have been viewed by residents of the state as threats to Maine's culture and values, not to mention its economic stability. For example, a proposal for the Maine Woods National Park met broad opposition because the planning process was viewed as arbitrary and exclusive of many points of view (Baldwin 2006).

Threats are gathering for the Maine landscape, and new conservation action is needed if large swaths of forestland are going to be prevented from slipping to paved roads, housing, and other elements of a developed landscape. In recent years large-scale land conservation has become an urgent priority for the people of the state. Changes in the timber industry have weakened its position as a dominant and stable economic force. Forestland ownership is shifting to companies that are more interested in short-term economic returns, threatening an end to the comfortable assumption that forest management would keep both local economies chugging and forest plants and animals in well-managed habitat (Hagan et al. 2005). Today there is increasing concern that amenity development infrastructure—roads, housing, and services focused on lakes, ponds, ski areas, and other aesthetically pleasing spots—will gradually come to dominate the landscape.

The emerging field of conservation planning suggests that only systematic, science-based planning provides the kind of decision-making tool that stakeholders (i.e., resource users and managers, residents, and scientists) respect. The scientific basis for conservation planning has been developed over several decades. The basic approach is to map (using digital Geographic Information Systems [GIS]) areas with the greatest ecological value relative to where the greatest threats to those values are (Groves et al. 2002). Threats include current and projected roads, housing, human population, and other elements of human influence. Mapped information is combined in mathematical models, and the resulting information can then support decision-making by conservation groups and others concerned with the future of the forest. Ultimately, these mapping models will assist decision makers at multiple scales (local, state, regional, national, and global) to identify appropriate land management and conservation strategies.

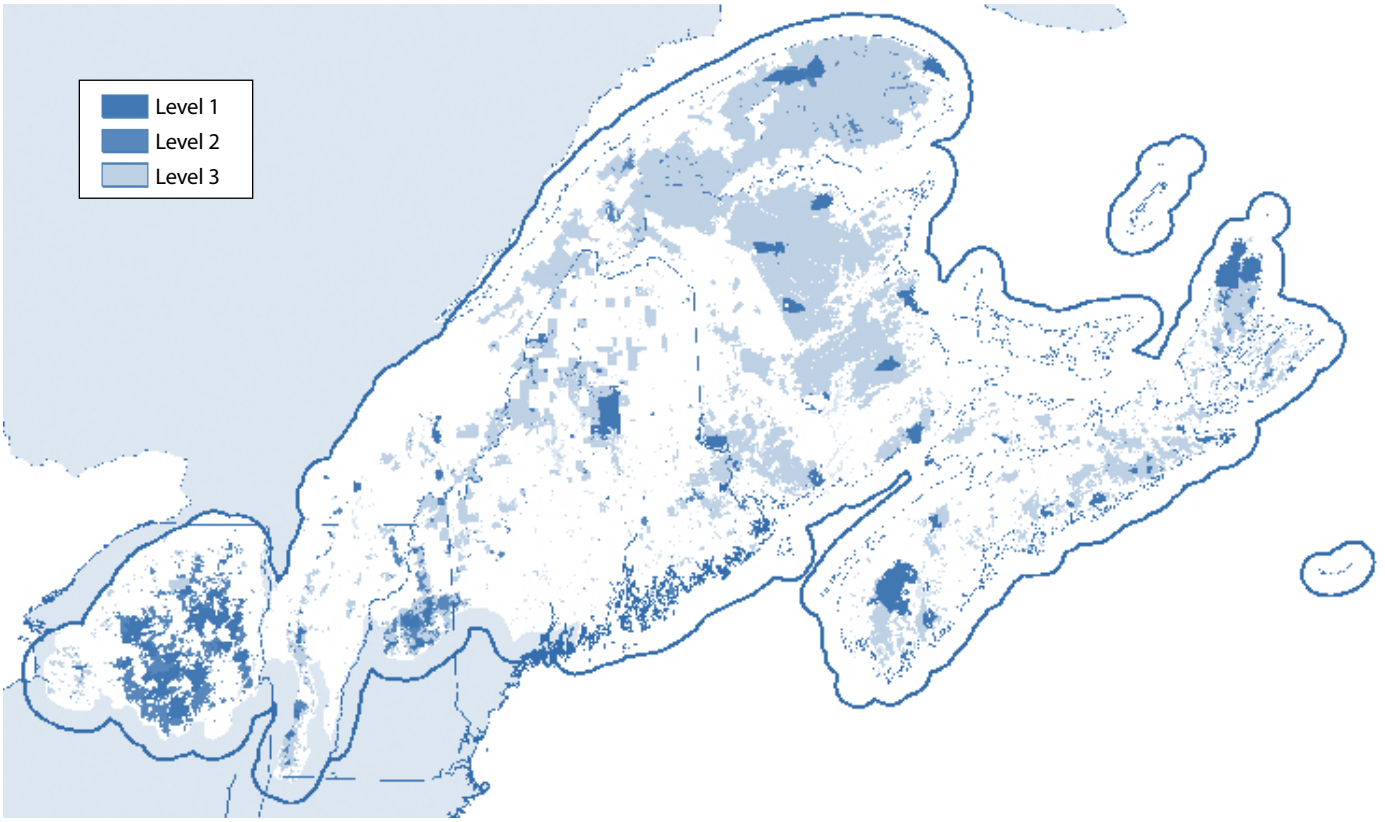
In recent years, large-scale conservation planning has become a priority for the people of the state.

Through broad collaborations among the non-governmental organizations (NGOs), government agencies, and scholarly communities, this approach provides valuable resources for making conservation decisions. One such collaboration described here has focused on the Northern Appalachian/Acadian ecoregion in which the state of Maine is embedded (Figure 1, p. 68). This collaboration is organized under the auspices of the Canada-based Two Countries, One Forest (2C1Forest) enterprise. This umbrella group includes dozens of regional conservation and academic institutions and features an international team of conservation scientists that has recently completed a detailed analysis of natural and human-built aspects of this transboundary landscape. One of the most striking results of this analysis is the emergence of Maine's forests as the ecological core of the entire region, a compelling finding because these forests also are the least protected—not from the effects of forest management but from conversion to development. In this essay we profile how the 2C1Forest collaboration has come to understand the importance of Maine's forests in the context of the larger region.

THE NORTHERN APPALACHIAN/ACADIAN ECOREGION (NAP)

Most of Maine (90 percent) is a part of the Northern Appalachian/Acadian ecoregion,

FIGURE 1: Protection Status of Lands Permanently Secured from Development in the Northern Appalachian Ecoregion



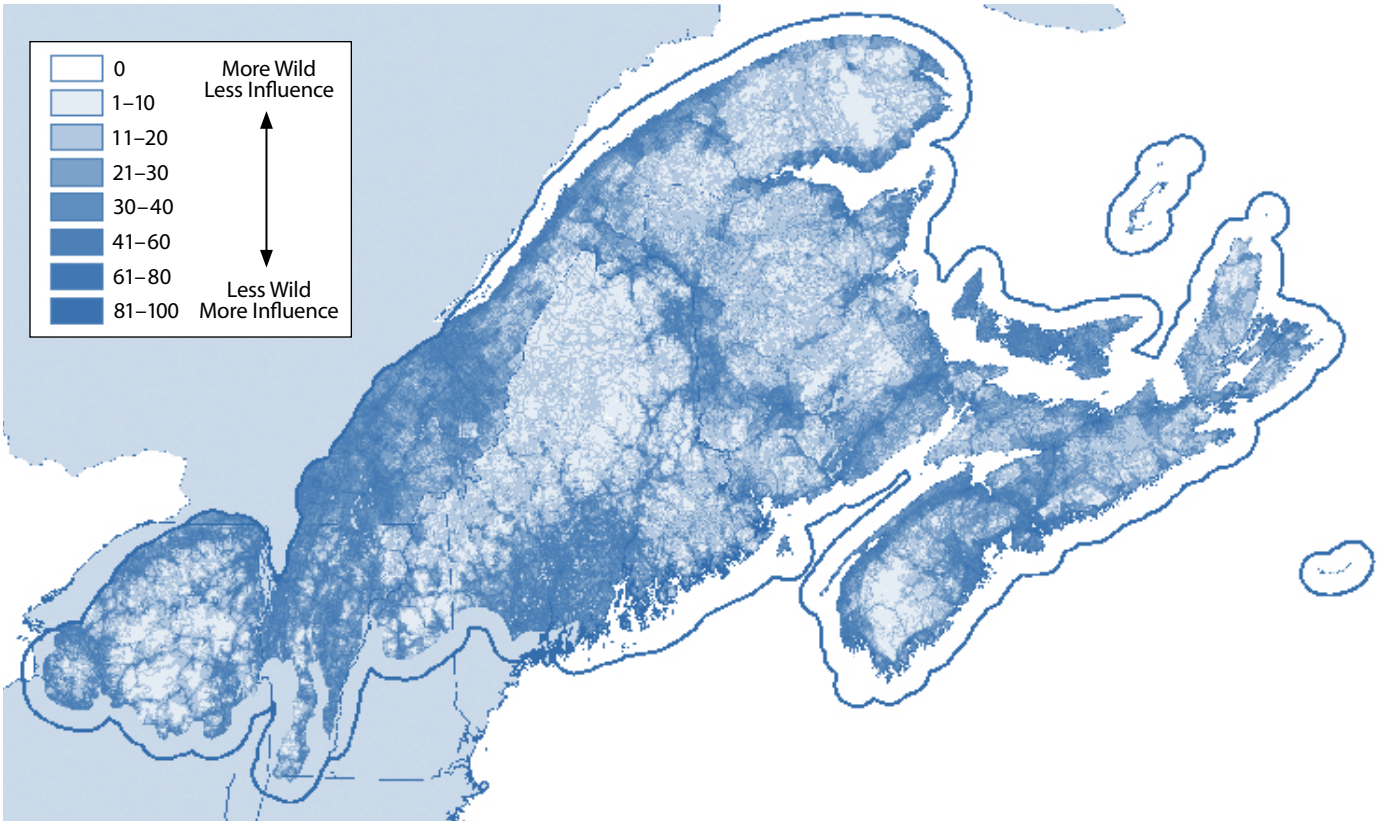
Protection status is derived from the U.S. National Gap Analysis Program and essentially categorizes levels 1 and 2 as protected primarily for nature conservation (i.e., reserves but for 2 including some more intensive uses), and gap level 3 as protected for multiple uses (e.g., National Forest land with extensive or intensive forest harvesting).

defined by similarity of landforms and ecosystems (Figure 1). The ecoregion encompasses the cool, spruce- and hardwood-clad northern extent of the Appalachian Mountains, which along with the marine and coastal influences have helped to define the ecological history of the Northeast. From the Tug Hill plateau of New York, the ecoregion extends eastward across the Adirondack Mountains, the Green Mountains of Vermont, the White Mountains of New Hampshire, and most of Maine. Northward, it includes the Appalachian complex of eastern Quebec extending to the Gaspé Peninsula and the Îles-de-la-Madeleine (Magdalene Islands), New Brunswick, Nova Scotia, and Prince Edward Island. The Northern Appalachian/Acadian ecoregion is the second-richest ecoregion for vertebrate diversity within the temperate broadleaf and mixed forest regions of North America (Ricketts et al. 1999). The geographic boundaries of the ecoregion were derived and modified by an international team of scientists from standard ecological land classification frameworks in Canada and the U.S., coordinated by The Nature Conservancy Eastern Resource Office (Anderson et al. 2006).

THE BIODIVERSITY VALUES OF MAINE RELATIVE TO THE ECOREGION

When viewed in relation to the entire ecoregion, northern Maine (for our purposes inclusive of the Western Mountains, North Woods, and Downeast regions) appears as a vast expanse of forestland surrounded by more settled agricultural, rural, urban,

FIGURE 2: The WCS Human Footprint for the Northern Appalachian/Acadian Ecoregion

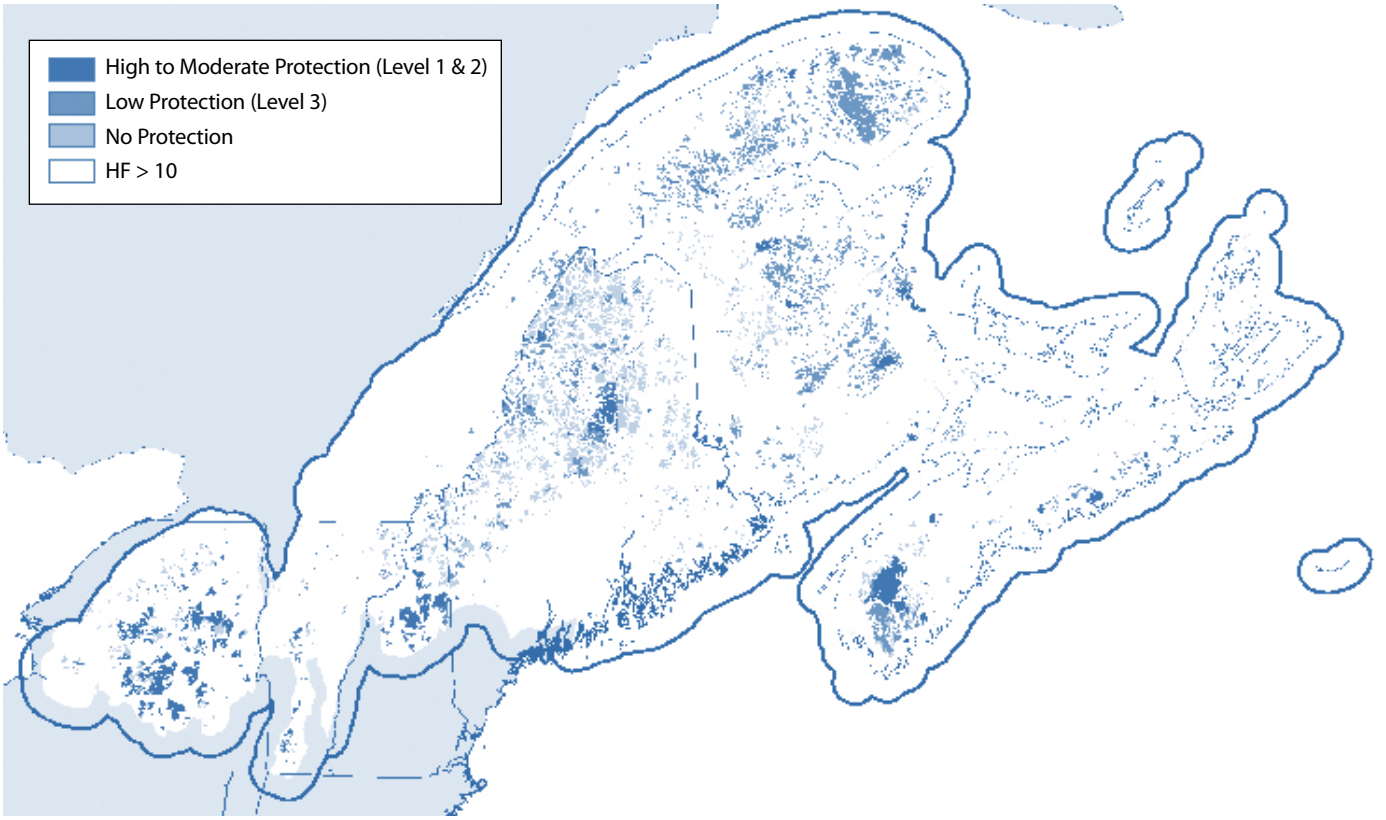


The human footprint methodology is simple: overlay as many land uses as possible. Each land use is assigned a specific score reflecting its relative influence on ecosystems: the Human Influence Index. The most recently calculated human footprint shown here includes human population and housing density, roads of many classes as well as road influence zones, rail systems, land cover, dams, and the electrical power grid, at a 90 m^2 resolution. Details may be found at http://www.wcscanada.org/

and exurban landscapes. This land use pattern is mapped as the "human footprint" and is displayed in Figure 2.

While southern Maine is biogeographically similar to central New England (Foster 1992), northern Maine has more ecological similarity with eastern Canada, the Adirondacks, and northern New England. Plant and animal diversity is relatively higher in southern than northern Maine because southern Maine represents the northern range limits for many well-known species (e.g., Blanding's turtle, *Emydoidea blandingii*, and sassafras, *Sassafras albidum*). By contrast, the northern regions of Maine host alpine habitats, vast bog systems, spruce-fir forest, fishless ponds, and numbers of lakes and streams. This habitat supports species diversity that may not be imperiled at the Maine scale, but is a valuable ecoregional resource. For example, the extensive forested wetland habitat supports globally imperiled amphibians (Golet et al. 1993), a shifting mosaic of forest types supports neotropical migrant birds (Hagan et al. 2005), and abundant streams support anadramous fish (Owen et al. 1997). Finally, the vast, forested landscape of northern Maine provides the greatest remaining opportunity in eastern North America for re-establishment of viable populations of wide-ranging predators including wolves (*Canis lupus*), lynx (*Lynx canadensis*), and marten (*Martes americana*), and these trends are currently visible (e.g., lynx have reached their highest population levels in 30 years) (Carroll 2005). Northern Maine is now recognized for its potential to

FIGURE 3: How Protected Is the Remaining Wild of the Northern Appalachian/Acadian Ecoregion?



Wild is defined as the land with the lowest score from the WCS human footprint (HF ≤10) and is shown here classified by protection status (levels 1 [highest] through 3 [lowest]). See also Figure 2 note.

represent and connect ecoregional habitats in the larger landscape. Strategic conservation planning at the ecoregion scale seeks to maintain Maine's valued biodiversity while also ensuring access to and sustainable use of forest resources where those uses are most appropriate based on the arrangement of land uses and habitat systems currently on the landscape.

THREAT AND OPPORTUNITY: CHANGING LAND USE

Historically in northern New England, private industry was the land's steward—overseen by state agencies with varying degrees of rigor (Dobbs and Ober 1995). Maine's forests were managed for timber and pulp extraction and were largely open to the public for recreation (Irland 1999). Until recently, the companies or families that owned the land had little interest in converting the land from timber production to any kind of permanent human development, simply because land was most valued for its future timber production (Hagan et al. 2005). Likewise, most Mainers felt secure in their jobs in the forests and mills and in their access to land for hunting, fishing, and other recreational opportunities.

Despite this history, research by the Brunswick-based Manomet Center for Conservation Science has demonstrated with clarity that forestland ownership patterns have been changing rapidly over recent decades, following a nationwide trend in "parcelization" (subdivision) of privately held forestlands for recreational or "amenity" development (Hagan et al. 2005). These developments range from exclusive gated communities bordering lakes, rivers, and ski areas to individual homes ("mini-kingdoms") on remote parcels. This trend now threatens to take a quantum leap

forward, as is evidenced by the Plum Creek Company's development plans for the Moosehead Lake region of Maine (Austin 2005) and similar projects elsewhere in North America.

Such large-scale changes in land use have permanent ecological effects. For example, houses and roads are permanent installations and their ecological effects are less reversible than inappropriate forest-management practices. There is the real possibility that within 20 to 40 years what now appears as a mostly forested, unsettled landscape will be increasingly fragmented by paved roadways and clusters of housing and other developments.

Expansion of road networks is a particularly devastating ecological change. Today, roads proliferate throughout the North Woods region. As new houses and resorts are built in remote locations, there will be more paved roads and greater traffic volume at greater speeds, placing neighboring ecosystems at risk. Slow-moving animals with long-distance patterns of movement (e.g., many turtles, amphibians) will become more vulnerable (Gibbs and Shriver 2002) and even fast-moving, wide-ranging species including lynx are susceptible to road mortality (Kramer-Schadt et al. 2004). Roads have secondary effects on adjacent ecosystems including salt spray that kills amphibians and stunts plant growth, increased random access for ATVs, and introduction of invasive species, effects that may extend as much as 1 km from the roadway (reviewed in Trombulak and Frissell 2000).

The change in land use from forest management to amenity development in Maine lends a sense of urgency to conservation planning efforts in the entire Northern Appalachian/Acadian ecoregion. Those areas most threatened by new infrastructure must be identified and, if they represent important ecological values, secured from conversion to what planners call "a built environment" via working forest or development easements or acquisition.

In our ecoregion, when those remote forestlands that are not secured from development are mapped and compared with neighboring states and provinces, we see that there is a comparatively large amount of contiguous, undeveloped, and unfragmented forest in Maine that remains in private ownership with no guarantee of protection from future development.

TABLE 1: Contributions of Constituent States and Provinces to the Remaining Conservation Opportunity in the Northern Appalachian Ecoregion[a]

State or Province	Percentage Unprotected Wild
Prince Edward Island	0.1%
Nova Scotia	7.5%
New Brunswick	12.5%
Quebec	3.8%
Maine	63.0%
Massachusetts	0.0%
New Hampshire	2.2%
New York	8.8%
Vermont	2.1%

(a) Percentage of this ecoregion's unprotected wild is measured by the lowest score of the WCS human footprint (≤10)].

Specifically, a majority (63 percent) of the forestlands in the ecoregion that are currently unprotected in any form (public land or private land in easement) occur within the boundaries of Maine (Table 1; Figure 3).

While approximately one-third, or 37 percent of the entire northern Appalachians is presently secured from development (e.g., as public land, or private land in conservation easement), Maine—which makes up 20 percent of the ecoregion—contains only 14.8 percent of these conserved lands (Table 2, p. 72). One way to look at this is that no other single political jurisdiction within the five-state, four-province ecoregion has retained such a high proportion of its unprotected forestlands. We believe that the private forest industry is to be praised for this. At the same time, we must recognize the global forces and regional economic realities that drive land use decisions are changing.

THE FUTURE OF MAINE'S NORTH WOODS: ECOREGIONAL ISLAND OR CORE HABITAT AREA?

On its simplest level, landscape-scale conservation is based on the principle of interconnected core habitat areas—areas of large enough to protect source (surplus) populations of plants and animals that may disperse to surrounding habitats. Cores and corridors can and must exist in a managed matrix of human-

TABLE 2: Protected Areas of Maine Compared to the Entire Ecoregion[a]

	km^2	Acres	Percentage of Ecoregion	Percentage of Maine
Area of Maine in ecoregion	76,680	18,948,122	19.7%	90.0%
Maine status 1 and 2 lands	2,199	543,421	0.6%	2.9%
Maine status 3 lands	9,109	2,250,979	2.3%	11.9%

(a) For explanation of how protection status is defined, see Figure 1 note. Status 3 figures do not include recently concluded easement projects (e.g., Downeast Lakes).

dominated land uses—where habitat quality can vary widely by species—for this principle to be realized. Clearly, we need to consider the concepts of scale and space. Ecoregional planning by definition thinks big, but many species are capable of using high-quality habitat in areas too small to even be shown on maps represented here (for example, a local population of pool-breeding amphibians)—and, as ecologists well know, *everything* is habitat for *something*. For this reason, at every step of the way planners must seek to engage local expertise so that the coarse filter of ecoregional planning does not miss important, known local features including rare species, vulnerable habitat types (e.g., floodplains), or specific threats.

By connecting core areas using corridors (also known as habitat "linkages"), conservation planners aim to avoid isolation of plant and animal populations inside core areas (habitat "islands") (Noss 1983). The field of conservation biology has shown that as these islands become smaller and more isolated from one another in a "sea" of development, local extinctions increase. Even national parks can effectively become islands if dispersal and migration of organisms is limited by roads and other development (Newmark 1987). In fact, despite the appearance of the region having vast forested landscapes, scientists predict that mammal species here have "latent extinction risk" due to gathering threats from land use and climate change (Cardillo et al. 2006).

What constitutes a core area? Core areas typically are reserves, with complete or restored ecosystems and critical structural elements such as coarse woody debris, old trees, complex understories and soil microfauna that are attained with age (Anderson et al. 2006). However, in our region it is entirely reasonable to consider core areas containing multiple uses including recreation and sustainable forestry. What is a corridor? Corridors are tricky to precisely define because each dispersing species has different requirements, conditions change, and behavior of individual organisms is variable (Berger 2004). However, the important thing is that core areas are interconnected with permeable habitat corridors—habitat that may not be optimal in quality for any given species but meets requirements for movements. Again, it is important to note that a core area need not be protected as a "reserve." Private forestland that is managed sustainably and protects habitat quality does meet the criterion of core in many cases. Likewise, "corridor" or linkage areas may include many land uses, including agricultural landscapes.

From a regional ecological perspective, working forests do not represent a terminal threat. In fact, forest management has protected valuable forest habitat in Maine, neighboring New Brunswick, Quebec, and northern New Hampshire. Vigorous forest-harvesting practices are in many cases a challenge to conservation planning. By contrast, conversion to a built environment—buildings, parking lots and roads—is terminal (meaning it cannot be reversed) and is a potential that exists for broad stretches of Maine's North Woods. There is concern that this broad expanse of relatively unfragmented forest currently stretching across northern Maine could become a habitat island, cut off from surrounding forested areas in neighboring states and provinces by intensifying human settlement outside of cities and towns (exurban growth), while at the same time, within northern Maine the trend towards "wilderness development"—roads, houses, gated communities, and resorts—could cut off within-state core habitat areas from each other. Ecoregional planning is proactive in that it aims to identify important core areas and key areas of connectivity among them, so as to retain options for wildlife in such future development scenarios.

THE GOALS OF CONSERVATION PLANNING IN THE NORTHERN APPALACHIAN/ACADIAN ECOREGION

The goals of conservation planning are three-fold. First, we seek to ensure that a viable portion of each type of ecosystem is represented in areas secured from development. Again, this does not mean that all ecosystems are protected in entirety—only portions necessary to represent their occurrence in areas of habitat extensive enough to ensure viability. Second, we seek to protect habitat for rare species. Third, we seek to ensure adequate habitat for carefully selected "focal species" whose broad spatial requirements serve as umbrellas protecting habitat for many other species and ecosystems (Lambeck 1997).

Generally speaking, The Nature Conservancy (TNC), U.S., and the Nature Conservancy of Canada (NCC) are focused on the first goal, representation. In this region, their goal has been "to maintain all of the region's native species, ecosystems and dynamic processes using a small, but strategically chosen, portion of the landscape" (Anderson et al. 2006: 6). As an example of the wide net that TNC throws, their plan focused on 72 forest types, 20 groups of upland, wetland and tidal ecosystems, and 108 vulnerable species. Through collaboration between TNC and NCC in our region, more than 100,000 sites were reviewed by state and provincial experts and more than 16,000 ground inventory points were contributed by the U.S. Natural Heritage Programs and Canadian Conservation Data Centers (Anderson et al. 2006).

To accomplish similar goals but also include sufficiently connected habitat for wide-ranging and other non-rare species, other conservation groups have championed the "focal species approach." With this approach, the habitat requirements of functionally important, wide-ranging, and other carefully selected species can serve as an "umbrella," capturing an array of habitats that also harbor many other, equally important species. Because medium- to large-bodied mammalian carnivores typically follow prey abundances in multiple habitats and require large amounts of space, they are considered "umbrella" species by conservation organizations. The basic idea is that if you identify and protect enough habitat for a carefully selected suite of wide-ranging carnivores, you will ultimately protect many other species with similar yet smaller habitat requirements. For example, in our region the Wildlands Project (a 2C1Forest partner) has funded, promoted, and conducted research to identify strategies that would include enough habitat for the population processes of wide-ranging focal species (Carroll 2005, 2007; Reining et al. 2006).

COMBINING BIOLOGICAL VALUES AND LEVELS OF THREAT FOR CONSERVATION PLANNING

On the flip side of mapping the biological values described above (the measure of irreplaceability or importance of one given point on the map relative to another) is the task of mapping the levels of threat (e.g., level of protection, likelihood of conversion to development). To map threats, the human footprint developed by the Wildlife Conservation Society (WCS) creates a human influence index by cataloguing a cumulative score of current human activities on the landscape. Human influences such as roads, rail, population, dwellings, energy infrastructure, agriculture, forestry, dams, and mines are assigned scores that are then combined to map the "human influence index" across a region. Wild areas (defined as areas of low human influence) are considered to have a human footprint value of ≤10 on a scale of 0 to 100. Wild areas that are not already protected or secured from development are considered the best opportunity for large-scale biodiversity conservation. Scenarios are then developed to project alternative futures, what we have termed the "future human footprint." The future human footprint projects the future growth of population, roads, and dwellings using trends and geographical analyses. Among other things, it has forecast a doubling of public, residential roads in the ecoregion over the coming 20 years (Baldwin et al. 2007). Further, it has suggested that nearly 1,000 km^2 of pristine lakeshores are likely to be developed.

Under the auspices of 2C1Forest, these strands of research—representation, rare species, focal species, and threats—are being woven together to produce a synthetic, ecoregion-wide conservation plan. It is beyond the scope of this essay to present the results

of this ecoregional planning initiative. Elements have been published in Anderson et al. (2006), Reining et al. (2006) and Baldwin et al. (2007). An interactive mapping Web site for disseminating this information, the Northern Appalachian Conservation Atlas, is online at www.2c1forest.org. Likewise, an ecoregional planning conference to engage stakeholders was held in Montreal in November 2007. For the first time, the ecoregional landscape is being systematically prioritized for conservation action through a broad, collaborative planning initiative.

...in the context of the whole ecoregion, conserving the contiguity and integrity of Maine's forests is among the most important conservation goals in the Northern Appalachian/Acadian ecoregion.

What kind of conservation action is envisioned as a consequence of this planning? There are many potential conservation solutions in Maine. The aim is for a future landscape that will look something like the landscape today. Most likely, it will have an expanded, scientifically selected set of reserves connected with each other and with similar reserves outside of Maine. Concurrently, the landscapes in which the reserves are embedded will be managed under the principles of sustainable forestry. All of this will be regulated by the state government, most likely through an expanded and more active role of the Land Use Regulatory Commission. The role of conservation easements will be greatly expanded, through the actions of groups such as the Forest Society of Maine, The Nature Conservancy, and the Maine Coast Heritage Trust. Easements will, by necessity and design, include active forest management.

Our goal is for information to flow from local ecoregional science groups to help guide strategic decisions about where and when to act to have the greatest impact, more proactively and less opportunistically. Because the forests of Maine represent so many of the best ecoregional conservation opportunities, this information will help Maine groups to consolidate political support and raise funds for conservation. For example, these efforts may help Maine groups to expand upon their nationally recognized conservation easement projects, including the West Branch of the Penobscot River, Downeast Lakes, Upper St. John River watershed, and the 100-Mile Wilderness. Groups involved in these successful conservation easement projects have included the Forest Society of Maine, New England Forestry Foundation, Sierra Club, The Appalachian Mountain Club, The Nature Conservancy, state, federal and tribal entities, and private industry. We see these successful collaborations as models of cooperation among diverse stakeholders, which can be expanded to the ecoregional scale (Ginn 2005). The old divides between conservation groups, industry, and government have melted away in the face of mounting threats from global economic forces.

Despite these recent conservation successes, our research to date has illustrated that Maine has a vast amount of land with high conservation value that is not permanently secured from development, whether through public ownership or easements on private lands. Only 2.9 percent of Maine is in reserves secured primarily for nature (highest levels of protection under GAP classifications). An additional 11.9 percent is in lands secured from development, but open to multiple uses including resource extraction (Table 2, p. 72).

It is important to note that none of the groups that are part of this ecoregional planning effort is advocating for Maine being a national park. Ultimately, we want to ensure that the vast forests of the Gaspé, Maine, New Brunswick, and the White, Green, Sutton, and Adirondack mountains are maintained primarily as forests. To achieve this, all management options for maintaining these forestlands are on the table. Realistically, reserves managed only for biodiversity will remain a relatively small portion of the landscape, while multiple use and sound management will prevail throughout under various ownership regimes. Most likely, in Maine, the conservation easement—a partnership between a landowner and the public—will remain the most widely applied tool.

CONCLUSION: WHY MAINE? THE GREATEST CONSERVATION OPPORTUNITIES IN THE ECOREGION

This essay has argued that the state of Maine has the greatest and most strategically located conservation opportunities in the Northern Appalachian/Acadian ecoregion. We are able to say with confidence that in the context of the whole ecoregion, conserving the contiguity and integrity of Maine's forests is among the most important conservation goals in the Northern Appalachian/Acadian ecoregion. Nearly two-thirds (63 percent) of the unprotected forests with lowest human footprint scores (HF score ≤10) in the 4 million km^2 ecoregion occur in Maine (Table 1, p. 71).

For more than a century, the forest-products industry has acted as steward of Maine's forests. Today, these forests and the way of life of people who live and work there are threatened: global pressures on forest-products industry and local economies have forced land use changes threatening, in turn, biological diversity and local control of land use decisions. Such changes have necessitated that entities concerned with the future of the forest set aside differences and come to the table to discuss how best to conserve vibrant ecological and economic communities. Ecoregional conservation planning is a tool for bringing people together to review the science and set specific conservation goals. Our process is an example of this. In 2007 we met with representatives of more than 20 agencies and NGOs in Maine (and more in the other states and provinces) to discuss this research and its implications for their ongoing efforts. If anything, our results support the critical importance of state-level conservation planning work being carried out already in Maine and suggest that many more resources be poured into the state, even from surrounding states and provinces.

Ecoregional conservation planning is about protecting biodiversity within a realistic social and economic framework. Land use management, planning, and policy decisions cannot and will not be based on science alone, but can and must be made better by the application of scientific information and principles. The implementation of a vision this broad and complex will require the participation of many people and institutions. Ultimately, what is needed is an active integration of conservation science within established, or perhaps new, social processes that incorporates the needs of the many stakeholders in the entire four-state, five-province ecoregion in which the state of Maine and its ecological processes are embedded.

Robert F. Baldwin is assistant professor of forestry and natural resources at Clemson University. His work focuses on using spatial analysis combined with field studies to design conservation plans for at risk species.

Stephen C. Trombulak is Albert D. Mead professor of biology at Middlebury College, where he has been on the faculty since 1985. He served in a number of positions with the Society for Conservation Biology, most recently as president of the North American regional section. An author of three books on natural history and conservation of the region, he is currently editing with Robert Baldwin Multi-scale Conservation Planning: An Ecoregional Perspective.

Please turn the page for author information and more references.

Karen Beazley is director and associate professor at the School for Resource and Environmental Studies, Dalhousie University, Halifax. She is a board member of a number of regional conservation organizations including the Canadian Council on Ecological Areas. She is co-editor with Robert Boardman of Politics of the Wild: Canada and Endangered Species and author of papers in a number of major professional journals.

Conrad Reining is the eastern program director for the Wildlands Project and is responsible for coordinating efforts in the Northern Appalachian/Acadian Ecoregion. He is a board member of the transboundary conservation project Two Countries, One Forest and advises the Northern Green Mountain Linkage Project. He has worked in landscape-scale conservation in the U.S. and Canada and Guatemala, where he served as a program director for Conservation International.

Gillian Woolmer is assistant director of the Wildlife Conservation Society Canada. Her research focuses on conservation planning and use of GIS as a tool for conservation. A member of the team that mapped the global human footprint in 2002, she has also mapped the human footprint of the Northern Appalachian/Acadian ecoregion. She is an active member of Two Countries, One Forest, most recently leading the creation of the online planning atlas for the Northern Appalachian ecoregion.

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Mark Anderson is director of conservation science in the Northeast Division of the Nature Conservancy and co-author of the National Vegetation Classification, Northern Appalachian/Acadian Ecoregional Assessment and articles in BioScience on conservation planning. He holds a Ph.D. in ecology from the University of New Hampshire, where his research focused on the viability and spatial assessment of ecological communities in the Northern Appalachian ecoregion.

John R. Nordgren is program officer for the Boston-based Kendall Foundation, where he directs the Forests and Climate Program. Until 2007, he led the foundation's Landscape Conservation–Northern Appalachians Program. His professional interests focus on the interface between conservation science and policy. Previously, he directed conservation science programs for the Manomet Center for Conservation Sciences and worked in legislative affairs (Natural Resources Defense Council in Washington, DC).

Alternative Large-Scale Conservation Visions for Northern Maine:

Interviews with Decision Leaders in Maine

by Elizabeth Dennis Baldwin,

Laura S. Kenefic,

and Will F. LaPage

Based on confidential interviews with 21 decision leaders in Maine, Elizabeth Baldwin, Laura Kenefic, and Will LaPage examine the complexity of the conflicts over alternate visions for large-scale conservation in Maine. Exploring models that may be useful for policymakers grappling with competing values for Maine's forests, they present four alternatives: national forests, new U.S. forest service models, forest heritage areas, and the British national park model. The authors found that the leaders interviewed agreed about the need for some level of conservation, but but did not completely agree on how this might happen and where the decision-making power should lie.

INTRODUCTION

In June 1994 the environmental advocacy group RESTORE the North Woods (RESTORE) unveiled a proposal for a 3.2-million-acre national park in northern Maine that set off a firestorm of public debate. The debate has been centered on the administrative outcome RESTORE proposed—a national park—and has obscured focus on underlying goals and values important to the region.

National parks are considered part of the psyche of the great American outdoors and have been effective conservation tools, despite problems experienced during their 130-year history (Machlis and Field 2000; Wright and Mattson 1996). However, in an age where conservation strategies often include people (Terborgh et al. 2002; Kremen et al. 1999; Kuusipalo and Kangas 1994) and are not always taking place on public land, alternatives to the national park model are often considered. It is important for the conservation community to include local people in the design, management, and control of large-scale conservation (Terborgh et al. 2002); working with local people may be the best way to guarantee access to traditional uses of a landscape while protecting and maintaining important ecological structure and function. With local inclusion comes local support, which will ultimately protect the land for the long term.

Conflicts often arise from different visions for a natural area or region and are related to different definitions of place (Cheng et al. 2003). These definitions may be tied to specific places or a whole region, or to values such as family, adventure, love, work, and spiritual renewal. The identity of place is complex (Williams and Stewart 1998), and efforts to understand this are important for the success of any conservation strategy.

Twenty-one decision leaders in Maine were interviewed for this study between June 2004 and May 2005. Our objectives were to discover some of the complexity in the environmental conflict Maine was facing and to explore alternative models of large-scale conservation that may be useful for policymakers to consider in their effort to meet competing values of the forest. These models were synthesized from decision leaders' comments in semi-structured interviews; for the purpose of this study, decision leaders were defined as people from for-profit and nonprofit business, academic, and government sectors who have worked in or studied the northern half of Maine. In an effort to maintain openness, the interviews were confidential and quotes presented in this paper will not have names attributed to them. Interviewees were not guided in any way to the alternative visions represented in the findings. Instead, the structure for the interviews was based on the five goals RESTORE laid out for a park and preserve in northern Maine (Kellett 2000):

Conflicts often arise from different visions for a natural area or region and are related to different definitions of place.

1. Restore and protect the ecology of the Maine Woods.
2. Guarantee access to a true Maine Woods wilderness experience.
3. Interpret Maine's cultural heritage.
4. Anchor a healthy northern Maine economy.
5. Raise national awareness of the Maine Woods.

Conference participation, document analysis, meetings, informal discussion, and phone conversations with leaders unavailable for interviews were used to supplement our data and to check the validity and trustworthiness of the information gathered from the primary sources.

LARGE-SCALE CONSERVATION

In April 2005 the director of the National Park Service (NPS) described units in the national park system as "places to find the soul of America, and the places that tell the story of America" (Mainella 2005). The NPS is an international leader in resource protection and interpretation. Despite problems noted by many, national parks are still an important tool for resource protection (Davis et al. 2004). They are

well known as economic engines (Rothman 2000), and they have wide public appeal, a clear centralized management scheme, and a recognizable structure with consistency in signage, printed materials, and personal interpretation and education.

A park is still what most people think of first when they think of conserving a landscape.

The traditional way to protect land in the United States has been to create a national park or national monument (Wright and Mattson 1996). Areas that were to be used for multiple purposes became U. S. Forest Service lands, Bureau of Land Management, or National Wildlife areas. In 1964, wilderness areas entered the mix and can be managed by any of the above entities. All of these examples share something in common: they are all federally owned. Early national parks were in the West, and the majority of public land in the U.S. today is in the western half of the country. With an increase in population came the recognition of the need for protection of eastern landscapes. The advent of ecosystem management resulted in a systems approach to management beyond the boundaries of protected areas (Jope and Dunstan 1996) and a recognition of the ecological importance of previously overlooked landscapes with values such as biodiversity of species and landscapes, large areas for absorbing evolutionary change, and persistence of species in a human-dominated world (Margules and Pressey 2000).

Centralized Management

A park is still what most people think of first when they think of conserving a landscape. The model has a centralized management scheme with a clear understandable hierarchy of management and decision-making process. A product of centralized management is a clear mission for the landscape in terms of resource use, recreation, and education. The NPS provides this, as does Plum Creek Timber Company, which is developing management plans for the Moosehead Region in Maine (Plum Creek 2005). Although the missions of these organizations are quite different, they are both clear centralized management schemes and are easily understood by local people.

Decentralized Management

In the last decade a more decentralized scheme for large-scale land conservation has arisen in the form of conservation easements (Brewer 2003). This has been the most common form of land conservation in Maine because most of the landscape is privately owned. Though once a tool for smaller pieces of the landscape, hundreds of thousands of acres of easements were established in the 1990s. Management can be from a variety of entities that provide monitoring, while the landowner uses the land in a manner consistent with the terms of the easement. Most early large easements in Maine permitted any level of forestry allowed by the Forest Practices Act (www.maine.gov/doc/mfs/pubs/htm/fpa_04.html); recently many have prohibited liquidation harvesting. Easements, however, do not provide trail systems or visitor centers, and there is no readily available list of the easements purchased in Maine's Northern Forest (Pidot 2003, 2005; Vail 2003). Subsequently, there are concerns that easements cannot serve as the economic engine for the Maine Woods (Pidot 2003). Moreover, using easements as a long-range conservation policy depends on many factors that may not be fully considered in the decision-making process currently used in choosing easements for landscape-scale conservation (Lewis 2001).

THE RESTORE MAINE WOODS PARK AND PRESERVE PROPOSAL

Background

The Wilderness Society was the originator of the current RESTORE proposal. Although the current proposal differs from the original plan, it shares the same general area and the same author. The vision that led to the RESTORE proposal began in 1988 when the Wilderness Society proposed protection or expansion of three areas in the lower 48 where "coherence should and can be restored or preserved" (Watkins 1988: 13): the Greater Yellowstone ecosystem, the

Southern Appalachian Highlands, and Maine's North Woods. This led to the creation of a Wilderness Society office in Maine and a yearlong study that culminated in the report *A New Maine Woods Reserve: Options for Protecting Maine's Northern Wildlands* (Kellett 1989). The report concentrated on the need to protect three aspects of the Maine Woods: (1) the wildlands for habitat, primitive recreation, and ecological integrity; (2) areas for public use of the region; and (3) a sustainable economy. Ultimately, the report gave a wide array of possible options to create a feasible reserve system capable of sustaining wilderness, ecological, cultural, and economic values. This array included state, federal, private, and public solutions. However, the authors of the report noted the need for more research to determine the best possible solution for protecting diverse forest values.

Michael Kellett left the Wilderness Society and founded RESTORE the North Woods (RESTORE) in 1991. RESTORE proposed the Maine Woods National Park and Preserve in 1994. The proposal has caused many debates. There are also concerns about rapid land use changes without a single coherent plan for the region.

Concerns

Concerns about the proposal have their roots in Maine's history of keeping the federal government out of the state as much as possible. This applies most clearly to land management and has been illustrated by events in Maine's land conservation history. The first example is the 1911 passage of the Weeks Law that set in motion the federal purchase of eastern forests. There was resistance to this in northern Maine (Rolde 2001). Even later, in 1931, "Congress proposed federal acquisition of tax-delinquent timberlands for a national forest in Maine, as was occurring throughout the eastern United States. The proposal was so unpopular that no state legislator would sponsor an enabling bill" (Judd and Beach 2003: 85).

There have been a number of attempts throughout Maine's history to create a national park or a national forest in the state's northern half. Probably the most well supported was the 1937 proposal for a Katahdin National Park in the area that is today Baxter State Park (National Park Service 1937). The federal government supported a feasibility study of the area, but it did not get Congressional support and there was worry that inviting too many to Maine's Northern Forest could change its character forever (Irland 1999). Additionally, the authors of the 1937 report did not all agree on a national park designation. The Branch of Forestry representative, John F. Shanklin, supported instead a national monument, citing legislation stating that a national park is land "essentially in primeval condition," and noting the evidence of human use on the landscape (National Park Service 1937). Percival Baxter had his own plan for the region, which he began working on in 1931 (Rolde 2001). He eventually bought land and deeded it to the state of Maine for a 200,000-acre state park with a clear mandate and management structure.

Another example of a federal-idea-turned-state-solution is the Allagash Wilderness Waterway. The 1955 plan to build a dam and flood the Allagash Valley brought the debate about the future of this wild river to a head (Judd and Beach 2003). Ideas for protection included a national park and a river protection corridor managed by the state. Preservation groups and industry landowners joined forces in opposing federal designation, citing the increase in outside visitors that would bring about more development and increase the tax base for industry landowners. They and some state officials promoted the idea of a "working wilderness" (Judd and Beach 2003; Rolde 2001). The waterway was established in 1966 by the Maine Legislature, and in 1970 it became the first state-managed unit of the Wild and Scenic River System (Maine Bureau of Parks and Lands 2005; Judd and Beach 2003; Rolde 2001).

FINDINGS AND DISCUSSION: ALTERNATIVE MODELS FOR LARGE-SCALE CONSERVATION IN NORTHERN MAINE

Since the advent of ecosystem and adaptive management in the 1990s there has been concern about the size of protected areas (Trombulak 2003; Wright 1996; Noss and Cooperrider 1994; Pressey et al. 1993). How can we protect and manage enough of a particular landscape to provide a good representation of the variety in the landscape and provide enough space for evolutionary processes to continue (Margules and Pressey 2000)? At the same time, there is concern for the economic wellbeing of rural populations. Maintaining quality of life requires a creative approach

to the economy so that a diverse base of lasting employment accompanies increased quality of life and the environment.

The interviewees all addressed these issues regardless of their position on the park. There was also agreement that a proactive approach to conservation is needed in the northern half of the state. Without such a vision, we will continue in a reactionary manner, debating individual visions instead of developing a comprehensive one.

Context for Land Use Change in Northern Maine

An understanding of the landscape, or context, from which the RESTORE proposal emerged and continues to develop is important for understanding reactions to the proposal more than 10 years after its unveiling. Northern Maine is sparsely populated, and more than 10 million acres of this area are unorganized territories and managed by the state's Land Use Regulation Commission (LURC). This land has traditionally been in the hands of a few large timber companies, but in the 1980s large land sales and mill closings were seen by many as signs that Maine's Northern Forest was up for sale (Irland 2000). The Nature Conservancy and the Forest Society of Maine have responded with conservation easements on a massive scale (Ginn 2005).

The history of mill closings, job loss, community decline, and loss of access is captured well in the following quote from an interviewee working professionally in Maine since 1965. Most of the interviewees noted not only the conservation problems associated with smaller parcel size and rising land values, but also the dire need for economic diversification in the northern Maine towns.

> You could make a case that when Great Northern announced in 1986 after the defeat of the Big A project that it was going to be downsizing that was really the clanging bell, the first one that things are going to be different here in the North Woods. I well remember Bob Bartlett, who was the president at the time, making the announcement that they were going to be reducing their work force severely over the years, and life was not going to be the same. As of that moment, 1986, before Diamond Occidental fell, this was really big news, the biggest news in that decade in a way, because it said our history as we have known it for the last 100 years up this way is going to be changing. And so that began the circumstances and events that lead us up to today. People could have thought it would be great to have a park, but if nobody was willing to sell they sure weren't going to get it [a park] from eminent domain. So, with the sales and the downsizing, first of all the mills, and then as more people got involved in looking at [whether they] really need to own all this land, that's when it became possible for a willing seller and a willing buyer to get together. Until the Diamond sale, I don't think there had been any other major investing in land, but that was the first time I think people might have let the hairs get raised on their back with excitement that maybe this was the start of something really big and maybe these lands would be up for sale for the first time.

In 1976 the Department of Conservation adopted the *Comprehensive Land Use Plan: For Areas Within the Jurisdiction of the Maine Land Use Regulation Commission*. However, the decision leaders interviewed for this study said that there is no comprehensive plan in action. The concern was that this plan was never adopted and that it is now out of date. The decision leaders interviewed were concerned about the reactive nature of land management in Maine's Northern Forest and that conservation will continue in a reactionary state in the absence of a clear, current comprehensive plan. There was a feeling that the driving force for the land use decisions, and values represented in those decisions, will be made by those with the money and power to own and plan for the future land use of northern Maine.

> There isn't any grand plan. The state doesn't have a grand plan, and I would probably argue it'd be unrealistic to think it should. But there is a down side in that. It's not like we have a plan, and we're going to use regulations here

> and a sentence there with this combination. There's not a map that I would show you that says, "Here is where we'd like to be." There are resources; the approach the state is taking is "there are resources that we think would be important to conserve that shouldn't be developed, it shouldn't be harvested too heavily, the public should have guaranteed access." So what we do is, we go talk with those landowners, kind of hopefully with all of the toolbox there, and see what can be worked out. It could be very interesting. Nobody really is in a position to talk to you about it right now.

The decision leaders interviewed for this study characterized the current land use crisis in northern Maine as needing strong leadership in a time of great change. Changes such as reduction of land parcel size and the rapid changing of ownership type from timber companies to investment companies were noted, as well as the declining economy from mill closings. However, with this concern also came a caution from the leaders about a federal solution for northern Maine that would lead to a loss of control and be inconsistent with the traditional uses of the Northern Forest. However, the concern for lack of funds led many to discuss ways to incorporate temporary federal support for a state-controlled plan. There also was acknowledgement that a comprehensive conservation plan must be created to protect the many values represented in Maine's Northern Forest, both naturally and culturally. The proposal for a national park was not supported by many of the leaders due to the lack of political will they perceived in the region. However, the RESTORE goals for the park were supported by the leaders and led them to share alternative visions for large-scale conservation that they perceived were more in keeping with the Maine landscape, both politically and naturally.

The last 10 years have seen the advent of massive-scale conservation easements being purchased by The Nature Conservancy, the Forest Society of Maine, and the state of Maine to name the most prominent. The focus of these easements primarily has been to support the continuation of traditional uses of the forest by preventing development. There was disagreement among the interviewees about the use of large conservation easements. Those from the state and conservation organizations were in favor of them, but those in business, especially the guiding business, did not like them because easements restrict growth and development and the building of a tourism infrastructure in northern Maine.

> Others are giving away the store and when they give away public access [with easements] I think they are giving away a valuable right, right off the get go. I think that is the price the state pays for its lack of vision and the public pays for its lack of interest.

> Easements are a direct response to the public interest in conservation of these lands, and they are moving us toward better use. However, they do not in any way say that we as Maine citizens are masters of our own destiny.

The decision leaders interviewed were concerned about the reactive nature of land management in Maine's Northern Forest and that conservation will continue in a reactionary state in the absence of a clear, current comprehensive plan.

There was agreement that large-scale conservation would most likely happen with federal dollars and state control, and that this might include new models that include some of the tools currently in use such as easements. However, one leader cautioned that using the same tool across the whole landscape is like getting a new tool and trying to build an entire house with it. In fact, a national forest was considered by some of those interviewed as an alternative based on federal control.

Four Alternative Visions

Four alternative visions to the RESTORE proposal clearly emerged from the interview data; quotes supporting each alternative are presented with blank lines separating interviewees.

National Forest

The only purely federal option that had support from decision leaders was a national forest, though some opposed this alternative because they felt that federal control is unlikely to gain political support or because they were opposed to the road building in national forests. However, there were many who noted the positive values of federal support such as federal funding, increased research potential, forest heritage, and harvesting, and the potential for multiple-use management that could include a non-motorized area.

> The informal multiple-use perspective has existed, even in the face of all the changes. A multiple-use framework really continues to make sense to me. I think it makes sense environmentally, economically and socially, and I can see that a national forest brings that in.

> …the national forest model was the … most common competing vision to a national park. The Forest Service's multiple-use perspective is consistent with historical and current management of Maine lands and Maine's Northern Forest.

> You know, as an unrealistic Mainer I'd say, "Well, give us money but then don't tell us how to spend it." One of the things they (the current administration in Washington) do want to do is devolve more power to local levels. I suppose that would make me feel comfortable in that sense. But fundamentally, if there was a proposal to establish a new national forest in Maine, I wouldn't be opposed to that at all. I would support that. I've worked a lot with the Forest Service. I've been in a lot of national forests and I think they do a pretty darn good job of managing their lands. Not to say our folks don't, they do very good work as well. But they don't have the resources that the federal agency has to offer.

> I think a national forest would be better than a national park. Obviously the national park would restrict some forms of traditional recreation and its economics would be a lot more about peripheral developments, you know the Gatlinburg, Tennessee, scenario, than it would be about timber management and such.

In this study the national forest model was the interviewees' most common competing vision to a national park. The Forest Service's multiple-use perspective is consistent with historical and current management of Maine lands and Maine's Northern Forest. The Forest Service allows bids to harvest timber in parcels of the national forest and has standards for harvesting. They have been successful at designating different trail uses and are charged with managing most of the nation's wilderness areas. They plan for recreation with designated sites and have a permitting process for groups; national forests are more conducive to group use of trails and backcountry than national parks because they allow larger group sizes. Another benefit of the national forest's multiple-use management is that different users with different values of the forest may find themselves together at a campsite. This promotes informal education and communication that can ultimately help to solve conservation conflicts.

Another benefit to the national forest model is that it is varied enough to allow for protection of wilderness for ecological, scientific, and recreation reasons. It is also able to accommodate the desire for a buffer zone of shared use around a core protected area, with intense-use zones that may include visitor centers. An excellent example of this is the Gila National Forest in New Mexico. The Gila is shaped like a doughnut. The center is a wilderness area first protected by the work

of Aldo Leopold in 1929, and it was the first federally recognized roadless land (now called "wilderness"). The Gila National Forest surrounds this wilderness area and is a place where visitors and local residents can engage in timber harvesting, hunting, and hot spring use, among other activities. The Forest Service is an expert at managing wilderness areas, and if there was an addition of a non-motorized unit in the northern Maine area, the expertise could be gleaned from this level of experience. The state does currently have ecological reserves, but these serve a different purpose than the non-motorized areas called for by the Maine guides using these landscapes.

One of the drawbacks many see with a national forest is its vast network of roads and associated road building. Proponents of a new national park in Maine pick this as the reason they would not support a national forest. Others cite the history of opposition to federal ownership in Maine in their assessment of the lack of political will for a national park or a national forest, and therefore chose other options for land use management with more clear state control.

New U.S. Forest Service Models

Some interviewees noted the Forest Service experiments with new models of protecting landscapes that include federal funding with local control. The sentiment was echoed by most of the interviewees that we may develop a bold vision, but Maine cannot pay for it. The example of the Forest Legacy dollars was cited as a good model for acquiring federal dollars, with the federal government allowing Maine leaders, more specifically the Forest Society of Maine, oversight and management of those dollars.

An example of this model in the Forest Service is Valles Caldera National Preserve purchased by the federal government in July 2000. Included in the purchase agreement was the opportunity for the Santa Clara Pueblo to have the right to purchase more than 5,000 acres of land that included the headwaters of the Santa Clara. The Santa Clara people also swapped easements with the federal government along the northeast corner of the preserve. The preserve is 89,000 acres in northern New Mexico and is run by the Valles Caldera Trust. The trust is a government corporation created by the act that created the preserve. A nine-member board manages the trust and the preserve; seven of the members are appointed, the eighth is the superintendent of Bandelier National Monument and the ninth is the manager of the Santa Fe National Monument. The seven appointees are local experts in the areas of culture, economics, sustainable forestry, livestock management, wild game management, and members of state and local government.

The Forest Service reviews plans brought to it by states interested in this type of plan, and they are finding interest in areas involving managing different uses of a landscape. This type of model incorporates many philosophies about land use and protection. It is indeed an experiment of inclusion by the federal government. It brings with it 15 years of monetary support to develop what is needed in the management of an important natural, cultural, and economic area.

> If there's going to be a new entity here, the people need to be a major, major part of it. They need to say what's in their hearts and what their fears are and help to offer solutions. And as you probably have heard a lot, we have an opportunity to create something new. If you want to call it a hybrid, maybe that's one word, but a new variation on an old and honorable being.

Forest Heritage Area

This idea is based on the federal national heritage areas (NHA) program and from the success of many state-controlled forests, both discussed in the following section. The NHA is a new designation of the Department of Interior for lands that have historical and present patterns of human use, as follows:

> A "national heritage area" is a place designed by the United States Congress where natural, cultural, historic and recreational resources combine to form a cohesive, nationally distinctive landscape arising from patterns of human activity shaped by geography. These areas tell nationally important stories about our nation and are representative of the national experience through both the physical features that remain and the traditions that have evolved within them (National Park Service n.d.).

The federal government has 27 national heritage areas, and they are managed by partnerships with all three levels of government: federal, state and local. NHAs are being attempted in other rural regions with a managed forest. One interviewee drew connections between the recent West Virginia effort for an Appalachian Forest Heritage Area and the opportunity in Maine's Northern Forest.

> They [West Virginia] have got that Appalachian Forest Heritage Area. They're putting an application in on it. I've been kicking the doors around here saying, "For God sakes, the Maine Woods Forest Heritage. What the hell have we been about forever?" I mean, to me, this is the opportunity. We need to get a limited study group of yea sayers and nay sayers, and put together a learning agenda, develop them into a learning community. Go visit some of these areas and look at what the tangible issues are that people have to deal with, and look at what the costs or benefits are and then come back and report on that. If it makes some sense, fine. If it doesn't make sense, fine. Or if it's a split report, fine. But we're interested in that, admittedly, from a more selfish perspective in the region; we think that they don't have the constraints that go with the national park. But what that brings us is maybe some additional resources, some visible recognition, and some financial resources to help us do our diversified economic development work here, and at the same time protect the rural life that we appreciate.

National heritage areas are relatively new and encourage partnerships and collaborative planning. Several universities initiated the Appalachian Forest Heritage Area in West Virginia and a nonprofit was established with two years of funding from the Fund for Rural America. Unlike a national park, a NHA can have any management entity that meets approval of the stakeholders and the federal government and is named in the designation legislation. This could be a government agency, a nonprofit or an independent federal commission. The land stays in private ownership after designation; partners maintain a role in the heritage protection, use, and interpretation. The federal government provides funding for 10 to 15 years to help establish infrastructure. This is not a subsidy as it will come to an end, but rather capital for start up. In fact, "Designation legislation does not provide the management entity or any federal agency with the authority to regulate land" (National Park Service n.d.).

The idea of startup capital was appealing to many of the decision leaders, but an outright subsidy was not favored.

> I used to subscribe to Solar Age magazine—it hasn't been in print for 20 years. And that was back when there were all of these subsidies for solar stuff. And I remember the last issue—[the new President] came in, all of those credits were gone. And what happened was the whole industry had gotten so weaned on to those subsidies that it collapsed of its own weight. And I remember the last issue, the guy wrote, "We did this to ourselves. You know, we kept feeding, it was like pigs at the trough."
>
> There's no point in creating a subsidized infrastructure.

The following quotes do not directly refer to a NHA; however, they can certainly be considered in line with the same vision of promoting forest stewardship and becoming a model to the nation and a source of pride.

> I'd create about a two-million-acre [entity], maybe, state run. This would be extreme because people up here just hate this because they think the BPL [Bureau of Parks and Lands] is just inefficient; they just think it's awful. The models of good, long-term stewardship-oriented forestry, moneymaking and ecological, in the northeastern United States are all on state forests. Every damn one of them is a model.
>
> It's a legacy of stewardship that goes way back to the way the states bought these lands, and they're free from federal mandates, largely. And there's just an ethic that's built up around these lands and state forests. In Pennsylvania now,

the state forest system brings in 60 million dollars a year to the taxpayers. Twenty-three million of that is in one forest in northern Pennsylvania—and they bought that land for $3.00 per acre. Massachusetts is the same thing. Maine, because we've only had the land for like 20 years, is building to that situation. Every year is better. The inventory, if you look at the standing volume on Baxter, Scientific Management Area and Maine Bureau of Parks and Lands, it's like two and a half times the average of the state, which they're part of. Once you get that high level of growing stock, and you're cutting bigger trees and more volumes, you're actually making way more cash than the speculators are, especially sustainably. The problem is you've got to just not count the timber that you have standing out there as the base, because the amount that you cut percentage-wise is lower.

Money should go into acquiring parcels of land to go into a publicly managed forest system that's strategically designed, just like an ecological reserve system would be, to conserve ecological value. It would be designed to create manageable blocks of timber that could be used to sustainably support an economy in a region.

And whereas the Bureau [of Parks and Lands] is now seen as kind of the home of preserves, and that's a fine role for them, I see also a future in publicly managed forest to keep that infrastructure. That would also, I think, benefit these family ownerships that need those markets, too, but might not be able to guarantee that on their own. That's my vision.

It strikes me that if you had like two or three million acres of land dedicated to decent long-rotation management, I mean, you just knew that was going to happen because there was no other use of it. This is certainly not incompatible with recreation. I mean, perfectly compatible with it. In fact people are more likely to pay money to go out there where you drive around and at least half of the forest is mature than driving through all of these 15-year-old clearcuts.

British National Park Model

The British National Parks require one to think completely differently about the concept of national parks; they are inhabited, used, and privately owned. They constitute 10 percent of the land base and are represented in 14 units across the landscape (Evans 2001). Issues of visitation have been similar to those of national parks around the world in terms of overcrowding. In an effort to relieve this pressure, a series of community forests have also been developed for recreation purposes. The inclusive nature of the British model builds what Matless (1996: p425) described as a "geographical citizenship promoted around planning and preservation of national parks and open air recreation."

The British National Parks require one to think completely differently about the concept of national parks; they are inhabited, used, and privately owned.

The British parks came from efforts in the late 19th century to start a "freedom to roam" campaign, which continued until the early 20th century when there were serious conflicts over access to the countryside. The mission when the national parks were established in 1949 was to preserve beauty and provide recreation for people. In 1995 this mission was updated to "foster the economic and social well-being of the local communities within the National Park" (UK ANPA n.d.). The British parks are developed with a type of "green line" approach. There are towns and villages, as well as naturally zoned areas with trails and visitor centers. Once an area is established as a national park the land stays in private hands and is managed by individuals (e.g., farmers) and large nongovernmental

organizations (NGOs) (e.g., The National Trust). The funding for management and amenities is from the central government.

With increasing population growth and a global marketplace, the need for conservation on private landscapes that more fully integrate human use in its design calls for alternative models of large-scale conservation.

This model is a good example of the partnerships that must be created for the conservation of private landscapes (Swinnerton 1995). Bringing this model to New England is not a new idea; in 1987 an exchange of planning and land management professionals from the U.K. and the New England states took place in an effort to address the problems associated with rapid growth in New England (Carbin 1989). Carbin (1989: 102) notes that we could learn from the British model because "we speak a common language, and share the same cultural heritage. Our legal system is largely based on the English common law and philosophy. More importantly, of all the areas in the U.S., New England's traditional rural settlement pattern most closely follows that in the U.K.: small clustered villages and hamlets…surrounded by a working landscape of farms and forest." The 1987 exchange of planning and land management professionals identified five themes associated with rapid land use change in New England:

- There is a lack of vision about future options for conserving the New England countryside amidst increasing development.
- Planning by individual towns, when not coordinated with other towns and higher levels of government, is ineffective in the face of current trends.
- Like many communities, national parks and forests often focus their planning solely within their boundaries, rather than planning cooperatively with the adjacent communities.
- Contradictory attitudes toward planning exist in many rural communities.
- The unwillingness of agencies in rural areas to resolve property rights and broader public rights to conserve special areas remains a significant barrier to progress in countryside protection.

Almost 20 years later many of these themes have relevance to the land use issues in northern Maine, and that may be why it was presented to us by interviewees as a viable option that needs exploration.

> But another thing I think ought to be looked at hard, and I guess I understand why people find it remote, threatening, unconvincing, and I certainly understand why the wilderness people don't like it, is the British National Park.
>
> I would urge you to look into that [the British National Park model]. There is a lot of literature on it. You have a concept which is close to a national park without a national park because there wasn't any kind of vast expanse of just empty country. In the Lake District because the roads are very narrow, you can't have all the roads developed, all kinds of ticky-tacky trash, but retain this visual sense we have got here. We want to retain that existing world economy, but [also] the small farms, the tiny little hamlets and villages. We all don't want to have the influx of giant motels, and all kinds of national homogenized canned tourism stuff. We want this place to be like it was.

This interviewee echoed a sentiment heard from all sides of this issue. Whatever solution or comprehensive plan the state adopts must preserve the rural nature and spirit of northern Maine. The clear drawback of the British model as it is practiced is that there is no provision for roadless wilderness or ecological reserves; however the system of zoning could allow

another place to develop zones that make sense on the new landscape.

CONCLUSIONS

An array of visions emerged from the interview data. The confidential nature of these findings transcends the stereotyping that has plagued land use debates in Maine. When we publicly demonize or stereotype a person or sector, we attempt to strip them of their dignity, and ultimately it is the natural landscape and our communities that lose.

With increasing population growth and a global marketplace, the need for conservation on private landscapes that more fully integrates human use in its design calls for alternative models of large-scale conservation. Countries without general fund support of parks have had to do this for parks to be economically viable. When the general public thinks of protection of a landscape, many still think in terms of a park. Most people do not understand the nuances of different management goals within the federal government and assume a level of protection that excludes extractive and consumptive uses of the landscape.

The national park model is an asset that our country has shared with the world, and it has been an effective tool for large-scale conservation. It is therefore understandable why the RESTORE group proposed such a model for conservation of Maine's Northern Forest. However, the concerns of Maine citizens and the cultural memory and political will in Maine suggest other potential models to achieve large-scale conservation. There are many new models to draw upon, and the decision leaders interviewed in Maine were well aware of other possible solutions. It was not that there was disagreement on the fundamental question of whether there should be some level of conservation, but rather on how it might happen, and where the decision-making power would be. The leaders in Maine suggested only one federal option, a national forest; other options discussed were all federally funded programs with levels of state control.

If the state of Maine can create a comprehensive plan for the Unorganized Territories that respects the dignity of all bodies of knowledge and definitions of place, it can build the kind of pride that comes from being a model in conservation planning. Increasingly, pressure on natural systems creates urgency, and in that urgency decisions can be quick but incomplete. A thoughtful approach that includes all parties and is dedicated to creating a cohesive, comprehensive vision and adapting that vision in the years to come is the only model that will be successful.

Elizabeth Dennis Baldwin is an assistant professor at Clemson University in the Department of Parks, Recreation, and Tourism Management. She investigates environmental conflict and collaboration in the establishment of parks and protected areas and is interested in the use of qualitative research in natural resource management and conservation social science research.

ACKNOWLEDGMENTS

The research on which this article is based was conducted while E. Baldwin was a doctoral student at the University of Maine. Funding was provided by the School of Forest Resources, Phi Kappa Phi, and the Graduate School, in the form of competitive grants and scholarships.

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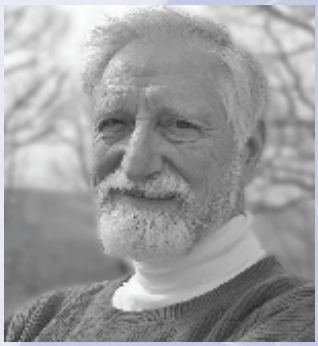
Please turn the page for more author information and references.

Laura S. Kenefic is a research forester with the U.S. Forest Service, Northern Research Station's Center for Research on Ecosystem Change and a faculty associate in the School of Forest Resources at the University of Maine. Her current research interests include silviculture of northern tree species, management of mixed-species and/or multi-aged stands, effects of diameter-limit cutting, and rehabilitation of degraded stands.



Will F. LaPage retired from the University of Maine Department of Forest Management in 2005. He has since authored two books, Parks for Life and a recent collection of his poetry, A Park is a Poem Written on the Land. He has worked with the U.S. State Department and the U.S. Agency for International Development, providing assistance to national park systems in eastern Europe, Central America, and the Caribbean. He has authored more than 130 research reports on outdoor recreation trends and has written extensively on park policy and the ethics of park management.

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LURC's Challenge:

Managing Growth in Maine's Unorganized Territories

by Jerry Bley

Maine's Land Use Regulation commission (LURC) oversees an area covering roughly half the state. Plum Creek's Moosehead Lake Concept Plan has brought LURC into the spotlight. Jerry Bley presents the history of this unique agency, the lands under its jurisdiction, how it has managed development, and what may lie ahead. In developing its Comprehensive Land Use Plan update, LURC needs to seek common ground for solutions that preserve the unique qualities of the area in its jurisdiction, while providing landowners opportunities to realize the financial values of their lands. In his commentary, Mark W. Anderson notes that recognizing the strengths and limits inherent in what LURC does can bring more realism to how various "publics" seek to accomplish their goals for the North Woods. Mark Lapping's commentary outlines his view that LURC's mandate ought to be altered and enlarged so it can make more comprehensive plans to protect ecological assets of the region, while also working to stimulate economic development to benefit area people and communities.

The Commission may approve a Resource Plan and any associated redistricting only if it finds that the plan strikes a reasonable and publicly beneficial balance between appropriate development and long term conservation of lake resources.

These weighty words, and their interpretation, analysis, and deliberation by seven Maine citizens may determine the fate of Plum Creek's proposed Moosehead Plan. This is the largest development proposal in the state's history as well as a quid pro quo conservation plan that, by most accounts, would be unprecedented in the nation. Many believe that the fate of the Plum Creek plan will play a critical role in shaping the future of the Maine's North Woods.

The controversy and magnitude of the Plum Creek decisions have shone a spotlight on the Land Use Regulation Commission, generally referred to by its sinister sounding acronym LURC, the planning and zoning agency for Maine's Unorganized Territories. Furthermore, it has raised the question of whether the agency is up to the challenge. The small state agency, which is housed in Maine's Department of Conservation, has a staff of about 30, with major decisions being made by a seven-member volunteer citizen commission.

LURC is one of a handful of planning agencies around the country that have direct planning and regulatory control over an expansive area. Some others include the Adirondack Park Agency (New York), Pinelands Commission (New Jersey), and Tahoe Regional Planning Authority (California/Nevada), though these other areas typically have a substantially higher percentage of public ownership within their jurisdictions. LURC has broad authority over matters that on one hand will determine the stewardship of some of Maine's most valued natural treasures and, on the other hand, affect the day-to-day lives of area residents and those who depend upon the region for their economic livelihood.

This article takes a broad look at this unique agency: its history, the lands under its jurisdiction, how it has handled the challenge of managing development, and what may lie ahead.

LURC'S JURISDICTION

LURC oversees land use activities across lands encompassing 10.4 million acres, approximately half of the state of Maine, commonly referred to as Maine's Unorganized Territories. The area encompasses some 400 unincorporated townships, 39 organized towns and plantations, and a true treasure trove of spectacular natural resources including 2,600 lakes and ponds, 21,000 miles of rivers and streams, 300 coastal islands, rugged mountain ranges, and millions of acres of commercial forestland that support the state's forest products industry. This vast and diverse jurisdiction is described as follows in LURC's proposed update to its comprehensive plan (2007: 3-1):

> The area arcs across northern Maine from the New Hampshire border in the western mountains to Canadian provinces in the north to the rocky shores of Downeast Maine. It also embraces a diverse collection of townships, towns and plantations in southern central Maine, including island communities, uninhabited islands, and an assortment of inland communities.
>
> Known historically as Maine's wildlands, this vast landscape is the largest block of undeveloped forestland in the Northeast—larger than Massachusetts and Connecticut combined. While forestry and recreation remain the dominant uses, the jurisdiction is largely undeveloped and parts of it remain relatively inaccessible. It is largely free of the state routes and populous communities that intersperse the only comparable area, New York State's six million acre Adirondack Park.

LURC has broad authority over matters that… will determine the stewardship of some of Maine's most valued natural treasures and… affect the day-to-day lives of area residents and those who depend upon the region for their economic livelihood.

> The jurisdiction is an extraordinarily unique area, distinguished from other places by its four principal values—diverse, abundant and unique natural resource values; the tradition of a working landscape; diverse and abundant recreational opportunities; and remoteness and the relative absence of development. These characteristics largely shape the area's uses and values. Although the regions and communities that comprise the jurisdiction are distinct from one another, these principal values collectively define the unique character of the jurisdiction as a whole.

Since its origins in the early 1970s, LURC has never been far from controversy.

LURC'S ORIGINS AND EVOLUTION

LURC, in its present form, came into being in 1971. The "Report on the Wildlands," prepared by the State of Maine Legislative Research Committee in 1969 eloquently laid the foundation for the legislation that led to the creation of LURC:

> Maine has always been proud of its wildlands—the Big Woods, land of Indian and trapper, of white pine tall enough for masts on His Majesty's ships, of mountain lion, moose, and eagle. Much of the wildness was still there when Thoreau went in by birchbark canoe, a little over a century ago. And much of it remains. There is spruce and fir, moose and beaver, lake and mountain and whitewater enough to satisfy generations of Americans. More and more, as the northeastern U.S. develops, the Maine woods are becoming an almost unparalleled resource, both for tree production and for recreational opportunity. But who is to come forward to say that this resource must not be squandered? Can we guarantee that the next generations will be able to set out in a canoe and know that adventure is just around the bend?

Fred Todd, currently Manager of LURC's planning division, joined the agency in 1972 and, given his length of service, is considered to be in the best position to offer a historical look at the agency's evolution. Looking back, Todd recalls that the issues that gave rise to LURC 37 years ago remain the agency's priorities today: managing development and regulating forest practices in sensitive areas. "This state exhibited an incredible amount of foresight when it created LURC," Todd said. "There was nothing else quite like it at the time, no model to follow." Jym St. Pierre, a former LURC staffer and current Maine Director for RESTORE: The North Woods, a wilderness advocacy group, calls the creation of LURC a "grand experiment which largely succeeded."

In the beginning, the public's concern focused on unregulated development along lake shorelines, with camps being built right next to the water, and with logging operations that silted streams and lakes and damaged fisheries. While such practices no longer are permitted under LURC's regulations, development and timber management issues continue to dominate the debate about the Maine Woods.

At its core, LURC has not changed dramatically since its early days. However, like many environmental regulatory agencies created in the wake of the first Earth Day (1970), it has evolved and matured. Over the decades it has created zoning and regulatory programs to protect targeted high-value resources including remote ponds, deer-wintering areas, outstanding river segments, and lakes. It has had its share of landmark proposals, such as the Big A dam that tested the mettle of the agency, not only establishing important precedents, but defining LURC's character as a hard-nosed independent regulatory agency. Today, expansive development proposals, such as Plum Creek's, and a multitude of industrial-scale wind power proposals dominate LURC's agenda.

Since its origins in the early 1970s, LURC has never been far from controversy. Its detractors over time have included the forest products industry, private property rights advocates, and area residents. At least once every decade, there is a move to have

the Maine Legislature abolish or seriously weaken the agency, moves that have so far been rebuffed and at times have actually resulted in the strengthening of LURC through added staff and resources. At present, LURC is taking flak for the proposed update of its Comprehensive Land Use Plan (CLUP) from the Maine Forest Products Council, an industry group representing Maine's forest products industry. The organization's position paper on the subject calls the proposed CLUP, "a blueprint for a national park" (Maine Forest Products Council 2008: 2). It contends that the new CLUP shows a "remarkable bias" towards protecting the remote and primitive character of the jurisdiction, and "proposes massive changes that are not supported by sound information and will result in the unnecessary disruption of many lives" (Maine Forest Products Council 2008: 1).

Jeff Pidot, who served as LURC's director in the early 1980s and represented the agency as an assistant attorney general for 26 years (recently retired), believes that the type of intense political pressures LURC currently faces over the proposed CLUP often "bury" the key issues raised by LURC staff and result in "least common denominator" policies that hinder the agency's ability to fulfill its mission.

HOW LURC MANAGES DEVELOPMENT IN THE UNORGANIZED TERRITORIES

LURC is often described as serving a comparable function as a municipal planning board, and in fact it is involved in the same primary tasks of zoning and permitting. However, there is one critical difference in how LURC accomplishes these tasks that sets it far apart from the operations of a local planning board. In most towns and cities, the municipality's land area has been zoned for specific uses such as commercial, industrial, residential, and rural, each with its own standards. Most proposed development projects are targeted to areas where such uses are permitted, and the planning board's review is largely limited to determining whether the proposed development meets a set of specified standards such as road construction, storm water management, or noise. Development proposals requiring zone changes generally are discouraged and can be difficult to achieve (in those Maine towns that still operate with a town meeting form of government, zone changes generally require a vote of town residents).

Things, by and large, work differently in the Unorganized Territories that make up LURC's jurisdiction. With a few exceptions (most notably in the Rangeley area), the land base has not been zoned prospectively for future development. The existing development zones, by and large, are comprised of areas that are currently developed. There are a variety of reasons for this, not the least of which is the daunting task of trying to prospectively zone millions of acres of land with a limited staff. In addition, because of the size of large forest ownerships, many of which are tens or hundreds of thousands of acres in size, prospective zoning in certain regions of the jurisdiction could result in a predominance of development zones on one or few landownerships. Not only can this create extreme winners and losers, but it can also undermine the intent of the zoning plan if the owners of these lands zoned for development have no interest in developing their land.

So, if a landowner in LURC's jurisdiction wants to develop a residential subdivision, chances are he or she will need to have the land rezoned before obtaining a subdivision permit. In determining what land may be suitable for rezoning for residential development LURC has relied heavily upon its "adjacency principle," which the Commission has generally interpreted to mean that rezoning for development should be no more than a mile by road from existing compatible development. Under the adjacency principle, new development proposals are limited to a small fraction of the Unorganized Territories. Furthermore, the "compatible development" provision requires that new development not be out of scale with existing development, which provides a substantial limitation on the size of new subdivisions.

Over the years, LURC has recognized that the adjacency principle is a blunt tool that does not necessarily guide growth to the best locations. In an effort to expand its growth management toolbox beyond the adjacency principle, LURC has initiated other pathways for development planning including prospective zoning in the Rangeley area (the highest growth area within the jurisdiction) and lake concept plans, which is what Plum Creek's Moosehead proposal falls

under. Nonetheless, the adjacency principle remains a major factor in guiding growth and protecting Maine's wildlands.

While most observers agree that the adjacency principle is not the most sophisticated or effective means to plan for new development, it nonetheless has had a profound impact on limiting development in the Maine Woods. Furthermore, it has put a significant damper on land speculation by limiting the location, amount, and pace of development. Plum Creek's decision to seek approval for an expansive development and conservation plan under LURC's lake concept planning process is likely a result of the company's determination that development under LURC's more traditional scenario of adjacent subdivisions would not achieve the company's financial expectations. A financial analysis of Plum Creek's Moosehead Plan conducted by the Open Space Institute (2007) bore this out. Because the company's Moosehead proposal allows more development in a shorter period of time than would otherwise be permitted under LURC's standard rezoning procedures, it will provide a greater financial return to the company even when taking into account the company's commitment to preserving more than 91,000 acres of land.

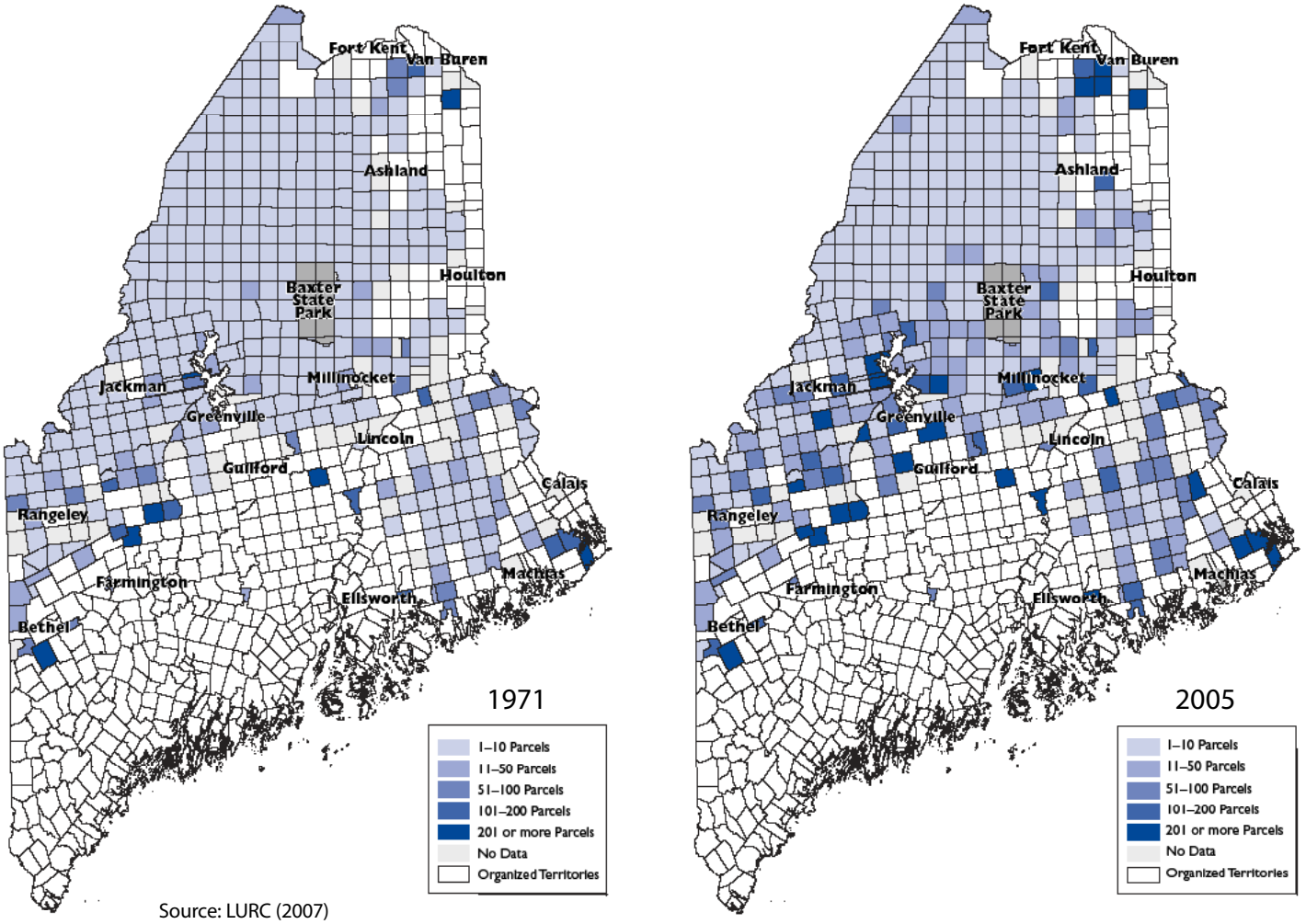
With most substantial development proposals requiring a rezoning, the seven-member citizen commission is routinely faced with making decisions on controversial development proposals based upon a number of broad criteria that allow the commission members great discretion in rendering their judgments. The primary criteria that generally determine the fate of a proposed rezoning include finding that the proposal is consistent with the Comprehensive Land Use Plan, meets a demonstrated need in the community or area, and will have no undue adverse impact on existing uses or resources. Over the years, commission members, by and large, have earned a reputation of being independent-minded, judging each proposal on its merits rather than following personal ideologies or political pressures. A recent example of this trait is the commission's rejection of a proposed wind power project in Redington Township near the Appalachian Trail even after the developer had joined together with several environmental organizations to scale back the project to reduce its scenic and ecological impacts. The commission readily approved rezoning for several other wind power projects generally considered to have lesser scenic impacts.

LURC'S SUCCESS AT MANAGING GROWTH AND DEVELOPMENT

After 37 years of operation, how effective has LURC been at planning and managing land use in the Unorganized Territories? When looked at from high above, it seems that LURC has managed to maintain the essential character of the region. On satellite imagery showing patterns of development across the United States, the LURC territories conspicuously stand out as perhaps the largest block of undeveloped land east of the Mississippi. (See maps in R. Baldwin et al. this issue.) Groups such as the Natural Resources Council of Maine continue to espouse the natural wonders of the Unorganized Territories as in the following excerpt from a recent action alert (2008: 1): "Maine's Unorganized Territories are home to beautiful undeveloped lakes, rivers, ponds, islands and mountains, and an amazing variety of plants, animals, and natural communities." Similarly, the industries that have always been important to the region, most notably forest products and tourism, continue to be mainstays for the regional economy. However, the relative lack of sprawl and far-flung development through LURC's territories cannot be attributed solely to the efforts of LURC. The retention of the state's wildlands can also be credited to their distance from population centers, voracious black flies, and a previous cadre of landowners who were focused more on producing paper and lumber and less on subdivision lots.

Digging a bit deeper, LURC's success at managing growth is a bit more complicated. According to statistics cited in LURC's (2007) proposed update of the Comprehensive Land Use Plan, 8,847 dwellings have been constructed in the jurisdiction since LURC was created. Of these, only 38 percent are located near service centers, with the rest being constructed in more remote locations. This has been due largely to the existence of several exemptions in LURC's statute that have allowed for residential development to occur outside of the rezoning and subdivision approval process. In fact, LURC reports that 72 percent of all

FIGURE 1: Number of Parcels in Maine's Unorganized Territories, by Minor Civil Division 1971 and 2005



Source: LURC (2007)

residential dwellings built during its history occurred on lots created outside this process. The largest of these exemptions, the so-called 40-acre lot loophole was eliminated by the Legislature. However, there remains an exemption that allows landowners to create two lots every five years without subdivision approval (known as the "two-in-five" exemption). The exploitation of such exemptions is largely due to LURC's adjacency requirement for new residential subdivisions, which greatly limits the location of new development, causing many landowners to seek out ways to circumvent the rezoning and subdivision process. The maps in Figure 1 show the extent of "parcelization" that has occurred between 1971 and 2005 in the Unorganized Territories.

LURC planner Fred Todd believes that a landowner's ability, through such exemptions, to create residential lots almost anywhere in the jurisdiction without LURC review has been the single greatest weakness in the agency's history, leading to a slow, but continuous erosion of the values that make the jurisdiction unique. St. Pierre agrees, stating that LURC has been quite successful in improving the quality of development, but far less successful at influencing the quantity and location of development. He also points to the construction of a vast network of logging roads, up to 30,000 miles by some estimates, which has fundamentally changed the character of the wildlands since the 1970s. These woods roads, initially built to haul timber

from the woods after the log drives on Maine rivers were halted, have increasingly been used to access subdivisions and seasonal and year-round residences.

THE CHANGING LANDSCAPE

Most agree that examining LURC's effectiveness over the past 37 years is likely to be a poor predictor of what the future may hold, as the Maine Woods landscape is in the midst of a remarkable change. Over the past 15 years there have been two dramatic shifts in landownership that are likely to have profound implications for LURC in the years ahead. The first is the well-documented divestiture of forestland by industrial landowners and the purchase of these lands by either timber contractors, real estate investment trusts (REITs) such as Plum Creek, or a new breed of timber investors generally referred to as timber investment management organizations (TIMOs) largely comprised of institutional investors. According to LURC's own research (2007), 93 transactions of 10,000 acres or more took place in Maine between 1990 and August 2005, involving a total of 17.4 million acres. These sales resulted in a drop of industrial ownership from 60 percent of the Maine Woods to 15 percent. Many lands were sold more than once, changing hands several times during this 15-year period. LURC's analysis, as presented in the draft Comprehensive Land Use Plan (2007: Chapter 4-5), suggests that "this wholesale restructuring of landownership has been driven by a variety of factors, including corporate lending practices, changing corporate and real estate tax laws, and industry need for capital."

The shift from industrial landowners to the new generation of owners is not simply a case of new names and new players—it is far more fundamental than that. When the paper companies owned the majority of this land, their principal objective was to supply raw material to the mills where their profits were made. The companies did not see the lands as a profit center and generally viewed subdivision and development of their lands as either a sideline to their primary business, or as interfering with that business. With REITs and TIMOS, the forestland itself is the profit center and the owners are looking for every available opportunity to squeeze maximum value from those lands. Plum Creek, in its 2006 annual report to shareholders, drives this point home, "One thing that is clearly understood by each employee is that our job is to 'maximize the value of every acre'" (Plum Creek 2007: 4). The development value of the Maine Woods is no longer an afterthought; it is front and center in the landowner's mind.

The second quantum shift that has occurred, and continues to occur, in the Maine Woods has been the dramatic increase in conservation lands, most notably due to landscape-level projects creating working-forest conservation easements, several of which encompass hundreds of thousands of acres. Ten years ago, the total amount of conservation acreage in the state stood at less than a million acres. Today, that number has tripled, with the great majority of new conservation acres being located in LURC's jurisdiction. The fact that this changeover in forestland ownership and the surge in conservation acreage have occurred during the same period of time is not mere coincidence. The new generation of owners is looking to monetize the development value of its land and conservation easements provide one pathway to achieving this objective.

With conservation ownerships becoming a prevalent feature in the Maine Woods, there is a growing nexus between LURC's planning and regulatory efforts and the acquisition and stewardship work of land trusts and public agencies. Plum Creek's proposal, which incorporates the donation of a 91,000-acre conservation easement including 156 miles of shore frontage, exemplifies this phenomenon. In his testimony before LURC, Alan Caron, president of GrowSmart Maine, a statewide organization working on sustainable growth issues, related that he had contacted his colleagues in 35 different states looking for feedback on how other groups had approached similar developments. According to Caron, "the surprise in the response was on the conservation plan. Most of my colleagues feel if they could get this amount of conservation in a project of this size in their state, they would leap at it." To blur the lines between regulation and land acquisition even further, Plum Creek has linked approval of its plan to a land deal with The Nature Conservancy and the Forest Society of Maine

encompassing an additional 340,500 acres of fee lands and conservation easements. This proposal has created great unease among some who feel that the linkage could unduly influence LURC's regulatory review.

IS LURC READY FOR THE FUTURE?

If Plum Creek's Moosehead proposal is indicative of the new breed of forest landowners in Maine looking to extract maximum value from their lands, is LURC prepared to handle the challenge that lies ahead? Can the agency manage these development pressures and maintain the unique character of the region? Catherine Carroll, LURC's current director, believes that the agency is "on a sound footing." Even with the weight of the Plum Creek proposal and major wind power applications, Carroll maintains, "we're not crumbling."

According to Carroll, the commission has great concern about trends showing that dispersed development is slowly, but surely, diminishing the unique character and traditional uses of the wildlands including forestry and recreation. With regard to future growth pressures, Carroll points to the recommendations found in the draft update of LURC's Comprehensive Land Use Plan, which include

- Developing new approaches to directing most development to areas most suitable for growth;
- Redefining adjacency to consider other factors pertinent to the appropriateness of areas for development;
- Limiting dwellings to small traditional camps without utilities in areas where the jurisdiction's principal values are most at risk;
- Protecting forestland in the interior by measures such as encouraging conservation efforts and undertaking prospective zoning in these areas;
- Encouraging conservation in high-growth areas with significant resource values to protect the character and values of these areas;
- Applying prospective zoning to high-growth, high-value regions and/or areas where principal values are most at risk;
- Modifying certain subdivision exemptions to limit use for development purposes; and
- Developing an approach that prevents the leading edge of development from moving progressively deeper into remote areas.

But Carroll worries about the "great divide" she sees between forest landowners who feel that LURC's proposals are too restrictive and environmental groups, such as the Natural Resources Council of Maine, who have been trying for many years to push LURC towards prohibiting all development in remote areas of the jurisdiction. She points to the recent success of the governor's wind power task force in coming up with a consensus report supported by developers and environmentalists alike and wonders if a similar effort could work in sorting out development issues in the jurisdiction. "The commission would like these groups to come together rather than have to be the arbitrator."

If there is a common ground to be found, it will need to involve solutions that preserve the unique qualities of the jurisdiction while providing landowners opportunities to realize the financial value of their lands.

If there is a common ground to be found, it will need to involve solutions that preserve the unique qualities of the jurisdiction while providing landowners opportunities to realize the financial value of their lands. Some of these tools already exist: the purchase of conservation easements by public agencies and private groups and LURC's lake concept planning

Jerry Bley is founder and principal of Creative Conservation, LLC, a land use consulting firm that works with landowners, nonprofit organizations, and government agencies to create positive land use models in Maine and beyond. Previously, he worked for 10 years at the Natural Resources Council of Maine, where he directed land use programs. He has served on a variety of governmental boards and special commissions including the Northern Forest Lands Council, Land Acquisition Priorities Advisory Committee, Maine Board of Licensure for Professional Foresters, and Baxter Park's Scientific Forestry Advisory Committee.

process, which provides an avenue for combining targeted growth and permanent conservation. New strategies will likely need to get added to this mix.

The draft plan concludes that, "actions taken or not taken by the Commission to modify its regulatory framework in the immediate future will determine whether the jurisdiction's principal values will be maintained in the future" (LURC 2007: iii). Throughout its history, LURC has shown a gritty determination to fulfill its ambitious mission. The Plum Creek controversy has captured the attention of Maine people. I hope that attention can be translated into lasting solutions for the Maine Woods that will ensure that "the next generations will be able to set out in a canoe and know that adventure is just around the bend."

ACKNOWLEDGMENTS

This article was based, in part, on interviews with a number of individuals with extensive knowledge about LURC including Fred Todd (manager of LURC's planning division), Jeff Pidot (former LURC director and assistant attorney general to LURC), Jym St. Pierre (former LURC staff member and current Maine director of RESTORE: The North Woods) and Catherine Carroll (current LURC director).

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COMMENTARY

LURC and First Principles of Land Use Regulation

By Mark W. Anderson

The controversy evoked by the Plum Creek Concept Plan for the Moosehead Lake region of Maine should not surprise us. The geographic scale of the plan amplifies the tensions inherent in the law, economics, and politics of land use planning in our society. However, it is that very scale of development in Maine's North Woods that masks the fundamental issues here.

The Maine Land Use Regulation Commission (LURC), like all land use planning and regulation agencies, must navigate the terrain between absolute dominion, the idea that private landowners shall do as they wish with their property, and eminent domain, the constitutional power of the state to take property for public purposes with payment of just compensation. Where LURC or any local zoning board falls on the continuum between these two poles will always displease some in society. Economists would say that the process necessarily creates both winners and losers.

We should remember the first principles of land use regulation when we think about LURC's role in this process. LURC may constrain the property rights of landowners (their absolute dominion over their property) on one of two grounds. It may carry out the public trust doctrine over the waters of Maine, a power and responsibility reserved to the state in Maine law, although not typically so in other states. Or it may exercise police powers, essentially a common law doctrine where a sovereign state is obligated to provide for the general welfare of its citizens. With these powers LURC may tell landowners what they may not do, though it may not tell them what they must do.

In economic terms, we can think of these powers as protecting the public from negative externalities, but not requiring landowners to provide positive externalities with private property. Another way to think of this is that land use regulation agencies generally cannot force the provision of public goods, but may protect from the creation of public bads. The exceptions to this general principle of land use regulation come in the forms of conditionality and mitigation.

Land use ordinances nationwide have become more sophisticated in that landowners are allowed uses that would otherwise be prohibited by fulfilling certain conditions, often in the form of mitigation. For example, greater development densities may be allowed in one area of a jurisdiction in return for a conservation designation somewhere else. We see this clearly in the concept plan process of LURC.

It is the scale of LURC's jurisdiction that makes its decisions so much more compelling than those of its colleagues on local zoning boards. This scale amplifies the problem of determining the "public" in the public trust doctrine or the "general" in the general welfare of the police powers. The numbers and diversity of stakeholders means that in dynamic times like these, fewer groups and individuals are likely to find LURC's decisions satisfying.

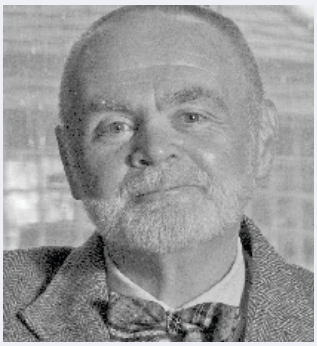
The clarity of values in LURC's comprehensive land use plan and its process for applying these values to decision making such as in the Plum Creek case should be seen as a sign of the very effectiveness of the institution at mediating among the various conflicting views of the public purpose. The difficulty in analyzing LURC's "effectiveness" after the fact, though, is rooted in this concept of the public purpose. Since there are many views of the public purpose or the general welfare, deciding whether the sum of LURC's decisions "work" over time implies more harmony in the values held by Maine people (the public) than may exist. Furthermore, since LURC may only prohibit action, and then only so long as not to effect a taking, the change in the use of land over time is not all attributable to this one agency.

Other players—landowners, other state agencies, nongovernmental organizations (NGOs), entrepreneurs—all work to shape uses of the lands. Improvements in public and private infrastructure affect access to the landscape in ways not always fully appreciated. Probably the biggest land use change in Maine's North Woods in the last 38 years comes from the roads constructed for timber management but maintained after the fact for other purposes. The actions of NGOs, from The Nature Conservancy's purchase of conservation easements to a local snowmobile club's trail maintenance, change recreation access and opportunities. And landowners' decisions, as we see in the recent past, reflect changes in their perspectives on how lands might be used.

The dynamism created by the interactions of these various interests often leads to rezoning petitions such as the Plum Creek Concept Plan. Rezoning is the most common challenge facing any land use regulation body in times of rapid change. It is an opportunity for both sound planning and for multiple parties to seek special advantages by manipulating bureaucratic rules (in technical terms "rent-seeking" behaviors).

COMMENTARY

LURC has shown itself more than capable of meeting these challenges to date. We should remember that it only provides a set of legally defensible limits on what private landowners do with their property. Within those limits LURC does not determine the actions of property owners or the actions of other private and public entities that affect the landscape. As we think of the future, recognizing both the strengths and limits inherent in what LURC does will bring more realism to what other methods various publics will need to exercise to accomplish their goals for Maine's North Woods.



Mark W. Anderson is a senior instructor in the School of Economics and coordinator of the Ecology and Environmental Sciences Program at the University of Maine. He served as a consultant to the Land Use Regulation Commission (LURC) on recreational impacts of the Plum Creek Concept Plan.

Wanted: A Maine Woods Dialogue

By Mark B. Lapping

Gerry Bley's useful outline of Maine's Land Use Regulatory Commission (LURC), its history, function, and mandate, places LURC within the context of a number of public institutions created during what has been called "the quiet revolution" in American land use planning. LURC was part of a movement during the late 1960s and 1970s that saw the creation of new agencies with mandates to both guide growth and protect critical ecological systems in some rather substantial regions across the nation. Invariably these places were rural, thinly populated, if at all, and more often than not included wilderness areas and sensitive habitats. Certainly the great Maine Woods and hundreds of coastal islands continue to fit this definition.

It is important to note that these new planning and regulatory authorities represent the insertion of state authority in places where local planning was minimal or even nonexistent (Lapping and Furuseth 2004). Proposed development projects of a regional scale, so it was argued, required extraordinary analysis, assessment, and ultimately, regulation. In many instances, however, accommodations were made by these new planning entities that limited the scope and impact of new development rather than denying it outright. In a very real sense these agencies, including LURC, arose out of genuine concerns relative to new patterns of land use and consumption reflecting new ownership patterns and different objectives. Where historically forest products and or other resource-based wealth-creating activities defined regional economies, now recreation and tourism, retirement-related growth, and the development of second-home projects and wildland estates determined the new rural economies. This reflects the "bottom line" reality of the new owners of these lands, as Bley documents. Yet it would be incorrect to suggest that all of the land in the Maine Woods is subject to the financial plans of REITs and TIMOS alone. For, as Bley importantly points out, there has also been an explosion in the amount of land held in strictly conservation use at the same time that more activity on the part of developers has taken place. The two are intimately related and, to some extent, play off of one another.

Like so many of its counterparts, LURC is largely a single-purpose agency: it regulates land use and land development. But in such vast territories, regulating land also means defining the regional and local economy. The reality in LURC's jurisdiction is that the land is the means of production, and how it is used often determines individual livelihoods and family and community well-being. This is why, to such a great extent, the contest over the Plum Creek proposal has been forced into the false "jobs versus environment" dichotomy. The reality is that while LURC is doing its important work and fulfilling the mandate that Mainers have given it over the decades to protect unique environmental resources, the region continues to lack a vision of what a robust economy that provides residents with a genuine "stay option" might look like. This failure is one borne by all Mainers who care deeply about the great Maine Woods.

The truth is that the very act of regulating the land in vast, rural areas is economic development planning at one and the same time. To pursue one without

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pursing the other creates false trade-offs. What is necessary, in my view, is a deep and genuine dialogue among Maine people about the future of the vast territory under LURC's jurisdiction. We have never as a community come together to ponder and debate what the future of the North Woods ought to be like and how we can promote such a unified vision. In a sense the controversy over Plum Creek has set the platform for this larger and more important discussion; we need to take advantage of this opportunity.

Personally, I believe that the mandate of LURC ought to be altered and enlarged so that it comes to be seen as a regional agency writ large. Its mandate, staff, and programmatic thrusts should be enhanced so that it makes truly comprehensive plans that seek to protect the unique quality and ecological assets of the region while also working to stimulate the type of sustainable and environmentally sensitive economic development that will carry local families and communities well into the future. No one wishes to destroy the "goose that laid the golden egg." However right now, given that LURC reacts rather than projects and has such a narrow mandate, it is forced into making land use decisions that have broad consequences without reference to larger concerns. Rural Maine people are dealing with growing rates of impoverishment, hunger, and out-migration. The rising cost of public services will invariably lead to the decline and perhaps disappearance of rural communities. A number of North Woods communities have already chosen to de-organize because their ability to support the very attributes of local self-government has been so compromised. The promise of any work has led many to embrace literally any proposal that might create some jobs no matter their larger social and environmental cost.

Plum Creek, so it seems to me, is not the answer. Rather it is the symptom of what is so wrong in LURC land.

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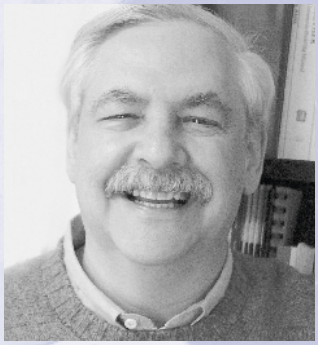


Mark B. Lapping is the distinguished professor of planning and public policy at the Muskie School of Public Service at the University of Southern Maine. A planner by profession, prior to joining USM he was founding dean of the Bloustein School of Planning and Public Policy at Rutgers University. Author of several books that are "best-sellers" in planning, he has also written well over 150 articles and monographs and has been on the editorial boards of several professional journals.

Tourism Strategy for the Maine Woods:

A Big Push to World Class

by David Vail

Can Maine's North Woods be a "world-class" tourist destination? The short answer is "not yet," according to David Vail in his article and Roger Milliken and Ann Czerwonka in their commentaries that follow. Vail notes that the Northern Forest's current mix of natural, cultural and hospitality assets is not sufficiently unique, outstanding or networked to draw large numbers of new overnight visitors. His article gives examples of some promising new endeavors, and suggests the possible development of a "great Maine woods" recreation area or national heritage area as a possible "big push" strategy. Roger Milliken, drawing on some of his recent experiences outside Maine and his deep knowledge of the issues facing the state's North Woods, gives a number of excellent practical ideas for developing "world-class" experiences for visitors. Ann Czerwonka presents excerpts from a roundtable discussion among a diverse group of resort professionals who considered whether eco-tourism and sustainable resort development might offer a source of economic growth for the North Woods.

The goal…is to provide Maine visitors with… opportunities to experience the state's world class *natural, historical and cultural resources.*
(Maine State Planning Office 2005, emphasis added)

Maine's North Woods and Downeast Lakes have a storied history as tourist destinations. A century and a half ago, Henry David Thoreau's travel essays focused a spotlight on the Maine Woods. Fifty years later, railroads led the effort to promote recreation in Maine's hinterland. Over the 20th century, state campaigns and infrastructure investments encouraged tourism in the interior. And today, the Maine's Office of Tourism's director exclaims, "It's an industry that we need to grow and everybody is pumped up about it" (Richardson 2007).

A major reason why "we need to grow" rural tourism is that Maine's rim counties (Oxford, Franklin, Somerset, Piscataquis, Aroostook, and Washington) have not shared coastal Maine's recent prosperity. A few comparative statistics suggest the regional disparity (Table 1).

TABLE 1: Some Socioeconomic Characteristics of Maine's Coastal and Rim Counties

	Rim Counties	Coastal Counties
Unemployment Rate (2005)	6.6%	4.1%
Percentage of Households in Poverty (2003)	13.7%	9.6%
Net Migration 1990–2005	-6,237	+47,061

Source: Cervone (2007)

One reason "everybody is pumped" is the recent blossoming of government, private, and non-profit tourism initiatives. Even though many of these ventures show promise, it seems unlikely they can boost rural Maine's market share in the face of some troubling trends and intense competition. The new ventures are too fragmented and too limited in scope to propel the Northern Forest region to the world-class level envisioned by the State Planning Office. This essay sketches the "big push" strategy that I believe is our best chance to transform rural Maine into a world-class destination.

The 2003 Blaine House Conference on Maine's Natural Resource-based Industries marked a watershed in recognition of tourism's economic importance and specifically of tourism's potential to revitalize distressed rural communities and regions. Conference background papers underscored rural tourism's economic importance in part by showing that we can no longer bank on traditional mainstays, forest products and agriculture, for sustainable jobs and prosperity (Irland 2004; Smith 2004).

Public-sector tourism initiatives launched since 2003 go well beyond earlier efforts. Following is a sample of recent efforts to bolster rural tourism:

- The state and partnering conservation organizations have purchased prime recreational lands and acquired 1.5 million acres of conservation easements from the West Branch of the Penobscot to the Downeast Lakes. Land for Maine's Future multiplies its limited resources by collaborating with landowners, land trusts, and the federal government.
- Rural tourism regions, with Office of Tourism backing, have framed strategic plans, such as the Downeast region's *Destiny 2010* and Aroostook's *Five Year Tourism Business Plan.*
- The Governor's Steering Committee on Natural Resource-based Industries launched the Maine Nature Tourism Initiative in 2005, with pilot projects in the Western Mountains, Highlands, and Downeast regions.
- The state and tourism industry joined forces to create Center for Tourism Research and Outreach within the University of Maine System (CeNTRO).
- The Department of Environmental Protection's "Green Lodging Certification Program" has designated seven Northern Forest lodgings and sporting camps as *environmental leaders.*

- *People, Place and Prosperity*, the 2007 report of the Governor's Council on Maine's Quality of Place, proposes crucial public investments for rural tourism, including targeted land conservation, downtown revitalization, an off-road trail network, and workforce development.

This flurry of activity is impressive by historical standards, but it is too modest and piecemeal to make rural Maine a world-class tourist destination.

The greatest challenge, I believe, is that the Northern Forest's current mix of natural, cultural, and hospitality assets is not sufficiently unique, outstanding, or networked to draw large numbers of new marketable overnight visitors.

"WORLD-CLASS DESTINATION"— WHAT DOES IT MEAN? ARE WE THERE YET?

The State Planning Office (2005) claims that Maine has "world class natural, historical and cultural resources." Others have made similar "world-class" assertions, as if the claim were uncontestable.

In my view, the phrase "world-class destination" accurately describes coastal Maine from Kittery to Acadia. The coast attracts many thousands of international travelers with its rugged coast, national park, quaint (and increasingly gentrified) fishing villages, Portland's buzz, and the "three L's": lobster, lighthouses, and L.L. Bean. But it is a stretch—or a self-deception—to label interior Maine's mix of tourist resources world class. Many destinations are of course cherished by Mainers and visitors from away who return repeatedly to favorite places. Indeed, some Northern Forest attractions may stand international comparison, for instance our 376 rugged miles of Appalachian Trail, the Mount Katahdin massif, the Allagash Wilderness Waterway, Moosehead Lake, and the ITS snowmobile network. Only the Moosehead region and snowmobiling, however, draw large numbers of high-spending "marketable overnight" visitors. It is sobering to note that none of the state's top dozen destinations is in the Northern Forest region (Longwoods 2006).

The strategic challenge is to re-invent the Maine Woods as a 21st century destination: a whole that is greater than the sum of its *not-quite-world-class* parts. Surely, this will be a big marketing challenge and the Office of Tourism's generic tag line, "It Must Be Maine!" will not do the trick. However, I am convinced that *developing the destination* must be first priority. In the words of Longwoods International's Scott Hanson (2004: 1, emphasis added):

> A [regional] brand is not a campaign theme, tag line, or slogan. Instead, it's an expression of a compellingly unique experience...In the end, it comes down to the destination experience and *your ability to deliver on the promise.*

Whether a destination is "world class" is largely in the eye of the discriminating traveler, but instead of debating about perceptions, this essay adopts a results-oriented definition. Maine's Northern Forest region will be world class when

- It attracts, say, 300,000 more "marketable overnight" visitors yearly, including a substantial increase in tourists from outside the region's traditional southern New England and Mid-Atlantic "catchment area."
- These tourists spend an additional $150 to $220 million, supporting several thousand more full-time equivalent jobs. This is roughly a 20 percent boost to rural Maine's overnight visitor economy.[1] Local indirect spending (multiplier effects) will amplify these magnitudes.
- The Maine Woods draws more tourists year round, but the "big push" centers on the summer season.

CORE CHALLENGES AND OBSTACLES

Transforming Maine's Northern Forest region into a world-class destination is not a sure thing. To "deliver on the promise," we must raise tourism service to the high standards expected by affluent, discriminating "experiential tourists." True, our best practice guides, outfitters, restaurants, and lodgings do offer such quality, but there is a big gap between best practice and "average practice." A challenge intimately connected to raising product quality is upgrading job quality. Rural prosperity requires hundreds more highly skilled, well-compensated tourism careers. Another challenge is to recognize and minimize tourism's downside impacts such as congestion, loss of affordable housing, cultural clash, and residents' loss of access to recreational lands and waters. Space does not allow exploration of policy responses to these challenges here (see Vail 2007).

The greatest challenge, I believe, is that the Northern Forest's current mix of natural, cultural, and hospitality assets is not sufficiently unique, outstanding, or networked to draw large numbers of new marketable overnight visitors. The rural tourism economy comprises many sub-groups and distinct markets, of course, ranging from young mountain bikers to middle-aged ATVers and from birdwatchers to bird hunters. We should work to expand each of these market niches. However, Fermata Associates (the state's tourism consultants) identify the key growth opportunity as the growing cadre of *experiential tourists*: travelers who seek out destinations with diverse, high-quality offerings ranging from soft outdoor adventure to heritage, contemporary culture, dining, and lodging. In particular, it is crucial to re-shape destinations and products to satisfy the preferences of baby boomers, with their ample discretionary time and income (Fermata 2005).

My interpretation of the challenge of rural Maine's destination development rests on four factors. First, we face stagnant or declining participation in several traditional recreational activities, including hunting, fishing, camping, whitewater rafting, and alpine skiing. Snowmobiling, a growth industry in the recent past, faces uncertainties regarding fuel prices and climate change (snow cover). Visits to Baxter State Park and the Allagash, the Maine Woods' "crown jewels," have declined significantly. Complex forces lie behind these troubling trends. Analysts cite Americans' "time poverty," an aging population, and a generational shift in leisure preferences (McIntosh 2006; Nature Conservancy 2006; Murphy 2007). Longwoods' Hanson observes: "They're taking more long weekends and fewer extended vacations. To top it off, they have a 'been there, done that' attitude" (2004: 1). The shift toward more one-time visits is troubling, given the Maine Woods' strong tradition of return visitors.

Second, the Northern Forest region's competitors—including coastal Maine—are pursuing their own strategies to capture tourists through improved product quality, destination branding, and marketing. Prospective tourists to rural Maine encounter a flood of slick media advertisements, brochures, and Web sites. The explosion of Internet information and flight connections means that rural Maine's rivals are no longer just neighbors such as the Adirondacks, White Mountains, and Champlain Valley. We must go head-to-head with true world-class destinations such as the Colorado Rockies and Norwegian fjord country. We must run faster just to stay in place.

Third, an epochal transformation of landownership is underway in the Maine Woods. Considering Maine's long tradition of public access to undeveloped private land, there is a well-founded concern that outdoor recreation opportunities will increasingly be limited by land fragmentation, gated kingdom lots, subdivisions, and other emerging ownership and management patterns. On the bright side, the unprecedented surge of public and NGO acquisitions and easements discussed above has protected large tracts from development and ensured varying degrees of recreational access. In fact, as the mosaic of protected lands nears three million acres, it increasingly looks like the foundation of a world-class destination.

The fourth problem is remoteness. Compared to our Northeast competitors, most Maine Woods natural attractions and gateway towns are farther from major metropolitan centers, interstate highways, and commercial airports. Furthermore, rural Maine offers few convenient alternatives to personal vehicle travel. The national trend to short vacations and the rising price of gasoline reinforce the adverse effect of distance.

Maine Huts & Trails

David Herring, Executive Director, Maine Huts & Trails

For more than a decade, the vision of a backcountry hut and trail system in western Maine has been taking shape. The nonprofit Maine Huts & Trails (www.mainehuts.org) is creating a 180-mile hut-to-hut system from the Mahoosucs to Moosehead. Significant progress towards realizing this vision has been made. More than 110 miles of trail corridor have been acquired, with over 30 miles complete or under construction. More than $5 million have been raised and the first of 12 huts are well on their way to a winter 2008 opening.

Maine Huts & Trails (MH&T) aspires to be an ecotourism destination providing visitors with high-quality backcountry recreation experiences. The trail corridor traverses some of the most scenic backcountry, riverfront, and lakeshores east of the Mississippi. Great care has gone into trail layout, hut design, and amenities. The entire hut and trail experience is planned to fit into a broader western Maine nature-based tourism initiative.

The trails are designed to provide a wide variety of people-powered experiences to a wide range of outdoor enthusiasts. Paddling, rafting, hiking, groomed cross-country skiing, snowshoeing, mountain biking, fly-fishing, nature photography, birding and more will be available along the MH&T corridor.

The huts will offer guests a comfortable bed, two hearty meals, and an opportunity to share the day's adventures with fellow visitors. Visitors will receive a rich introduction to the culture and heritage of the lands they're traveling through: Native American history and lore, log-drives of the past, and stories of the submerged towns of Flagstaff and Dead River. There will be conversations about the current state of the Northern Forest and the many important initiatives shaping its future.

Huts & Trails users will enjoy an authentic Maine experience and diverse outdoor activities. We hope they will come away with a sense of renewal and a commitment to protect Maine's special places. As the project fosters healthy exercise and environmental education, it also will create skilled jobs and boost rural Maine's economy.

Recent visitor data seem to belie this gloomy outlook. Maine overnight trips jumped 14 percent from 2004 to 2005, following a four-year slump. However, we do not yet know where tourists traveled in 2005, and Maine Tourism Association director Vaughn Stinson is probably correct that the increase brought little benefit to rural interior regions. Plausibly, most of the increase was Canadians returning to Maine's coast with the rising value of the Canadian dollar (Turkel 2007b).

RURAL TOURISM INITIATIVES: ENCOURAGING BUT FRAGMENTED

Cataloging all the new tourism ventures that have sprouted in the Maine Woods is beyond the scope of this essay. Instead, it highlights promising efforts under three headings: trails, heritage attractions, and resorts. Sidebars offer a closer look at three promising ventures.

Trails Crisscrossing the Landscape

The Maine Woods brand builds on three iconic trails: the Appalachian Trail, the Allagash Wilderness Waterway, and the ITS snowmobile network. Today, as reporter Tux Turkel notes, "Tourism trails are a hot trend in the travel industry. People take shorter vacations these days, and they're more focused on pursuing [specialized] activities, hobbies and interests" (Turkel 2007a). He also notes that Maine's present conglomeration of trails did not result from a coherent strategy, but rather "evolved randomly over the last decade."

Nature-based trail systems—all works in progress—include the Appalachian Mountain Club's Maine Woods Initiative, trails and camps in the 100-Mile Wilderness, the four-state Northern Forest Canoe Trail, the Maine Birding Trail, and the fast growing all- terrain-vehicle (ATV) network. Perhaps most ambitious is Maine Huts and Trails, a ski, hike, and bike trail stretching 180 miles from the Mahoosucs to Moosehead. David Herring describes it in a sidebar.

Nature and heritage blend along the Kennebec-Chaudière Trail, highlighting Maine's Revolutionary War and Franco-American heritage, and the Thoreau-Wabanaki Trail, promoting Native American traditions and wilderness preservation. Cultural creativity is displayed along the Fiber Arts, Garden and Landscape,

and Architecture Trails. To weave these many cultural assets into a high-profile regional destination, the Maine Mountain Heritage Network has proposed a "Maine Woods Consortium," which Bruce Hazard presents in a sidebar.

Grand Resort Plans

Resorts can be destination makers, especially if a tourist region has several resorts offering high-quality amenities and diverse activities. Resort upgrades and proposed resorts on the drawing board are a promising development. The expansion underway at Saddleback will strengthen the Rangeley Lakes region's year-round drawing power. In the Forks, Northern Outdoors is expanding beyond its original rustic facilities and narrow rafting and snowmobiling focus. In the shadow of Mt. Katahdin, the New England Outdoor Center (NEOC) is applying eco-resort design principles to transform Twin Pines Camps into Ktaadn Resorts. NEOC's Matthew Polstein lays out the Ktaadn Resorts vision in a sidebar (p. 110).

Turning to "greenfield" resorts, California-based WHG Development has announced plans for The Reserve at Norton Pond, a 4,000-acre, $500 million resort in Brownsville. With an 18-hole golf course as centerpiece, it would feature a 550-room hotel and corporate convention center (Meeks 2006). Considering that this is not an area known for upscale tourism and that northern Maine golf courses have a short season and underutilized capacity, it is not clear whether market projections will justify such a massive investment. Most ambitious—and controversial—are the two proposed resorts that are core features of Plum Creek's 420,000-acre Moosehead Lake Concept Plan. The 4,200-acre, 800-accommodation unit family resort on Big Moose Mountain would be near the Greenville tourist gateway. With its emphasis on winter sports, it would tie into the rundown Squaw Mountain ski area, the ITS snowmobile network, and Maine Huts and Trails expedition ski trail. A smaller, more upscale waterfront resort on Lily Bay would reestablish tourism near the site of the former Lily Bay House hotel and camps. Even though the nearby shoreline has considerable existing development, the re-zoning proposal has generated controversy, partly due to its proximity to Lily Bay State Park and Canada lynx habitat.

Proposal: A Maine Woods Consortium

Bruce Hazard, Director, Mountain Counties Heritage

Over the past seven years, the Maine Mountain Heritage Network (MMHN) (www.mainemountains.org) has achieved modest success in coordinating the efforts of member organizations around a number of regional development strategies. One core strategic idea is weaving natural assets together with heritage attractions and contemporary culture to create and brand a rural tourism destination—a whole that's greater than the sum of its parts.

As a bold next step, MMHN's coordinating team propose to "scale up" its initiative—widening geographic inclusion, promoting investment in asset-based development projects, and marketing the resulting products, including tourism products. With respect to tourism, we will emphasize creation of new multi-dimensional, value-added products. For example, imagine an old-style fishing trip expanded to include a gourmet dinner of trout amandine with locally grown garlic-mashed potatoes, a visit to bamboo fly rod maker, a fisheries biologist's illustrated talk on trout habitat and lifecycle, and participation in a stream restoration project.

MMHN's proposal to create a new "Maine Woods Consortium" includes three key components:

- Reconfiguring the MMHN to include new partners in northern and eastern Maine. We have found the "network" approach to be a dynamic and effective way to gain alignment and impact across many small entities operating in a large landscape and across multiple interests and sectors.
- Establishing a new capital fund that can be used to implement projects that the consortium deems to be of regional significance.
- Creating new marketing capacity to gain a greater market share for Maine Woods tourism products/enterprises and also to establish more effective distribution channels for other products manufactured and grown in the region, for instance, fine crafts and processed foods.

Ktaadn Resorts

Matthew Polstein

The goal of Ktaadn Resorts is to build and operate a signature resort for Maine and northern New England on Millinocket Lake, adjacent to Baxter State Park. The resort will include an 80-room eco-lodge and outdoor adventure center, a mixed-use agriculturally themed village center and residential neighborhood, as well as two clusters of resort homes. The eco-lodge will be inspired by the great historic lodges found in America's national parks, but it will be built to exacting 21st century environmental standards. It will include two restaurants, a theater, and banquet and conference space for 250 people.

We will build and operate Ktaadn Resorts in a sustainable fashion that honors the spectacular natural beauty of Mount Katahdin and the West Branch region. The resort will exploit and support the connected mosaic of conservation easements and ownerships in the Katahdin region. Although these conservation measures assure the availability of land for recreation and commercial forestry, they offer no plan to guide development in ways that best serve visitors and future residents without eroding those values. The design and operation of Ktaadn Resorts will help to fill that gap. It will also highlight the local culture and heritage of the region, creating a sense of community for guests and residents alike.

Opportunities to increase awareness of the surrounding environment and to strengthen human connections with nature will be ever-present. We will support the resort and the region with an array of traditional and non-traditional amenities that use the area's rugged natural beauty and the resort's community setting to add value to the guest experience and to create quality employment and retail opportunities for area residents and businesses. All of this will be based on the principle of exceptional service, making Ktaadn Resorts a prime destination and a likely model for future development along Maine's forested fringe.

In assessing resort development, god (or the devil) is in the details. At their best, multi-season resorts give a sustainable boost to local economies, generating year-round jobs, many paying livable wages. They use local suppliers for construction materials, furniture, food, and repairs. They offer a base of operations and a ready-made clientele to local guides, outfitters, craftspeople, and performing artists. They build the customer base for other leisure and hospitality businesses. However, at their worst, new resorts offer mostly low-paying, seasonal jobs, "import" their inputs, compete with existing businesses, and stress environmental and host-community carrying capacities. The Ktaadn Resorts sidebar describes a project explicitly designed to maximize positive community and environmental impacts.

Other Initiatives

Beyond trails, resorts, and heritage initiatives, there is much more going on in Maine Woods tourism. Other initiatives run the gamut from the Maine Winter Sports Centers in Fort Kent and Presque Isle, to the Maine Wilderness Guides Organization, seven certified *Environmental Leader* lodgings, and the swelling ranks of farm bed-and-breakfasts offering fall hay rides, winter skiing, and spring maple syrup events.

Discussion

This host of encouraging initiatives brings several questions to mind. First, with so much uncoordinated activity, is it possible that the Northern Forest region might develop an unsustainable oversupply of some tourism products? This seems possible, for instance, if resort capacity or the supply of recreational trails and lodges outstrips demand growth. Second, could there be too much variety for prospective visitors to choose from? Longwoods International's Hanson warns, "Customers don't absorb laundry lists of features, but embrace focused propositions with a compelling appeal" (Hanson 2004: 1).

A third question arises as nonprofit organizations such as the Western Mountains Foundation and Appalachian Mountain Club develop trail infrastructure, lodgings, and recreational programs. Is it ethical—and economically healthy—for nonprofits to compete with existing private sporting camps, camp grounds, ski centers, and other tourist businesses? Do the nonprofits' tax exemptions and grant funding confer an unfair competitive advantage that could undermine private sector profitability?

Finally, can this unprecedented mobilization of talent, energy, and investment do more than just maintain market share in the face of worrisome trends and intense competition? Can it transform the Maine Woods into a world-class tourist destination? I believe the answer is "yes"—but only with a big push to get us there.

A BIG PUSH TO WORLD CLASS

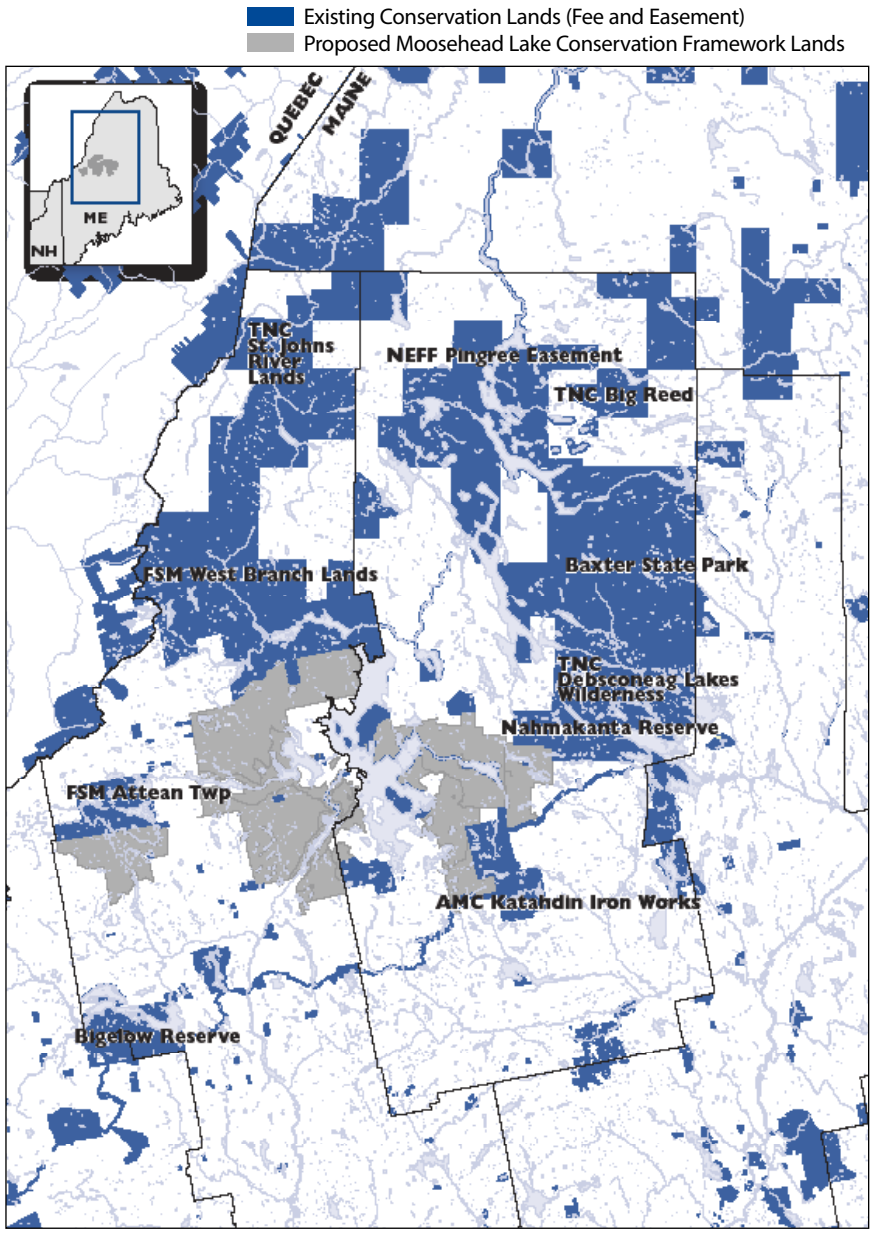
Nature in all its beauty and diversity will continue to be the Maine Woods' prime tourist draw. The core strategic challenge is to weave dispersed natural attractions into a *whole*: a region-wide destination renowned for outstanding recreational experiences. Maximizing the brand attraction of natural assets is necessary but not sufficient, however. The growing cohort of experiential tourists demands much more than rustic adventures. They select destinations offering a menu of high-quality attractions, including a rich heritage, contemporary culture, and excellent dining and lodging. A second task in creating a world-class destination is thus to expand, upgrade, and brand the region's cultural offerings, broadly defined. These are two cornerstones of the "big push" strategy. The third cornerstone, not addressed in detail here, is achieving a level of excellence in tourism products widely recognized by discriminating tour arrangers and travelers. (This facet of the big push is discussed in Vail 2007.)

A "Great Maine Woods Recreation Area" and the Magnetic Attraction of "Twin Parks"

The foundation of a bold Maine Woods tourism strategy is already in place: several million acres of protected lands stretching from the Mahoosuc Range to the Downeast Lakes. Land for Maine's Future and conservation organizations, with key federal Forest Legacy contributions, have invested tens of millions of dollars over the past decade to dramatically expand conservation lands under fee ownership or easement. Even though these investments have not been part of a tourism strategy, protected lands encompass most of the region's top natural attractions: lakes, rivers, mountains, trails, viewsheds, and habitats.

I believe we can fashion a world-class outdoor recreation destination from this mosaic of protected

FIGURE 1: Connecting the Conservation Landscape of Northern Maine



Source: The Nature Conservancy in Maine

lands and waters. In particular, if Plum Creek's Moosehead Lake Concept Plan were implemented, we would have all the major jewels for an "emerald necklace" running south from the Allagash to Baxter State Park, through the 100-Mile Wilderness to Moosehead, and then west to the Moose River and north to the upper St. John (see Figure 1). This necklace, with additional gems farther south and west, would constitute "The Great Maine Woods Recreation Area." (Stakeholders and branding experts may come up with a better name.)

The new initiatives described in the previous section—trails, heritage sites, resorts—would benefit tremendously by association with this grand-scale, high-visibility destination. Simultaneously, they would contribute to its world-class aura.

Interestingly, the Great Maine Woods Recreation Area sketched here would encompass nearly as large an area as the proposed Maine Woods National Park and Preserve. However, it would not be a contiguous block of land and, crucially, it would not entail federal ownership and management. Economist Thomas Power has made a persuasive case that counties and gateway communities adjacent to large national parks receive a substantial economic boost, not only from tourism but also from in-migration and broad economic revitalization. That is certainly true for Ellsworth, Bar Harbor, and Hancock County in the case of Acadia National Park. Power predicted that a Maine Woods national park would generate one to two million more visitor days/year, roughly the same magnitude as in my description of a world-class destination (Power 2001).

Studies show that rural economies benefit even when they possess multiple large conservation areas (Vail 2007). This leads me to imagine a "twin parks" branding strategy, relying on Acadia National Park's fame to boost the Great Maine Woods, just a few hours drive away. Bangor, with its international airport, its bus and rail facilities, and its own tourism renaissance, would become the hub connecting these two big natural areas. If just five percent of Acadia's visitors (100,000 people) were convinced to spend a few days in the Great Maine Woods, the economies of Penobscot, Piscataquis and Somerset counties would get a major boost.

If people find the Great Maine Woods and twin parks ideas compelling, we still face the "Bert and I" question: how can we get there from here? Here is a brief sketch of some strategic tasks: creating a master plan for the Great Maine Woods, investing in green infrastructure to make conservation lands accessible and attractive, strengthening amenities in gateway towns, and branding the destination. I draw freely on recommendations by the Governor's Council on Maine's Quality of Place (2007).

Developing a master plan for the Great Maine Woods would require unprecedented collaboration among state agencies and the rural tourism regions, as well as extensive stakeholder dialogue to refine the strategy and ensure buy-in. The latter is critical, given past tensions, for instance between motorized and non-motorized recreation, and given some landowners' ambivalence toward recreation on their easement lands (Munding and Daigle 2007). Interagency coordination of the effort should be facilitated by the governor's recent formation of a tourism sub-cabinet. Strategic planning will center on the following tasks:

- *Inventorying the Maine Woods' prime natural attractions, based on visitation patterns and a quality rating system:*

  Prioritize investments in green infrastructure to enhance attractiveness and access (trails, directional and interpretive signage, parking, scenic pullouts, restrooms).

  Prioritize additional lands for protection through purchase or easement.

  Develop itineraries that connect jewels in the emerald necklace and respond to specific tourist interests such as wildlife watching and fly fishing.

- *Acquiring title or easement on lands needed to complete the mosaic:*

  Where necessary, renegotiate existing easements to strengthen landowners' economic incentives to allow and improve recreational access (e.g., underwrite the cost of trails, signage, and parking on private land).

- *Framing a land use master plan, designating the appropriate mix of recreational uses on various protected parcels:*

  Assess the carrying capacity of recreational "hot spots" and develop effective visitor management tools.

  Include large-scale wilderness areas: roadless tracts for habitat protection and human-powered recreation.

  Sponsor a contest to select a name for the Maine Woods recreation area.

  Within a longer timeframe, develop a transportation plan to facilitate movement of tourists to and around prime sites in the Great Maine Woods. This will reduce hot-spot congestion, dependence on personal vehicles, and greenhouse gas emissions. (Mount Desert's Island Explorer and the southern Maine's Coastal Explorer are obvious models.)

Experiential tourists spend only part of their time in nature. They also seek quality experiences in the built environment. Amenities in most gateway towns to the Great Maine Woods fall short of world class. The Governor's Council on Maine's Quality of Place has laid out excellent ideas for delivering technical and financial assistance to projects such as town center beautification, upgrading local parks and boat launches, improving traffic flow, refurbishing historic buildings, and organizing cultural events.

When outstanding nature tour itineraries, amenity-rich gateway communities, and top-quality tour products are in place, the challenge will be to forge an authentic and indelible brand: one that can sell the Great Maine Woods to tourists from New England and beyond. *De facto*, Maine's rural interior is a promotional stepchild to the coast. Lacking expertise, I cannot detail an effective branding strategy. However, my study of ecotourism quality labeling in Sweden and Australia suggests that ecotourism certification is more than a way to foster environmentally friendly tourism; it also has great potential as a branding and marketing tool. A proven quality label sets certified tourism products and destinations apart from competitors in the marketplace (Vail 2005). Maine should seriously consider creating the Northeast's first ecotourism quality label.

The big push toward a world-class Great Maine Woods destination obviously has a price tag. Elsewhere, I explore financial sources we should consider: general obligation bonds, tourism user fees, and dedicated tax and fee revenues from some mix of lodging, class A restaurant meals, car rentals, and summer airport landings (Vail 2007).

A "Great Maine Woods National Heritage Area"—Capitalizing on the National Park Service Brand

Putting aside our "passions and preferences," as Scott Hanson urges, we should admit that what the Maine Woods offers in the way of historic events, arts, crafts, and performing arts is modest compared to neighboring destinations such as Acadian New Brunswick and New York's Hudson Valley. How then can we maximize the drawing power of the Maine Woods' diverse, dispersed—and modest—cultural assets? How can we best link culture with nature to shape destinations that draw more tourists, encourage longer stays, and induce more spending? How can investments in heritage and contemporary culture simultaneously enhance rural residents' quality of life?

The most creative proposal in circulation is to seek Congressional designation of a National Heritage Area (NHA)—let's call it the "Great Maine Woods NHA." What could NHA itineraries offer tourists? Native American crafts and lore, Benedict Arnold's Revolutionary War expedition, Thoreau's wilderness sojourns, the intermingling of Franco- and Anglo-American cultures, and the stories and places surrounding the forest industry (Paul Bunyan mythology, lumber camps, river drives, mill towns carved from the forest). From Norway to New Sweden, the region is also dotted with fascinating 19th century towns. And the heritage area could extend to nearby metropolitan areas: the classic mill towns of Lewiston-Auburn and the world capital of the 19th century lumber industry, Bangor.

What is the economic payoff? The National Park Service's NHA coordinator calls heritage area designation "the Good Housekeeping Seal of Approval—if

the National Park Service is involved, it must be important." The NPS logo has proven to be a powerful marketing tool (McIntosh 2006). In addition, heritage areas receive technical assistance and typically several million federal dollars to invest in improving, networking, and promoting their attractions.

A campaign to win NHA designation faces two distinct political challenges. The first is widespread reservations and some outright opposition, as encountered by Mountain Counties Heritage when it broached the idea a few years ago. There is a general wariness in rural Maine about federal involvement and, among some, a mistaken belief that NHA designation inevitably means federal land acquisition and regulation. In reality, the National Park Service notes that "local people are making the decisions" (McIntosh 2006). Nonetheless, convincing doubters and opponents will take time and intelligent tactics. Tourism extension advisor and NHA supporter Roger Merchant is convinced that site visits to existing heritage areas would reassure skeptics. Another approach centers on organization building and "learning by doing." The Maine Woods Consortium proposed by Bruce Hazard in the sidebar here would be the critical first step toward a formal NHA proposal. The consortium's organizing experience and accomplishments on the ground could pave the way for the second political task: winning Congressional approval. With an effective lead organization, an outstanding proposal, and leadership from the governor and congressional delegation, that effort would have great promise.

CONCLUSION: LITTLE NUDGES AND A BIG PUSH

The variety, energy, and sophistication of tourism initiatives already under way in Augusta and across rural Maine are encouraging. They should enable the Northern Forest region to hold its own in the face of worrisome tourism trends and competing destinations. But if our ultimate goal is a world-class Maine Woods destination that maximizes tourism's contribution to sustainable prosperity, then these many little nudges need help from a big push.

David Vail is Adams-Catlin professor of economics and former director of environmental studies at Bowdoin College. Vail directs the Maine Center for Economic Policy's project "Spreading Prosperity to All of Maine," serves on the advisory committee to the University of Maine System's Center for Tourism Research and Outreach (CenTRO) and as advisor to the Governor's Council on Maine's Quality of Place.

ENDNOTE

1. We lack precise records of spending on marketable overnight trips to the Northern Forest region. Based on reports by Longwoods International, I estimate that roughly 1.5 million such visits are made yearly. This is based on 4.66 million total marketable overnight trips statewide in 2005 combined with 2003 data showing that 27.5 percent to 33 percent of those trips were to Northern Forest tourism regions. (See Longwoods International [2004: 158–159; 2006: 30].) Data from the Center for Tourism Research and Outreach's 2006 visitor survey supports two different estimates of expenditures per marketable overnight trip. Average daily spending of $145 per adult and an average stay of five days yield mean trip expenditure of $725 per person. A different method indicates average spending of $1,245 per party (CeNTRO 2007). Based on the first estimate, 300,000 more visitors would spend $217.5 million; using the second estimate, 120,000 more parties (averaging 2.5 people) would spend $149 million.

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Adding a New Leg to the Economic Stool in Maine's North Woods

By Roger Milliken Jr.

Today in the Maine Woods the pace is accelerating towards an unknown future as mills close and loggers park their machinery. Land has changed hands from long-term owners who routinely provided public benefits as part of the social contract to investors who seek to monetize every asset. When the Northern Forest Lands Council was meeting in the early 1990s, its focus was on preserving the existing pattern of ownership and use. That pattern is increasingly unraveling, and I have been wrestling recently both as a forest manager and as a conservationist with what kind of future we can build for our forest-based communities.

I suggest that our goal should be to create a future in which people can continue their connection to the lands that have supported them for generations, one that builds on existing traditions and also provides new opportunities for forest-based employment.

From my service on the Northern Forest Lands Council and through my friendship with Steve Blackmer, founder of the Northern Forest Center, I understand that these issues permeate the Northern Forest region. However, since my experience is Maine-based, I write from that perspective and invite others elsewhere to consider these ideas based on the lands and traditions they know best.

While not sanguine, I am hopeful that sustainable management of Maine's forests can continue to support a forest products industry with high-paying, skilled jobs. Of course, continuing advances in productivity means there will be fewer of these jobs, but ideally their high wages, good benefits, and year-round employment will continue to provide the foundation for local communities.

Manufacturing jobs in our region and elsewhere are being eroded by globalization's race to the bottom, where market forces are unleashed to produce goods in countries with the lowest wages and the scantest protection of ecological values. We need to do all we can to fight these short-sighted economic policies while we work to develop and protect an economy based on both the sustainable management of resources and living wages. There is no forested area better poised to supply a sustainable industry than northern New England, with its skilled (and increasingly sophisticated—both economically and ecologically) workforce and increasing percentage of green-certified forestlands.

But the forest products economy will no longer be able to offer jobs to the majority of residents of the region. We need an additional economic base, one that does not supplant existing traditions but builds on them. As the manager of 100,000 acres in northern Washington County, I have been pondering what my company can do as a landowner to support local communities, which face the closure of local mills and the reduction through liquidation harvesting of thousands of acres on which timber can be harvested. Also, as a board member of the Maine chapter of The Nature Conservancy, I have been actively involved in discussions of what TNC can do as a new landowner—and economic player—in the Katahdin region.

Fortunately, I have had the opportunity to participate recently in several guided, nature-based trips. These have opened my eyes to the potential for a world-class tourism business in this region. It would draw on the innate qualities of the Maine Woods and its rural inhabitants, and introduce a relatively affluent clientele to the natural beauty and human cultures of the Maine Woods without diminishing either. I believe it can actually enhance both.

Let me first expand on my recent experiences as an eco-tourist.

During a recent summer I spent two weeks rafting the Colorado River with my son in the final days before his enrollment in college. I was deeply impressed by the quality of experience provided by the rafting company (AzRA). The trip involved six guides and 22 "guests." In addition to being master boatmen and women, the guides introduced us to the history, prehistory and natural history of the region, regaling us with information about Anasazi ruins, current Native American uses (such as the collection of ceremonial salt by the Hopi along the river bank), and 1.5 billion years of geological activity—all this while keeping us well fed and safe as we made the exciting 220-mile passage down the river.

The guides also took great care to introduce us to a leave-no-trace camping ethic that protects and enhances the experience. Twenty-two thousand people a year boat through the Canyon, yet when we landed at each camp site, it was if we were the first people to use that sandy beach. There was no trash in evidence—not even a strand of dental floss! Human waste is carried out in a simple but elegant system of portable toilets, called "groovers" to memorialize the days when ammo cans without seats were the standard. No wood fires are kindled anywhere, and when the guides use charcoal, they protect the ground with

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metal fire pans and likewise haul out all coals and ash. The result is an experience of beauty and stewardship, as the guests become partners in protecting this world-class resource.

Compare this with your typical experience in the Maine Woods: You enter a camping spot. A rickety outhouse offers a less than pleasant experience and a decidedly musty smell. Along trails—and even back from the tent sites—you encounter wads of toilet paper melting into the ground. Trees are scarred by firewood seekers. Rings of charred stones are more numerous than necessary, and more often than not littered with foil, bottles, and cigarette butts. The guides are amiable, highly competent outdoorsmen, but not likely to say much to open your eyes to the rich natural dynamics that surround you.

On the Colorado River, I learned more geology than I did in college. We had conversations about the water-flow regimen created by the Glen Canyon dam: how the dam's control of catastrophic floods also prevents the replenishment of beaches, which are now gradually eroding. Yet, those same flow-taming regulations now provide a dependable corridor of water and plant life for migrating birds. It left one pondering the question, now that nature has adapted to our changes, what are the risks to migration if we were to suddenly return to an unmanaged river? (It reminds me of Stewart Brand's dictum that, since we are now acting like gods, we might as well get good at it. Easier said than done!)

Over the course of two weeks, I was renewed by the rhythm of life on the river, inspired by awesome water-carved rocks and wind-shaped towers, and I also left better informed about ecological function and the trade-offs between human management and wilderness.

In 2003, I traveled to Costa Rica for The Nature Conservancy's annual meeting. I had the privilege of spending two days near the 22-mile beach that serves as laying and incubation grounds for Caribbean green turtles. These huge (175-pound) creatures have been returning to such beaches to lay their eggs since before the time of the dinosaurs. Here too, our guides were engaging and incredibly well informed about the plants, birds, and animals we encountered. One night, as light rain fell, they led us with red-lensed flashlights onto the ancestral beaches, coaching us in low voices on how best to witness a turtle without disrupting her ancient rhythms.

I watched, entranced, as one dropped dozens of shiny, golf-ball-sized eggs into a pail-sized hole she had dug. After depositing nearly a hundred, she dug another turtle-sized pit ahead of her. I jumped back when I felt water splashing onto my calves, but it turned out to be sand hurled by her powerful front flippers as she filled and disguised the nest with fresh sand. She rested then as the mist turned to light rain, then turned and pointed her heavy body seaward. Thus began the final phase. She heaved her body forward once, twice, three times then rested. Her breathing was heavy, her face ancient, unblinking. She rallied for another few heaves, her heavy body scraping across the sand, then rested, then more heaves and more rest until 15 minutes later she reached the shore. There she stopped on the hard, wet sand till a wave washed over her—and she was gone, back to the ocean and her community of turtles waiting just beyond the shore break.

Here in Tortuguero, a single human generation beyond the days of short-sighted exploitation of these ancient ones for meat and eggs, the village had shifted the base of its economy from turtle harvest to turtle protection. The lodges where we stayed catered to ecotourists, and everywhere we turned there was more information about the natural world. Even the taxi driver who took me to the airport in San Jose deepened my understanding of the country's topography and ecology!

Finally, in the fall of 2007, I spent two nights on First Debsconeag Lake, where I and two others were treated to a wonderful, "catered camping" experience. I canoed out late one afternoon into the Debsconeag Deadwater to get a glimpse of Katahdin. As the light dimmed to rose and lavender, a huge moon rose above the forests on the eastern shore. To the north, the mountain filled the sky, mute and powerful. Paddling upstream around an island, we crossed into shallow water where a moose grazed unconcerned. Stillness descended, punctuated by water dripping from our paddles and the muzzle of the moose as he feasted. This moment rivaled the beauty and awe of any experience in either Costa Rica or the Grand Canyon.

And yet, as a whole, the trip paled in comparison. Though the guides were skilled, the food delicious, and the equipment first rate, the experience did nothing to deepen my understanding of the largest intact ecosystem east of the Mississippi.

This lack of context is especially surprising given that these guides—and most Mainers who make their living in the woods—have an innate knowledge of the human and natural dynamics of the forest. Through a life of cutting pulp or hunting, fishing, and snowmobiling, they know first hand the cycles of insects that bedevil our springs and summers and those that cause the trout to rise. As hunters and canoeists they have observed close-up the habits of ducks and partridge, and moose, deer, and bear.

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They may have even tried for a ride on a moose's back. As trappers, snowmobilers, or timber cruisers, they have seen the winter tracks of fisher and snow slides of otters. As pulp cutters, they know which trees pioneer sunlit openings, which prefer the deep shade of older groves. What's more, they know where the trees on the logging trucks go, and how they make their way into the handles of shovels, the 2x6's of houses, the pages of the *New York Times*. All this knowledge is precious, rare—and marketable.

How then do we draw on the resources of the Maine Woods and the resourcefulness of her people to add another leg to northern Maine's economic stool? Perhaps even more important, how can we turn this innate understanding and these rural skills (long degraded as inferior to intellectual, urban knowledge) and employ them for the assets they are?

A Millinocket resident interviewed one summer said of The Nature Conservancy: "These folks speak of nature as something to get back to. For us, it's all we've ever had!" I imagine a somewhat defiant, slightly hang-dog attitude accompanied this wry remark. Yet turned inside out, it contains a key to the future. Nature may be all the old time residents of Dover and Millinocket ever had, but it's also true that thousands to the south and west long to—if not "get back" to—at least taste this way of life. Most Americans, especially those with a conservation bent, hunger for both the experience of nature and knowledge about our place in it. Whether by their choice or not, the residents of northern Maine have never lost that connection, and they have the knowledge, the humor, the stories, and therefore the ability to weave visitors back into the web of life.

And increasing numbers of people long to reconnect to that birthright. Like me, those visitors will return to their lives refreshed, informed, and a little more humble about our place in the scheme of things. They will leave behind money in the pockets and cash registers of rural Maine communities. In their heartfelt appreciation, they will reflect back to local residents the value of an honest life led in contact with the elements. And perhaps, with enough such exchanges over time, the hang-dog attitude will begin to morph into one of quiet pride in a life lived close to the essence, one that embodies our birthright as citizens of the natural world.

So, how do we create a guided experience that vaults a trip to the Maine Woods from its traditional, accommodative approach into a world-class experience? A few ideas follow. I offer them as starting points for consideration.

As hinted above, experienced guides, woodsmen and women could define and embrace our own Maine-specific "leave no trace" camping ethics (e.g., guidelines for fires, protocols for firewood, how best to handle human waste, how much to clear campsites). Outdoor practitioners from other regions (for example, the National Outdoor Leadership School, Grand Canyon Guides Association) could provide additional perspective to local experts such as Chewonki and Hurricane Island Outward Bound.

The Nature Conservancy could use its new lands south of Baxter as an incubator for this ethic, giving preference to outfitters and guides who embrace new guidelines aimed at blending safety, hygiene, aesthetics, and comfort.

A curriculum could be developed and training offered in Maine Woods' lore, and perhaps support a "nature guide" specialty under in the Maine Guide program. I envision some sort of core curriculum with continuing education components. This could be part of the Maine Guide School proposed for Millinocket. Potential elements might include:

Natural history: knowledge of plants and animals, their habitats, needs, and interactions. Judging from my fellow travelers on recent trips, developing knowledge of bird species and songs is a key skill to attract visitors, and, of course, the Maine Woods is home to boreal species not seen in states to the south.

Natural science: be it knowledge of the stars that are so vivid on a cold night to the geologic forces, glacial and otherwise, that create features from Katahdin's Knife Edge to huge boulders on the lakeshore, to the local wetland.

Cycles of the forest: which trees grow where. The legacy of lands cleared for farming. The differences between a natural forest and a managed one. How good forest management can enhance the health and diversity of a forest, how exploitative cutting diminishes it. The history of clearcutting (and its regulation) in Maine.

Products from the woods: timber, certified flooring, dowels, drumsticks, paintbrush handles, Christmas trees and wreaths, maple syrup, newsprint and writing paper, even currency stock. How products visitors use every day start out in the forests of Maine. How logging is part of a cycle that is fueled by their subscription to the local paper (and how, if they live in the Northeast, their recycled paper makes it back to Millinocket), by their use of mouse traps, wooden-handled tools, and wooden cabinets.

Early history: knowledge of Native American place names and their meaning, the ancient network of river systems and portages, ancient myths, and legends. The continuing presence of four tribes in Maine and the renewal of traditions such as the annual trek by Penobscot Indians to

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Katahdin. Early contact with Europeans. Arnold's march to Quebec. Thoreau's visit.

Modern history and the discovery of the Maine Woods by timber barons and "sports": the development of sawmills and papermills (carving Millinocket out of the wilderness, the founding of International Paper). Rerouting Maine rivers to drive pulp and why four-foot logs are still seen on stream bottoms everywhere. The rise of the "Maine sport" tradition and icons such as Fly Rod Crosby and Leon L. Bean. Donny Fendler's ordeal on Katahdin. The rise of rafting and snowmobiling. The end of river driving and the fight over Big A.

Conservation challenges: the role of ecological reserves and well-managed forests. Recent conservation deals. The history of Percival Baxter and the creation of the Baxter State Park. The Allagash Wilderness Waterway. Maine's current pre-eminence in the world of working-forest conservation easements and certified forestry. Issues related to the proposed national park.

Of course, as I mentioned earlier, many residents already know most if not all of this information. We need to train ourselves to take this innate knowledge, augment it if necessary, and learn to communicate it easily and well to those who have never been here before. Or, for repeat visitors, to open their eyes further to the intricate interactions among people, animals, and plants of this place.

Those are the skills I benefited from in the Grand Canyon and at Tortuguero. They offer the opportunity to elevate a camping trip in the Maine Woods to a hugely rewarding and educational experience. It promises to expand the woods-based recreation economy beyond traditional hunting, fishing, snowmobiling, hiking, and rafting with a new offering that would appeal to a different—and sizeable—clientele. It's not either-or, either. This could be an add-on to another trip. A couple might bring their family rafting for a weekend, then tag on a moose-watching trip with a naturalist, for example. And while I have focused on the camping-based experience here, there are related opportunities for lodge and hotel proprietors as well.

Create community centers in key locations (e.g., Jackman, Greenville, Millinocket, Grand Lake Stream). I suggested a curriculum above, but, of course, most of this information has been handed down over the years through stories told around a campfire or over a woodstove: tales of previous hunts, stories of the ordeal of driving logs down ice-swollen rivers, anecdotes of the first settlers. Demonstrate and teach outdoor cooking skills from carving hookaroons to banking a fire. Much of this is at risk of being bulldozed by the great leveler, TV entertainment.

The creation of one, or several, Maine Woods Community Centers dedicated to celebrating this history and lore would be a natural component to the initiative outlined above. For example, Greenville, at one end of the Appalachian's Trail's 100-mile Wilderness, might have a center based on sporting and recreational traditions, while Millinocket at the other, could create one based around woods work, forestry, hydropower, Baxter State Park, and Katahdin, the northern terminus to the trail.

Steve Blackmer's Northern Forest Center with its focus on the human culture in the Northern Forest would be a key ally here. Likely, the most successful effort would grow out of a convening of local residents to identify the stories, skills, and cultural history that is most important to them. Oral history and artifacts could be collected. (Draw on collections such as Great Northern's photos and maps, and the resources of the Maine Folklife Center.) As momentum grows, an actual center could be built (or renovated) for the community, which could then develop into a museum, a resource for local residents and a magnet for visitors. Such centers could encourage hikers or snowmobilers to stay longer, attracted by the ability to see photographs of the river driving days, or detailed pictures of the ruby-crowned kinglets that they had heard daily but never seen up close. Such centers could grow to be destinations along a Northern Forest Auto (Snowmobile) Trail.

Expand existing traditions to add ecotourist features. Raft companies could add a land-based component focused on nearby wildlife habitats. Snowmobile and cross-country-skiing outfitters could offer winter ecology trips, perhaps by offering overnights to camps like those established by Great Northern on its lands. Create opportunities for through hikers to experience a bean hole supper, for a day climber of Katahdin to stay longer for a canoe tour of a local deadwater for moose watching, punctuated by a traditional shore dinner or logging camp breakfast cooked in a huge skillet over an open fire with lumberman's coffee to boot.

Link up forest landowners with local lodging establishments to create programs for guests that highlight the interactions of forestry and wildlife habitat, perhaps offering in-woods lodging (tents, yurts, or cabins) and contact with a forester (or retired woods worker) as part of the experience.

Create, coordinate, and publicize workshops in local crafts, for example, wreath-making, balsam pillow construction, mince-meat cookery, herbal remedies, traditional camping skills, berry collecting and jam or pie making, canoe poling,

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paddle making, moose riding (just kidding!). We could think of this as "everyone's a guide."

Work with local mills to provide opportunities to visit their operations. Scheduling sawmill tours when the machines are shut down for lunch could provide safe opportunities for interested visitors. Papermill tours that take advantage of idled machines to help visitors understand exactly how slurry becomes paper on the wire would go a long way toward making a tour of a mill more user friendly. The companies themselves need not organize these; retired workers could work in concert with local mills to discover a compatible way to create these opportunities.

We have the opportunity to elevate a camping trip in the Maine Woods to a hugely entertaining, inspiring, and educational experience. This would not replace the woods-based recreation economy based on hunting, fishing, snowmobiling, hiking, and rafting. It could, however, open the doors to a new clientele, which would inevitably enrich the traditional experiences as well.

These are just a few ideas to contribute to a conversation that is gathering momentum. A single vision animates them all—growing Maine's woods economy by capitalizing on the connection between rural communities and the lands that have supported them for generations. Adding a new leg to the economic stool, one that celebrates this connection and understanding while protecting the lands and natural features in which they grew. And finally, affirming the wealth we have in our natural heritage, rebuilding a sense of pride and privilege among those living in the rural parts of the state, and changing a little-recognized asset (intimate knowledge of place) into a marketable skill.

The experiences I enjoyed outside of Maine recently had at their core my introduction to a new region by people who knew it intimately, loved it, and could convey that knowledge and enthusiasm to me and other visitors. I found that the time spent camping in a beautiful natural place with its inherent relaxation and renewal is more rewarding when understanding is developed as well. The visitor leaves refreshed, renewed, and with a deeper understanding of nature and our place in it. And the guide, too, turns toward home tired but re-exhilarated by the land she loves, returns to her family knowing more clearly the blessing offered by a life lived in a place unvexed by traffic jams, where you know your neighbors, and together you know your place in a region dominated by timeless natural cycles. And what's more, she and her neighbors have the ability to continue to live there, deepening her own connection as she serves as an ambassador from that special place to people who long to know it better.

That's the vision that I hope we can make manifest. We need to build a region-wide conversation about how best to achieve this potential for our treasured Maine Woods and the people who make their home there.

Roger Milliken Jr. is president of the Baskahegan Company, which owns and manages 100,000 acres of forestland in eastern Maine and is a recognized leader in Maine's forest products industry. He currently serves as a director of The Nature Conservancy and a trustee of the Conservancy's Maine chapter, chairs the advisory board of the Manomet Forest Conservation Program, is an advisor to the Open Space Institute's Northern Forest Protection Fund, a past president of the Maine Forest Products Council, and served on the board of the Land for Maine's Future program for nine years.

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Ecotourism Potential in Maine's North Woods: A Roundtable Commentary

By Ann Czerwonka

My initial research leading up to this discussion stemmed primarily from my work with the Open Space Institute analyzing the now well-covered development proposal submitted to the Maine Land Use Regulatory Commission by Plum Creek Timber Company for its land holdings in the Moosehead Lake area. I want to step away from the details of that proposal and take a broader look here—beyond the specifics of the Plum Creek proposal and beyond the Moosehead Lake area—to discuss the potential for ecotourism and sustainable resort development in Maine's North Woods as a future source of economic growth.

The background reading I did (Vail 2004; Chafe 2005; Turner and Kasnet 2005; International Ecotourism Society 2006; Mongan et al. 2007; Vora 2007) along with interviews with well-known and respected resort-industry executives suggested that there are several fairly strong trends in the global travel and tourism industry.[1] These include increasing "eco-consciousness," more "child-free" traveling, and (when that isn't the case) frequent extended-group or "entourage" traveling (e.g., including au pairs, nannies, or other caregivers; friends and their children's caregivers; and sometimes even other personal service providers, such as personal trainers). There has also reportedly been a shift in the types of resorts these travelers are seeking. Instead of the old-style, looks-the-same-everywhere, "cookie-cutter" branded hotels that were designed as places to stay in or near the ultimate "destinations," the trend has been toward the development of true "destination resorts"—where the resort itself is the ultimate destination—the "place" to be, and that place needs to be special along many dimensions, including location, amenities and services, and compatibility with the landscape, culture, and history of the site.

Question: *My first question for you all, then, is whether based on your industry experience you agree with these conclusions. Are these the major current trends from your perspective and, if so, what is going on?*

Steve Barba: I definitely agree. The domestic travel and tourism industry has changed markedly in recent years. The "high season" for destination resorts is no longer characterized by nuclear families on extended vacations—there is greater variety in the traveling population. Families are smaller, divorce rates are still high, and often both adults in a couple work outside the home. At another point on the spectrum, senior and retired citizens are buying into permanent resort communities that have at least nine months' appeal within their chosen lifestyles. They may visit other, more exotic locations for a few short stretches during the most clement times of the year, but they not are investing in "adventure retirement" locations.

Jeff Mongan: At the national and international level, members of the baby boom generation are more widely traveled than their predecessors and have more disposable income, and they are increasingly looking for resort experiences that combine luxury and authenticity. The market is highly competitive, and a luxury experience is no longer enough: customers are seeking extras such as signature restaurants and high-end spas, more expansive suites, and the opportunity to learn about the place they are visiting. As urbanization increases across the globe, travelers are seeking lower-density resorts to get a break from the pressures of everyday life. At the same time, construction costs are increasing rapidly, land suitable for resort development is growing scarce, and environmental concerns and the pressing need to preserve open space have become more prominent in the public eye. All these factors are changing the luxury resort and hotel market significantly by influencing financing strategies, the design and organization of buildings, and the selection of sites.

Question: *So, how do you feel these trends affect the prospects for tourism in the Maine North Woods?*

Jeff McIver: The North Woods is an incredibly beautiful part of the world, but it is off the beaten path. The grand hotels that were once part of the landscape have all disappeared. It will take more than a small tourism business to rejuvenate the tourist economy in the area. It will need "flagship" operations that can commit significant resources to promoting their businesses.

Warren Cook: The Maine North Woods is part of the Northern Forest, which runs from Greenville to the Adirondacks. The area is far away from the current market and the recent buzz has been created much more by real estate development potential, especially along lakeshores,

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than by resort prospects. Rural destination tourism, even in wooded Maine areas closer to the market (like Sugarloaf, Rangeley, or Bethel) is a push. The industry is fractured, disorganized, not especially guest friendly, and in many ways not very competitive with other rural or other tourism destinations with which I am familiar. What sets it apart? The raw land, the unspoiled place, all the things that development threatens. The landscape is naturally impressive, especially for those who want to get out into it, but the motivation for traditional activities seems to be decreasing; hunting, fishing, hiking, skiing numbers are flat or down. So, to be in the "new trends" game and draw from our biggest nearby market, southern New England, a lot has to happen.

Steve Barba: I agree. The Maine North Woods, as is, has a limited potential to attract tourists. It is remote and hard to access; its natural resources traditionally attract only a limited audience of hardy outdoorsmen and outdoorswomen who like to hunt and fish or snowmobile; its hospitality infrastructure is rustic and designed to accommodate visitors according to local standards of comfort and style. The weather is another major consideration. The seasonality of the Maine North Woods poses special challenges to establishing a critical mass of patrons. Hunters are not necessarily fisherman; golfers are not snowmobilers; skiers are not birders; hikers are not spa-goers; and so forth. Indeed, their friends and families likely would not take their personal recommendations as being worth much. In other words, a snowmobiler will not be able to convince his tennis-playing boss that visiting the North Woods would be worth a special trip. If the North Woods were to be improved with the creation of the usual attractions and accommodations of so many existing destination resort areas (ski areas, golf courses, casinos, conference centers, deluxe resorts, spas, etc.), one would have to ask, why spend all that venture capital in such a remote region?

Jeff Mongan: While I have not been to Maine, my understanding of the North Woods is that it offers exactly the sort of "place" that has become so scarce. There may be some downsides, however, in the form of seasonality and access. I have not seen the area and I certainly do not know it like you all do, but I am aware that fairly high-profile landowners are making resort-development proposals and they are being supported by well-respected practitioners in the resort-planning industry. I would imagine that they have done their homework. What if someone were to develop a resort that genuinely reflected the aesthetic of the North Woods and captured what is unique about it, and then offer programs that were tailored to the region's history and culture? My experience has been that resorts are going beyond the traditional definition of luxury toward an emerging "six-star" form, offering an even higher level of service and amenities—such as signature restaurants—to create the market draw. For a long time, the golf course occupied the top spot among resort amenities, but in recent years, spas have surpassed them in popularity among guests at the luxury level. The popularity of the spa is partly attributable to the emphasis baby boomers place on health and wellness, but it also reflects the scarcity of time in modern life: while a game of golf requires a major time commitment, it is possible to have a high-quality spa experience in a just few hours. Resorts are also boosting the number and variety of amenities they offer to encourage year-round patronage, especially those resorts in mountain areas, where the biggest crowds tend to come in the winter for snow sports.

Question: *I understand the notion of a "six-star" resort, but what about the sustainability dimension? There is heavy emphasis on the "ecotourism" aspect of things in this region, and the economics of such an approach seem to be an open question. Is world-class, sustainable destination resort development economically feasible? If so, with an eye on the North Woods of Maine, what do you feel are the necessary components for "eco-resort" success?*

Warren Cook: David Vail has written much about this topic and has even proposed that Maine might be able to get any early competitive advantage in the Northeast by establishing its own "quality label" certification for environmental sustainability—similar to the "Nature's Best" brand now in Sweden. The governor's office has been focusing on nature-based tourism for several years. Personally, I think ecotourism is part of *all* rural destination tourism, and if one is in the tourism business in any capacity, the "non-ecotourism" cannot be ignored. It all needs to be managed together and marketed and delivered from the guest point of view. Customers all make trade-offs, and there is a lot of competition

Steve Barba: This is an area where I don't feel like I have any particular expertise. I would emphasize, however, that regardless of resort format, personal safety and a sense of well-being are the essential preconditions for all vacation travelers. Regarding environmentally sustainable "green" resorts, I would suspect that they would be well received so long as the amenities and comfort are not compromised. I do not believe that resort goers will patronize a particular eco-resort

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simply because it makes them feel good to be so responsible—they will continue to demand excellence with more comfort than home.

Question: *What do you consider to be the "pros" and "cons" of such destination-resort development from the perspective of the local population, and how should these trade-offs be managed?*

Warren Cook: The local residents, for the most part, love the cash flow—direct and indirect—and they are getting better at managing the threats of sprawl and development. My own view is that, managed properly, resort tourism and even real estate development can be done well in the Maine North Woods. It needs to be a thoughtful, collaborative process, but there are good examples of it in this country and around the world. I have always felt there are many similarities in the Canadian Maritimes, where they have it figured out pretty well and they are even further from the major markets.

Steve Barba: If such a development was successfully undertaken, local populations obviously would benefit economically, but I still do not understand what would motivate a visitor to make the trip. The resort facilities would have to be extraordinary in their appeal to compete with all the other places within much easier reach of the market. How would the woods environment add to the appeal? How would the weather add to the appeal? How would the remoteness add to the appeal? If anything, I would say that the local people would bring the greatest difference to the Maine North Woods tourist experience. Their unaffected, honest good-nature; their personal history and regional culture; their sense of ownership and pride; their work ethic; and their appreciation of jobs that enable them to live where they want to live will all prove to be very positive assets. Visitors to the region would be transformed by the relationships they would be able to form with local citizens. To make that happen, however, the resort operators should hire and train local people for every level of staff and management, and they should welcome local people and their organizations to patronize the resort, and they should buy local whenever possible. If what is created as an attraction is not respectful of local traditions and is not open for local comment and is not a welcomed addition to the local community, it will not succeed.

Question: *Aside from development of destination resorts, what other options do you feel exist for fueling economic growth in the North Woods of Maine? What is the best balance among these options, from your perspective?*

Jeff McIver: This part of the world is 100 percent natural. Its history and future economic survival will always be based on natural products and whatever is generated when these products are harvested from the earth. Unfortunately for the residents of this area, these natural products are limited. One would hope that some type of business could relocate to the area and offer jobs, but that seems unlikely for reasons that I do not fully understand. The area holds a great nature-based history dating back to the region's Native Americans' using Mt. Kineo flint for trade all over New England and beyond. The area's logging heritage is second to none, including the last log drive down Moosehead Lake and the Kennebec. In its day, the lake was known for tremendous sport fishing, along with its grand hotels. I think that a "visitor" education center would be a natural amenity for the area. The educational materials could cover not only the regional history, but also how the area is managing its resources today. They could answer questions like "What is being done to bring back or preserve the quality of fishing in the lake?" or "How are logging operations managed today?" To this day, the North Woods area northwest of Bangor has a gem in Moosehead Lake and other surrounding lakes that other areas of the Northern Forest do not have, and the primary opportunities still point to tourism.

Warren Cook: The second-home and retirement real estate markets are possibilities. If broadband Internet is there, the service sector might also develop. Secondary wood could come back, but my view is that the driver will be lifestyle—increasingly people want to live in these parts. There will be a few more destination resorts over the next 20 years, but the short-term profit will be from real estate development.

Steve Barba: The more the "new and improved" Maine Woods visitor experience ends up as a conscientious enhancement of its traditional hospitality, the better I would like it. Making it a "tourist trap" or a "second-home" community or a "private preserve" or an "exotic resort" without developing other diverse sectors of the economy would be a mistake. There is a culture of ingenuity and entrepreneurialism in the North Woods that we should cherish and support to help the people who live there to be independent and self-reliant. A woodworking factory, a tree farm, a biomass energy plant, a community college, a country store or a local beauty shop—as long as local residents run them—are all tourist attractions that would help to make it worthy of a special trip.

Please turn the page for author info & references.

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ENDNOTE

1. Key interviews were done with Kevin Kelley, president, Canyon Ranch Resorts, and with Robert J. Holmes, founder/manager THG, LLC; former president/CEO of Harbor Properties; former president/CEO/chairman of Intrawest USA.

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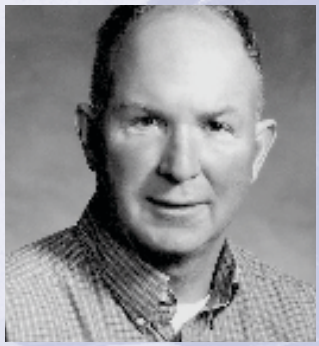
Ann Czerwonka is a special consultant with Industrial Economics, Inc., in Cambridge, Massachusetts. Her expertise is in financial and quantitative analysis, with a current focus on the timber sector and sustainable forestry. During the past three years, she has worked with the Open Space Institute analyzing the prospective financial impacts of the Plum Creek Timber Company development proposal in Maine, and has participated in the related recently concluded Maine Land Use Regulatory Commission hearings.



Warren C. Cook is an independent consultant with more than 30 years of business and nonprofit experience in biomedical research, recreation industry management, manufacturing, education, healthcare, conservation, social services, and the arts. He has served as president/CEO of several organizations, including the Sugarloaf Mountain Corporation, where he brought the company out of bankruptcy and presided over its sale to the American Skiing Company. He is a long-time friend and advisor to the Northern Forest Center.

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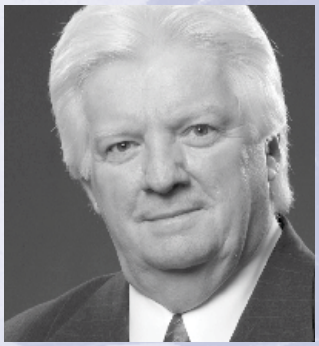

Stephen P. Barba serves as executive director of university relations for Plymouth State University. He previously was one of three managing partners of the BALSAMS resort and co-owner of the operating company for the 15,000-acre resort from 1971 to his retirement in 2005. He sits on the board of directors of the Northern Forest Center in Concord, New Hampshire.

Jeffrey J. Mongan has overseen development activity of major resort properties in California, Colorado, Hawaii, and currently the Montage Resort and Spa at Deer Valley in Utah. From 1983 to 1992, he served in a variety of positions, including senior management, in The Estes Company and its successor The Athens Group and later in the Hualalai Development Company (HDC) in Hawaii. In 1998, he left HDC to rejoin The Athens Group as senior vice president.

Jeff McIver of Holderness, New Hampshire, is vice president of East Coast Resort Management in Sanbornton, New Hampshire.

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