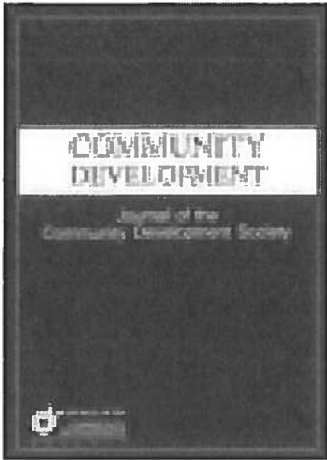


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Community forests as a wealth creation strategy for rural communities

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Community forests are presented as a wealth creation strategy for rural communities. The Wealth Creation Framework offers a template for describing forms of capital associated with community forests and discussing their potential as a wealth creation strategy. The paper profiles six projects across northern New England and describes how investments by rural communities in local ownership and management of forestland build capital. While the concept of community ownership of forestland is not a new idea in northern New England, the community forest projects discussed here share characteristics that contribute to building multiple forms of wealth. Many of the projects are relatively young, however, and the opportunity to measure changes in wealth will continue over time. Without longitudinal studies of community forests to demonstrate how community forests build wealth, the paper presents some preliminary information on capital that has been preserved or created and suggests opportunities for further research on and analysis of the role and potential of community forests as a wealth creation strategy.

Keywords: community forests; rural wealth creation

Natural resources represent a form of capital and are assets that communities can use to build wealth (Boyce & Pastor, 2001; Child & Lyman, 2004; Kelly & Ratner, 2009). However, “resources do not represent community wealth unless communities own and control them” (Kelly & Ratner, 2009, p. 4). This paper explores the relationship between community ownership of forestland and wealth creation.

Over the last 10 years, there have been renewed efforts to engage communities in the conservation and management of New England’s forests that have resulted in locally owned forests that provide value and benefits for the community. Many of these projects also demonstrate a renewed confidence of people in the region for self-determination in the face of dramatic changes affecting their landscape, culture, economy, and civic life.

There are many different expressions of “community forests,” and not all community forests create wealth in the same amount, in the same way, or at the same time. For the purpose of this paper, the following description has been adapted from the model described by the Community Forest Collaborative (Figure 1): *Community forests are tracts of forestland that are owned by local governments, tribal councils, or other entities (community-based not-for-profits) on behalf of communities. They are created and managed through participatory and collaborative processes, provide multiple benefits and value to the communities, and permanently protect the conservation values of the land.* This description was developed based on the historic model of New England town

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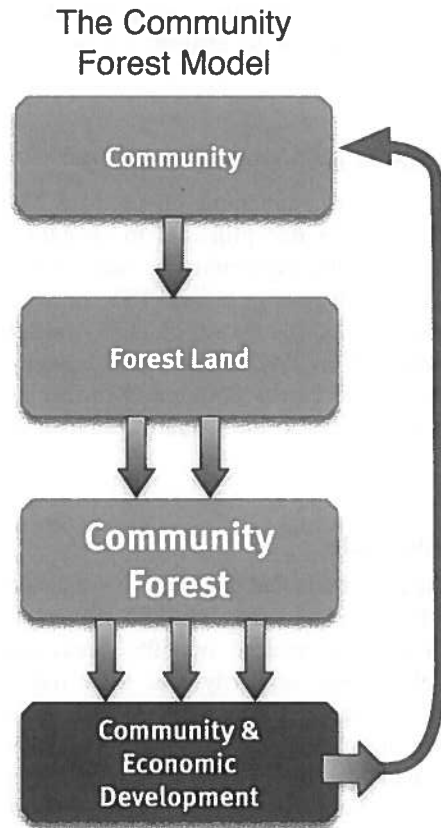


Figure 1. Community forest model.

forests and communal lands while incorporating concepts from international models of sustainable development and community-based natural resource management (Charnley & Poe, 2007; Child & Lyman, 2004). Those concepts include ownership and control of natural resources, responsibility and authority for management decisions, public participation, and access to the value and benefits of the resource.

The paper proposes that acquisition, ownership, and management of forestland preserve and build capital for the community. Because many of these projects are young, the proposition suggests (but is yet untested) that wealth will continue to build, leading to improved vitality and well-being in the communities. While some evidence will be offered in the paper, it can only be substantiated over time with longitudinal studies. The full potential of community forests exists within a broader regional vision for community and economic well-being that recognizes the need for complex strategies that support a diversity of economic activities and investments in the region's assets – including natural resources and communities (Northern Forest Center, 2008).

The Rural Wealth Creation Initiative offers a framework for presenting and discussing the different forms of capital, for considering how community forests build wealth (Hoffer & Levy, 2010), and as a foundation for ongoing studies of changes in community wealth, well-being, and vitality resulting from community ownership of forestland. The paper presents a portfolio of community forest projects in northern New England

which, though not initially created within the context of the wealth creation framework, provide some interesting and relevant information to begin to analyze the role and potential of community forests as a wealth creation strategy.

Factors influencing changes in community wealth in northern New England

For more than a century, the wealth of many forested communities in northern New England has gone through cycles of growth and decline due primarily to changes in macroeconomic trends, technological innovations, and the availability or lack of business capital (Colocousis, 2010; Luloff & Nord, 1993). Beginning in the 1980s, powerful economic transformations fueled by the globalization of the forest products industry have contributed to the deindustrialization of northern New England, to a massive transfer of ownership in forestland, and to the degradation of forests from unsustainable forestry practices. This, in turn, has caused dramatic changes to the overall wealth of the region's forest-dependent communities.

Changes and impacts on forest-dependent communities

Between 1994 and 1999, three million acres of forestland that had been held and managed by industrial timberland owners were sold into different ownerships. By 2004, the amount of forestland in private industrial ownership had been reduced by 60% (Levesque, Kingsley, Quigley, Renaud Evans, & Rockwell, 2008), primarily due to a rise in investor-owned forestland. As a result, northern New England's forestland, much of which once had been in the hands of long-term owners and managers with strong ties to the nearby communities, is now subject to forces that threaten its ability to serve as the resource base for a productive forest-based economy. Forestland that is owned primarily for investment purposes demands a substantial return on that investment, and often over a relatively short time period. This can lead to unsustainable harvesting schedules and practices, followed by further land sales that often fragment large parcels. Frequent changes in ownership, the fragmentation of forestland, and unsustainable forest management practices result in instability in the land base, reduced capacity for long-term sustainable forest management, and an unpredictable supply of raw materials to support the forest products industry – all of which negatively affect the forest-based recreational economy and the communities that depend on the forests (Weinberg & Larson, 2008).

Globalization and technological innovations in the forest products industry resulted in significantly fewer manufacturing jobs and lower median incomes. From 1969 to 2005, for example, the percentage of manufacturing jobs in Coos County, New Hampshire declined from 34 to 10% (Colocousis, 2010, p. 75). The loss of these relatively higher paying jobs has meant a decline in median family incomes in this region and a rise in the percentage of the population living in poverty. Selected forest products facilities with higher capacities and newer technology have continued to operate, but overall employment in the sector is down significantly across the region.

Families who live in these forest-dependent communities have seen their economic well-being erode over the past several decades. In contrast, median family income (the amount families receive) has increased significantly in the northeast as a whole, rising from \$32,643 in 1989 to \$52,996 in 2010 (US Census, 2012). In northern New England counties with forest-dependent communities, however, median family incomes have declined over this same period, moving households from above the regional income average to substantially below. This dramatic trend is illustrated in Figure 2.

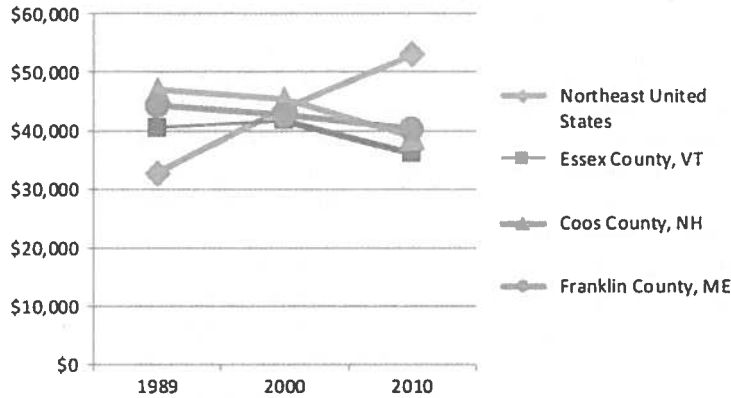


Figure 2. Median household income, 1989–2010.
Source: US Census Bureau (2012).

There has been significant attention to and investment in efforts to reverse these trends. Recommendations in the Sustainable Economy Initiative, a regional strategy for the Northern Forest region, call for actions to “protect and enhance the region’s assets” by investing in “people, communities, infrastructure and natural resource base that are the foundation of the Northern Forest’s distinct regional character and competitive advantage” (Northern Forest Center, 2008, p. 3). Community ownership of forestland responds to this call for action.

Community ownership of forestland

Community ownership of forestland in this country has a long history and covers a variety of examples (Baker & Kusel, 2003; Belsky, 2008). Public land in New England, including forestland, was designated in the charters of many newly created towns starting as early as 1630 (McCullough, 1995). In the early 1900s, the “town forest movement” resulted in legislation in Vermont, New Hampshire, and Massachusetts that authorized towns to establish town forests (McCullough, 1995). In the late 1990s, communities in New England began to see themselves as potential buyers for the large tracts of forestland that were coming on the market. Recent community forest projects suggest that by increasing local equity in forestland, community ownership of forestland offers opportunities to advance economic and social objectives, particularly in the low-income rural communities of northern New England (Bisson & Lyman, 2003; Community Forest Collaborative, 2007).

Overview of community forests in northern New England

Community forests range in size from under 100 acres to over 30,000 acres. While they have different ownership structures (e.g. local government, tribal, non-profit) the goals of all are to ensure that the community has responsibility for and participates in decisions affecting the forest, and receives the benefits and values of the forest. Different ownership models result in a variety of governing structures. Public engagement by the community at large is both encouraged and sought out through public hearings and/or

informal meetings, the process of developing management plans for the properties, annual celebrations, or special field trips. The benefits and values from individual community forest projects range from ecosystem services (wildlife habitat and biodiversity protection of water and air quality, raw materials, biomass for fuel), to open space and recreational opportunities, to outdoor classrooms, growth management, revenue, and protection of special places. These are shared and distributed within a community through access, permits, and support for other community priorities that are identified through public meetings and surveys. Revenues from forest products management are used either to support other community priorities or are reinvested into the management of the forest. Community forests are sometimes planned and created within the context of local planning efforts (i.e. town master plan). Others, however, are also designed to be part of a larger regional economic development or conservation strategy. For most community forests, permanent protection of the conservation values is required and is often exercised through management and stewardship plans and through conservation or working forest easements.

Methods

This article is based on the experience and data gathered from six community forest projects in northern New England. These projects were selected because they represent a range of size and ownership structures. Many of these projects are located in “low-income” communities, and they offer the best available information for analysis within the Wealth Creation Framework. The profiles were drawn primarily from case studies developed by the Community Forest Collaborative, as well as other materials, interviews, and reports. The Randolph profile was compiled from a case study prepared for presentation at a conference and later published (Willcox, 2004). The profiles of the Paul T. Doherty Memorial Forest, 13-Mile Woods Community Forest, and the Farm Cove Community Forest were prepared for a publication of the Community Forest Collaborative (Community Forest Collaborative, 2007). Information on the Nulheganaki Community Forest was drawn from materials prepared by the Vermont Land Trust and members of the tribe. Background on the West Grand Lake Community Forest came from information gathered from the Downeast Lakes Land Trust (DLLT) and email exchanges with the Executive Director. The Barre Town Forest profile was developed with information prepared by the Trust for Public Land. Additional information came from two economic analyses – one of the Barre Town Forest in Barre, Vermont (Posner & Ceroni, 2012) and the other of the 13-Mile Woods/Errol Community Forest (Reaves & Ceroni, 2013). The Community Forest Collaborative conducted a survey of over 30 town and community forests across New England (Community Forest Collaborative, 2010).

Since the community forest movement is relatively young, and many of the community forests have only been created within the last decade, standard measurements for the forms of capital associated with community forest projects and quantified measurements of changes in community wealth coming from ownership and management of a community forest have not been developed. Based on experience, observations, and data collected from community forest projects, the authors used the Wealth Creation Framework to describe below (Table 1) various forms of capital associated with community forest projects.

The findings use this table, background material on community forests from case studies, surveys, interviews, economic analyses, as well as information on the Wealth Creation Framework to discuss the role of community forests in creating and/or preserving capital, as well as the potential and role of community forests in wealth creation.

Table 1. Capital and wealth from community forest projects.

Forms of Wealth	Wealth from community forest projects	
Financial capital	Revenue from: <ul style="list-style-type: none"> • Timber products • Recreational fees • Visitor meals and lodging • Carbon credit sales • Non-timber forest products (i.e. syrup, fuel wood, medicinal plants, seasonal greens) 	<ul style="list-style-type: none"> • Water treatment costs avoided • Reinvestments to improve and expand wealth from community forest
Natural capital	<ul style="list-style-type: none"> • Biodiversity and wildlife habitat • Air quality • Raw materials (timber, soil, non-timber forest products) • Environmental education laboratory 	<ul style="list-style-type: none"> • Carbon storage • Water quality through watershed protection and restoration
Social capital	<ul style="list-style-type: none"> • New communal ownership and governance structures • Collaborative management practices • New volunteer capacity and networks • Growing community cooperation and trust 	<ul style="list-style-type: none"> • New local organizations and associations • Increased ties between communities, state agencies, and regional organizations • Community pride and self-determination
Individual capital	<ul style="list-style-type: none"> • Pride in the CF project creation • Increased well-being from conservation security and sense of community commitment • Jobs 	<ul style="list-style-type: none"> • Place to provide jobs, fuel, food and recreation • Cultural and spiritual ties to land and history • Increased community capacity from new practices and skills
Built capital	<ul style="list-style-type: none"> • Recreational trails for hiking, biking, skiing, snowmobiling, and ATV riding • Conservation and ecological education and monitoring facilities 	<ul style="list-style-type: none"> • Campsites, signs, and kiosks to support recreation • Sustainable harvesting infrastructure (i.e. sugarhouses and taps, roads, culverts) • Watershed restoration
Intellectual capital	<ul style="list-style-type: none"> • New, shared community vision • Improved understanding and application of land acquisition • Sustainable forestland management techniques 	<ul style="list-style-type: none"> • Integration of conservation, sustainable resource management, and recreation into educational curricula • New knowledge
Political capital	<ul style="list-style-type: none"> • Expanded civic engagement • Role of management plans and conservation easements in guiding decisions and involvement by local, state, federal agencies/non-profits 	<ul style="list-style-type: none"> • Initiatives to revise/amend town governance procedures

Discussion

The community forests profiled below describe general characteristics of the project and offer relevant data and information within the context of the Wealth Creation Framework.

Farm Cove and West Grand Lake Community Forests – Grand Lake Stream, Maine (Population 150) Ownership: Downeast Lakes Land Trust (DLLT)

The Farm Cove and the West Grand Lake Community Forests surround the community of Grand Lake Stream. This community is located in Downeast Maine, the most rural and impoverished region of New England. For generations, livelihoods have been based on the forest and water resources of the region. In addition to timber harvesting and mill jobs, large unfragmented industrial forests supported other economic enterprises such as lodges, forest-based crafts, and hunting and fishing guides.

In the early 1990s, the community began experiencing impacts from changes in the ownership of much of the private industrial forestland that surrounds it. Residents witnessed increased levels of timber harvesting and rumors abounded about land sales, lakefront development, and gates to end traditional open access. These changes generated fear, suspicion, and conflict. There was skepticism towards new ideas, tension between newcomers and old timers, and conflict between conservation and development opportunities. With little capacity for community consensus, a small group of people decided to form a land trust in response to an opportunity to acquire a 27,080-acre tract of land. In 2001, the DLLT, a private, non-profit land trust, was created. By 2005, the DLLT had purchased and created the Farm Cove Community Forest that, with additional acquisitions, now comprises 33,708 acres. Currently, the DLLT is in the process of creating a new 21,870-acre West Grand Lake Community Forest. Though both are significant parcels in a one million acre international landscape conservation initiative, it was clear from the beginning that this was not simply a conservation project, but a critical community development effort.

The acquisition and management of these parcels has created many forms of wealth for the community of Grand Lake Stream and the region. By acquiring the land, DLLT will secure local equity in over 50,000 acres of forestland, a 3560-acre ecological reserve, 62 miles of protected shoreline on six lakes, and several streams. DLLT has stabilized the ownership for sustainable management that preserves and creates *natural capital*, including raw materials (timber and non-timber forest products), ecological services (biodiversity, water quality, carbon sequestration, and air quality), and a land-base for recreational use. From 2007 to 2012, harvesting activity created new *financial capital* and *individual capital*. The DLLT received \$650,000 in gross timber revenues that translated into \$600,000 in annual economic activity to local contractors for timber harvesting, road maintenance, and habitat restoration projects. Recently, DLLT sold 200,000 carbon credits (the first for a community forest project) at an estimated gross value of \$10/credit, the proceeds of which are being reinvested in the management of the forest, contributing to the acquisition of the West Grand Lake Community Forest and supporting the operations of the DLLT.

DLLT works to ensure that the benefits of the forest are distributed throughout the community, preserving and creating *individual capital*. The land is open for all to use for recreation and hunting. Permits are issued to community members to cut firewood, to harvest ash and cedar for baskets and canoes, and to gather seasonal greens.

Management of the Farm Cove Community Forest has resulted in the creation of *built capital* through the construction and repair of roads, including new and improved water flow and drainage systems. New campsites, trails, signs, and kiosks have been built to support recreation on the parcel. The process of creating the DLLT, and acquisition and management of the Farm Cove Community Forest has resulted in significant stocks of new *social capital* through an impressive change in individual attitudes, capacity, confidence, and engagement. One resident commented, "Before, there was a whole lot of skepticism around the idea ... we can't do this ... Now that it has been done, [there is] a complete change ... complete support ... pride [in] ownership in land" (Community Forest Collaborative, 2007, p. 47). The DLLT ensures close collaboration and engagement with the community through its governing board (made up of community members), committee structure for land management decisions, periodic surveys, and public meetings to determine the needs and interests of community members. Regular field trips and programs offer information, and opportunities for communication and input. DLLT works to ensure that the benefits of the forest are distributed throughout the community, which, in turn, has fostered trust (new *social capital*) that has enabled the community to develop consensus and work cooperatively. The results were later shown when the opportunity came to acquire an additional 21,080 acres to create the West Grand Lake Community Forest. The community of Grand Lake Stream was fully engaged in the planning that led to decisions setting aside a parcel of land for future development. That involvement, coupled with a vote at the 2010 Town Meeting to donate four times the requested dollars for acquisition of the West Grand Lake Community Forest are robust examples of creating new *political capital*.

Nulheganaki Community Forest – Barton, Vermont Ownership: Non-profit, Abenakis Helping Abenakis, Inc. on behalf of the Tribe (1000 members)

The Nulhegan Abenaki Tribe has not owned communal land since the 1700s. The Tribe, with over 1000 members, was awarded formal recognition by the state of Vermont in 2011. In 2012, the Tribe, with the assistance of the Vermont Land Trust, Vermont Housing and Conservation Board, Sierra Club of Vermont, and the Open Space Institute's Community Forest Fund, acquired 68 acres of forestland in Barton, Vermont. The forest is owned by a tribal non-profit, Abenakis Helping Abenakis, Inc. The ownership of communal land strengthens the ties within the tribe and provides a place around which to build and express tribal culture and practices, and is "a first step in creating collective economic opportunities for our people" (Vermont Land Trust, 2012). For over 200 years, the tribe had no land, no central place to meet and gather or from which to govern. As one tribe member put it "... we are always borrowing places to meet; it's difficult to maintain a government when you don't have a central place" (Vermont Land Trust, 2012).

This project, while relatively new and small in scale, is creating *financial, social, and intellectual capital* for the Nulheganaki tribe. The parcel represents new *natural capital* in the first piece of land owned by the tribe since the 1700s. The forest provides raw materials (timber and non-timber forest products), ecological services (biodiversity), and a land base for food production, cultural practices, and educational programs. The land has already created new *financial capital* in revenue from maple sugar production and timber management. This revenue is or will be used to pay the property taxes, support a program to provide healthy food for tribal members, and support educational and cultural programs. In addition to offering a physical meeting place for the tribe's

governing council to meet and for hosting tribal celebrations, the process of acquiring the land created *social capital* through new networks of support and technical assistance from state-wide groups such as the Vermont Land Trust and the Vermont Chapter of the Sierra Club. Plans for the land will create *individual capital* through programs for food production to support needy families and seasonal work for tribal members during sugaring season, and *intellectual capital* through educational programs and demonstrations of traditional cultural crafts and practices, gardening, and food production.

Paul T. Doherty Memorial Forest – Gorham, New Hampshire (Population 3000)

Ownership: Town of Gorham, New Hampshire

The Paul Doherty Town Forest is located in a community with historic links to the forest and the forest products industry. In 1936, during the Depression, leaders in the town were concerned that some industrial forestland surrounding the town's water supply would be sold. They acquired 3380 acres with the principal intent of protecting the town's water supply. Over time, the town bought an additional 1520 acres. In 1990, the town officially organized and designated 4900 acres land as a "town forest" and created a governing board, or town forest committee. The new committee, composed of individuals representing both forestry interests and members of the town's water and sewer board, engaged a professional forester, developed a formal stewardship plan, and began to actively manage the forest to protect the town's water supply and its quality. As the forest products industry began to decline in the 1980s, there was a growing conflict that was popularly described as "jobs vs. the environment" that often pitted community members against "environmentalists" who were seen as responsible for the loss of jobs in the forest products industry. This dynamic was prominently played out in Gorham around the development of an environmental education program in the schools. The town forest played a pivotal role in reconciling this conflict. It became the outdoor classroom where teachers, students, and foresters integrated the curriculum with appreciation for the values of the forest through training and experience in forestry-related activities. The forestland has both preserved and created *natural capital* such as raw materials (timber), ecosystem services (water quality and quantity, wildlife habitat for biodiversity), and a land base for recreation and outdoor classrooms. The town realized new *financial capital* from timber harvesting and the avoided costs of hard infrastructure for water treatment. From 1991 to 1995, there were four harvests that netted approximately \$160,000. In 1998, this parcel experienced extensive damage from an ice storm. Over the next seven years, salvage operations to harvest the damaged timber produced gross revenues of one million dollars with expenses of roughly \$300,000 over the same period. Additionally, from 1936 to 1990, the town's water and sewer commission managed the land with the principal goal of protecting the public water supply. The result has been that they have not had to invest in the cost of "hard infrastructure" for water treatment beyond a simple filtration system. The savings, or avoided costs, have not been calculated, but studies of other watersheds managed for water quality have found the savings to be significant. (Gunn & Wilkerson, 2011) The forest has also played an instrumental role in creating *social capital* by building community capacity and reconciling conflict within the town. Efforts to resolve the "jobs vs. environment" conflict resulted in a process that engaged members of the community at large, members of the board of selectmen, town forest committee and school board, and outside groups that provided technical assistance and financial support for the development of a forest-based educational curriculum for the schools. New networks were created both within the

town and between the town and outside groups; conflict was resolved as trust between different factions in the town grew as they worked together to manage the forest and create a program for educating the next generations; and new resources were brought to the town. The property has been used effectively as an outdoor classroom, creating new *intellectual capital*. There is a strong partnership between the schools, the forest commission, and volunteer professional foresters in the area. The specific curriculum includes middle and high school lessons in forestry, applied math, and ecology. The integration of forest management, recreation, and enjoyment of the natural world into classroom lessons also exposes future town leaders to the important stewardship priority of the community.

Barre Town Forest – Barre Town, Vermont (Population 7500) Ownership: Town of Barre Town, Vermont

Barre Town is a small community in central Vermont with a rich history of granite quarries. In 2013, the town acquired 355 acres as an economic, recreational, ecological, and cultural asset for both local people and visitors to the region. The Barre Town Forest is located on property where the first granite quarry was established in 1790, and that eventually supported 75 small independent quarry operations. Throughout the twentieth century, these independent quarry operations were consolidated and quarries were abandoned. Gradually, the quarries filled with water and the forest cover returned. This parcel had long been enjoyed and valued by residents and visitors alike because of its close proximity to other town-owned lands, and because it is part of an extensive multi-landowner trail system.

A town forest committee composed of residents manages the Barre Town Forest. They have worked with the community to get input on the management plan for the property and create opportunities for forest access and use. They have developed a collaborative relationship with the Millstone Trails Association, which has secured trail rights from many landowners and built a unique trail system which encompasses quarry elements alongside traditional forested mountain bike and ski paths. The property provides a place for year-round recreational, cultural, and environmental education programs. The town itself invested \$100,000 of the total \$1.2 million cost towards the acquisition. Three principal forms of capital that have been preserved and created include natural, financial, and built. The *natural capital* comes from the land itself, the valuable stocks of timber, and an important aquifer. Conservation and proper management will ensure raw materials (timber), the water quality and safety of two drinking water supplies (*Community Forest Plan for the Barre Town Forest*, 2012), and the land base for recreational use. The present timber stocking level is currently valued at almost \$150,000 (Posner & Ceroni, 2012). A 2012 analysis of the economic benefits of the Barre Town Forest considered the present and future financial impact of an estimated 7000 visitors to the trails in 2011, and further estimated a 10% annual growth rate in this demand. Current annual spending by these visitors is estimated at \$481,000 for lodging, food, and other services (Posner & Ceroni, 2012). If this projected growth of recreational visitors is realized, it will result in a return of \$22 for each \$1 invested by the townspeople (Posner & Ceroni, 2012). The property has 20 miles of existing trails that are part of a 70-mile trail network, maintained for summer mountain biking and groomed for winter cross-country skiing by a local trails association. The relationship with the Millstone Trails Association has resulted in reinvestment in infrastructure

resulting in new *built capital* in the form of trail signs and informational kiosks seen as critical to successful tourism efforts in the local region.

Randolph Community Forest – Randolph, New Hampshire (Population 350)

Ownership: Town of Randolph, New Hampshire

In 2001, the town of Randolph purchased 10,200 acres to create the Randolph Community Forest. The purpose of the project was to preserve the forested landscape, support the regional timber and recreational-based culture and economy, and avoid the costs to the town associated with development. (Community Forest Collaborative, 2007) The community forest represents a new asset for the town that has both preserved and created *natural, social, and political capital*.

The Randolph Community Forest is a 10,200-acre tract of forestland that links two sections of the White Mountain National Forest. This project preserved the *natural capital* of the land by preventing its fragmentation and/or development. By linking two sections of the White Mountain National Forest, it created new *natural capital* by creating a large block of unfragmented, sustainably managed forestland that is important for a predictable flow of forest products (timber), ecosystem services (watershed protection and wildlife habitat for biodiversity), and a land base for recreational use. While the forest had been heavily cut prior to acquisition by the town, over time, the stock of natural capital will grow through reinvestment into forest and wildlife habitat management and monitoring.

The project created new *social capital* by using existing stocks of capital. As with all community forest projects, this one too, required considerable community engagement. Three well-respected citizens created a critical, but informal, leadership team. Each had very different local constituencies in addition to extensive out-of-town networks (Willcox, 2004). Additionally, numerous public meetings were convened to discuss acquisition, ownership, and management options. The town engaged and received significant outside support and assistance from conservation groups, public agencies, and private philanthropies. Once the property was acquired, Randolph entered into formal agreements with the United States Forest Service and local hiking and snowmobile clubs to assist with activities such as trail maintenance and management activities.

From the start, Randolph intended to acquire the forest as a land use planning strategy. This would require a different approach to governance of the community forest that created *political capital*. New Hampshire state law applying to town forests calls for a town forest committee, responsible for the management of the forest, to be accountable to the town's governing body (select board). The leaders of the Randolph Community Forest project were concerned that forest management requires long-term planning and investments that could be incompatible with the annual budget cycles and responsibilities of the select board. They suggested an alternative design. The town forest committee would be accountable to the planning board, funds received from timber harvesting on the community forest would be held in a fund separate from the town's operating fund, and revenues from the forest would be reinvested in the forest. This required special state legislation that was successfully drafted and passed (Willcox, 2004). Other *political capital* created by the project included a dramatic change in the relationship with the US Forest Service that had often been strained. The Forest Service supported the town's effort to raise funds for the community forest project through the Federal Forest Legacy Program (Willcox, 2004). These negotiations forged an ongoing collaborative relationship that has facilitated management of the adjacent tracts of land, resulted

in cost-sharing agreements on management activities, and cooperative monitoring programs (Willcox, 2004).

13-Mile Woods Community Forest – Errol, New Hampshire (Population 298)

Ownership: Town of Errol, New Hampshire

The 13-Mile Woods Community Forest is a 7100-acre parcel of land in northern New Hampshire and is so named because it includes a scenic 13-mile stretch along the upper Androscoggin River that serves as the entrance into the Town of Errol. This parcel is also a critical link in a corridor of federal and state conservation lands that includes the Umbagog National Wildlife Refuge and the White Mountain National Forest (Community Forest Collaborative, 2007). The town relies heavily on the regional forest and the river for its economy. Most jobs are in the forest industry, followed by services supporting snowmobile visitors in the winter and fishermen in the summer. The town sought to protect this scenic gateway by acquiring a 5300-acre parcel in 2005, followed by an additional 1800-acre parcel in 2009. To people in this small town, purchase of the land became a more realistic option when inventories revealed timber stocks worth close to six million dollars. Errol paid over four million dollars for the first parcel with a financing strategy that included debt to be paid for by revenues from timber harvests. The 13-Mile Woods Community Forest represents significant preserved and created *natural capital* that includes raw materials (timber), important ecosystem services (water quality, biodiversity), and a land base for recreation. The land represents a newly created asset of valuable natural capital for the town that has already yielded significant new *financial capital* and *individual capital*. The first seven years of ownership yielded timber harvest revenues of \$3.7 million, and new inventory data confirms residual timber value of \$5.9 million. Timber harvests, planned and executed to ensure sustainability, have netted the town \$1.7 million to pay back purchase loans. Future harvests will be smaller, but will yield average incomes to the town of over \$100,000 annually, potentially representing about 10% of their annual municipal budget (Reaves & Ceroni, 2013). The Errol Community Forest has created two local full-time jobs in forestry, which indirectly will add an additional 10 new jobs, and has contributed over \$2 million to local logging contractors (*individual capital*). It is estimated that every 1000 acres of forest supports 24 forest-based recreation and tourism jobs (Reaves & Ceroni, 2013). Errol's economy depends upon significant snowmobile traffic in the winter coming into the village for gasoline, food, and other services. The community reinvested in the community forest by constructing a new 11-mile multi-use trail, creating new *built capital*, that provides an alternate route and access to village services for winter visitors, as well as access to remote fishing ponds, easy terrain for family hiking and mountain biking, and access to many sections of the forest for educational programs.

Findings

Community forests and capital

Several broad points are relevant across the profiled projects and may help evaluate the role of community forests in building capital as a first step in building community wealth, vitality, and well-being.

Capital is both *preserved* and *created* through acquisition and management. Natural capital is preserved by stabilizing the ownership, preventing fragmentation, and

protecting the conservation values of the forestland. The Farm Cove, West Grand Lake, Randolph, Errol, and Gorham projects were initiated in reaction to a threat that the land would be sold, potentially in smaller parcels for development. Acquisition, however, also *creates* new capital for the communities by securing ownership in a new asset that produces new financial capital (timber revenues), social capital (trust, cooperation, new capacity, and associations), intellectual capital (new knowledge), individual capital (jobs), and built capital (trails, recreational facilities, campsites).

The *amount* and *kind* of capital varies from project to project. Variations are due primarily to scale, quality of the resource, community engagement and participation, length of ownership, different ownership and management structures, and context. For example, the Farm Cove Community Forest has preserved or created more natural and financial capital than, say, the Barre Town Forest. The Farm Cove Community Forest (36,000 acres) is bigger than the Barre Town Forest (355 acres), producing more timber products, more revenue, and more land base for recreational opportunities and wildlife habitat.

Observations from projects as diverse as the Farm Cove and West Grand Lake Community Forests (totaling over 50,000 acres) and the Nulheganaki Forest (68 acres) also suggest that the *value* to the community may be unrelated to the scale or amount of capital created, or that the community may emphasize or put a premium on different forms of capital. For example, the value to the Nulheganaki tribe of actually “owning” the first piece of land in over 200 years, of having a place to conduct tribal business, and a place to demonstrate tribal practices may outweigh the actual value of the revenue that is generated from managing 68 acres. And while, clearly the ownership of over 50,000 acres will return significant value in the form of timber revenues to the DLLT and Grand Lake Stream community, what many who were interviewed for the case study reflected were not the financial returns, but rather the value of being able to determine how the land would be managed, preserving traditional uses of the land, and the esthetic and conservation values of the landscape.

Partnerships with outside organizations are important to capital creation. Most community forest projects are supported by strong partnerships with organizations that facilitate early planning and capacity building, provide access to financing for the acquisition, as well as legal and technical assistance related to real estate transactions. These partnerships bring new resources into the community that help build social, financial, and intellectual capital within the community.

Community forests and wealth creation

Community forests as a wealth creation strategy are not fully appreciated, principally because the projects are relatively new, and because there has been little rigorous research or analysis on the role of community forests in wealth creation. Generally, however, community forests ensure that the community gains access to the returns from the capital for the benefit of the community, rather than those benefits flowing out of the community, as was often the case in the past. From the profiled projects, and others, we know that when the land is owned and managed by the community, timber revenues stay in the community (Grand Lake Stream, Gorham, Randolph, Barre Town, Errol), communities are more likely to hire local foresters and loggers for forest management activities (Errol, Gorham, Randolph), and the land is available for community-based activities (recreation, outdoor classrooms) or to support local enterprises (local crafts). Further, observations from several community forest projects (Farm Cove, Errol,

Gorham) suggest that those projects have built trust, increased cooperation, and built confidence and pride, all of which add considerably to both individual and community well-being. Additionally, even in the short-run, many of the communities have already reinvested in the community forest through acquisition of additional parcels to expand the community forest (DLLT/Grand Lake Stream, Errol, Gorham); development and construction of trails or other recreational facilities (DLLT/Grand Lake Stream, Errol, Randolph, Barre Town); forest management activities to improve the quality of the timber and biodiversity (Randolph, DLLT/Grand Lake Stream, Gorham); and long-term research and monitoring (Randolph).

Over the long term, stabilizing the productive forestland base, ensuring the conservation values, and securing a consistent flow of forest products from sustainable management may provide opportunities for more community-based and regional forest-based economic activity that will offer more wealth creation opportunities. The Farm Cove and West Grand Lake Community Forests, for example, are part of a one million-acre landscape scale conservation strategy, one purpose of which is to stabilize the productive forestland base for local and regional economic activity.

It is worth mentioning factors that may limit the potential of this strategy to build wealth in communities. A community may decline (or miss) an opportunity to create a community forest or may not realize the full potential for wealth creation of a community forest they already have. A good example of the failure to realize the wealth creation potential is that there are hundreds of “town forests” across New England. Some of these towns don’t know what land they own, and in many cases even if they do, do not manage the land in ways that produce benefits to the town. Another factor is community dynamics. There is historic skepticism about the capacity of municipal governments (especially New England towns) generally, but specifically to own and manage forestland. This is due primarily to some distrust of “government” that is mainly focused on the need for town boards to balance annual budget and the fear that they will look at forestland as an asset that can be sold. This skepticism is legitimate and needs to be accounted for. Observations from these projects and others, however, demonstrate that where there is broad community participation and engagement, where the forest is viewed as an asset that supports other community priorities (education, social services, etc.), and where steps are taken (conservation easements or changes in governing processes) to address concerns, the lines become blurred between “government and community” as trust builds (Grand Lake Stream) and as community capacity is expanded (Errol). Finally, while the profiles suggest a climate of unanimity within the communities, it is important to note that there has not been rigorous research on involvement, attitudes, or changes in social capital derived from community forest projects. The anecdotal evidence, however, suggests that because there needs to be a critical mass of capacity, leadership, and interest by people in communities in order to begin and complete a project, the projects have attracted and engaged *new players*, that some conflicts can be resolved or quieted, that there is a growing capacity to trust, and that new relationships are created both within the community and between the community and outside groups.

The potential and role of community forests in wealth creation

A systematic approach to and a comprehensive understanding of the potential and role of community forests in wealth creation will be enhanced through several initiatives. The first is a deeper engagement by the community and economic development sector.

Most community forest projects are still viewed as conservation strategies, and much of the financial support and technical assistance has come from within the conservation field. Examples where there has been support from the community and economic development sector (Barre Town Forest and 13 Mile Woods) suggest the involvement by community and economic development organizations could also include a range of assistance, including not only access to capital, but facilitation, capacity building, research, and information on new value streams.

A second initiative is to monitor and analyze the role of community forests in stabilizing the productive forestland base, ensuring access for recreation-based tourism and sustainable flows of forest products and their impacts on expanded local and regional economic opportunities and wealth creation. The Farm Cove and West Grand Lake Community Forests will be a particularly relevant set of projects for this analysis. Selection of a portfolio of community forest projects to monitor over time will advance understanding of the role of community forests in wealth creation and furnish useful information both to communities and to those organizations and institutions that support them.

Communities are particularly open to new ideas when there are models and tangible results to observe and from which to learn. Critical to achieving the full potential of community forests as a wealth creation strategy will be outreach, technical assistance, and support to expand understanding of the different forms of capital that can be created to link community forests with regional community and economic development programs and with other wealth creation strategies.

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