

ADDING VALUE AND CONSERVING COMMUNITY FORESTS: THE CASE OF CERTIFICATION IN VERMONT, USA

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Can independent third-party forest certification, as promoted by the internationally recognized Forest Stewardship Council (FSC) support the conservation of biological diversity in community forests while adding economic value to forest products? Vermont Family Forests (VFF), a fledgling community forestry initiative based in Bristol, Vermont (pop. 3800), earned the first FSC group certificate in the US, verifying that over thirty separate forest parcels were jointly well-managed. VFF is directed by the Addison County Forester, and works in partnership with the Vermont Sustainable Jobs Fund, and National Wildlife Federation to stem rates of forest loss and wildlife habitat decline by creating opportunities for improved economic returns commensurate with careful land stewardship. VFF marketing explicitly links ecological forestry practices on participating forests to creative, direct forest product marketing to customers and the general public.

The family and community-owned forests in VFF operate in an ecological context of fragmented young second-growth forest, an economic context of increasingly global forest products markets, and a social context of controversy about forest practices and deforestation. VFF benefits from the counter-trend of interest in policies and programs that integrate community, economic and ecological sustainability, especially as to be implemented in "sustainable forest management". At this stage, FSC certification serves as an intervening filter between local forest ecosystems and economic markets, enhances community social capital, and helps generate market premiums.

A Partnership for Sustainable Forest Conservation

A nascent organization with volunteer leadership, VFF formed the Vermont Family Forestry Partnership (VFFP) to rapidly build capacity, conduct certified wood demonstration projects, and broaden community involvement. The three VFFP partners are: the National Wildlife Federation (NWF) - a major American conservation NGO working through its Northeast Natural Resource Center in Montpelier, Vermont; the Vermont Sustainable Job Fund (VSJF) - a state economic development agency with a stable rural employment agenda; and VFF. The three-year old partnership now operates with the support and assistance of the National Community-Based Forestry Demonstration Program of the Ford Foundation.

Appropriately for its mix of partners, VFFP formed in response to a coincidence of ecology and economy. A severe ice storm blanketed the region in January 1998, bending

and damaging many young hardwoods. At this time, Middlebury College, a private institution serving 2250 undergraduate students in Middlebury, Vermont (pop. 8200), was embarking on the construction of a new flagship science center, "Bicentennial Hall."

Environmentally sound design was made a top priority reflecting institutional building trends. According to the College, "integral to the overall effort to instill environmental excellence into all campus operations - a directive from the College's President John M. McCardell, Jr. - the design of Bicentennial Hall was meant to serve as a new standard for academic lab facilities." The project managers learned firsthand about the disconnection between typical architectural millwork specifications and what local forests could reasonably yield, when no bids were tendered to supply 125,000 board feet of certified, locally grown clear red oak.

Fortunately the architects proved flexible after being taken on site visits to local forests, "(t)hey walked by beech, birch and sugar maples of varying sizes and quantities, in the same stand. They saw some trees damaged by the recent ice storm. They saw streams, swamps, (wildlife) den trees and wet soil. They did not see a single plantation of large, clear red oak trees."i In fact, less than 4% of trees in the state are red oak, with few that could yield large clear boards. The architect, with support of College leaders redrew the interior woodwork specifications to include seven different locally available wood species, and eventually, to accept non-structural defects and discoloration as well.

Perceiving this new market opportunity, the Addison County Forester accelerated the organization of a "green certification" initiative among suitably inclined landowners, recruited through local watershed-based organizations. He arranged funding with VSJF and obtained technical and outreach assistance from NWF (at that time the SmartWood certification program's regional certifier) to scope out and implement the first FSC group certification in the United States. Besides the coincidence of ecological surprise and economic opportunity, a convergence of institutional missions among very diverse parties helped the project come together and maintain momentum.

VFF is incorporated as the Vermont Family Forests Foundation with an educational mission, "to conserve the health of the forest, and when appropriate, to promote careful cultivation of local family forests for community benefits." The Vermont Sustainable Jobs Fund was authorized by the state legislature to, "create and /or retain quality jobs throughout the state while protecting and enhancing the state's environment, and developing sustainable economies in Vermont communities." The institutional mission of NWF is to: "educate, inspire and assist individuals and organizations of diverse cultures to conserve wildlife and other natural resources and to protect the earth's environment in order to achieve a peaceful, equitable and sustainable future."

All three VFFP partners have broad missions that consider environment, economy and community with varying emphasis. While mission statements rarely provide guidance for day-to-day operations, they can establish, perpetuate and communicate the nature of organizational cultures. These organizations clearly do not accept the false dichotomy of conservation versus development often phrased as "jobs versus wildlife". FSC

certification was a uniting element for the three groups, in part, due to its corresponding holistic mission, "to encourage environmentally appropriate, socially beneficial and economically viable management of the world's forests."

The primary customer for VFF's start-up phase wood harvests, Middlebury College has a conventional stated mission - in brief, "to educate students in the tradition of the liberal arts." However, the College operates in a very competitive environment for student recruitment and so works to incorporate environmental measures into its various operations and facilities. The College President stated regarding the sustainable design principles adopted for Bicentennial Hall and future projects, "At Middlebury we define education broadly. Everything we do is an opportunity to educate."ii

In the broader community the College's tangible commitment to local sustainable wood sources, and so to a modest increment of local employment as well, was an important element in smoothing relations with town residents concerned about the growth rate of the campus. For Middlebury College then, constructing the largest academic structure in the United States with local, FSC certified wood was an act of institutional leadership yielding educational and public relations benefits. For the VFFP partners, this start-up project demonstrated the potential for placing community-based forest conservation on an economically and socially sustainable path in a thicket of complex social, ecological and economic contexts.

Vermont Family Forests in Context

VFF is a local community-based initiative now directly involving almost 10,000 enrolled acres (4k ha), around forty non-industrial, or "family forest", and community landholders, and a dozen wood products producers primarily in Addison County. It is shaped by the immediate context of its regional forest ecology, history and economy. Although involving mainly privately owned forest lands, VFF is a community forestry enterprise simply defined as forestry that is intended to benefit proximate communities. Public access to private lands for recreational purposes, including hunting and fishing is a cultural norm in this area. Furthermore VFF shares three major attributes in common with many community forestry initiatives in a variety of circumstances, "residents have access to the land and its resources... residents participate in decisions concerning the forest (and) the community begins by protecting and restoring the forest."iii

VFF also emerged in reaction to similar global pressures and opportunities affecting forests and communities everywhere. Demand for wood products is increasing steadily with population and rising incomes, while environmental concerns about the impacts of deforestation and poor forestry practices are rising apace. Corporate forest products firms operate regionally and internationally with much less concern for stable, quality wood supplies close to processing facilities than in past decades.

At this time, virtually none of the primary forest that inspired awe among early European visitors and colonists remains standing in northeastern states. Forest of any age covered only 20% of the region one hundred years ago, due to intensive agriculture and forest exploitation. However, after a shift away from agricultural land uses over the past

century, regenerated second-growth known in the US as the "Northern Forest" now extends from the Atlantic coast of Maine to the shore of Lake Ontario in New York State.

This 26 million acre (10.5m ha) region of mixed hardwood and softwood species is the largest contiguous forest in the eastern states. Almost 85% of the land is held privately, reflecting the history of colonization by land grants, with the remainder under a variety of federal, state and local government management. Forests in western states, by contrast are largely under federal management, reflecting a different history of colonization conducted by the US government.

One million people live within the Northern Forest region and 75 million are within an easy day's travel. Compared to other forested regions of the U.S., this region has the least amount of public forest land per capita, creating unique challenges for maintaining the region's ecological integrity. Forest conversion for residential, industrial, retail and recreational developments and extensive road networks fragment this forest. Non-point source polluted run-off and sedimentation damage riparian habitat and impede the recovery of native anadromous fish populations.

Industrial-style timber management for pulp and paper production have reduced the structural complexity of forest habitat. Short-sighted forest management, including high-grading ("taking the best trees and leaving the rest") and inappropriate or extensive clear-cutting causes additional ecological simplification, as indicated in a skewed age class distribution and lack of "big timber". Such status quo forest practices have resulted in a median tree age of 50 years among endemic species that can live up to 400 years. Most trees are under one foot wide, and fewer than one in ten could yield good quality timber.

There are pockets of old-growth and mature second-growth, but the area in late-seral forest habitat remains under 2% of the region's total forest acreage. With such a small fraction of the region's pre-colonial forest intact, low public ownership, and demand for a variety of uses very high, ecological conditions have remained generally poor across the Northern Forest, notwithstanding the return of tree cover. The conservation status of regional wildlife species relates directly to this evolving landscape.

Specific regional wildlife species extirpated in previous centuries by habitat loss, consumptive uses, and persistent toxins include the white-tail deer, beaver, Canada lynx, wild turkey, peregrine falcon, osprey, bald eagle, Atlantic salmon, and shad. These species have returned in varying numbers in recent decades through a combination of habitat recovery, chemical bans, and wildlife reintroduction programs. Many need continued habitat protection including improved forest practices and careful monitoring to maintain their trajectories towards multiple self-sustaining populations.

Remaining regionally extirpated species include the gray wolf, mountain lion, wolverine, caribou, elk, Allegheny wood rat, fisher, pine marten, and various beetles, reptiles, butterflies, freshwater mussels and native plants. Their current status is either unknown, or the species have experienced flawed reintroduction(s), or otherwise failed to recover naturally. The lack of large areas of old-growth forest at the landscape level, and of

biological legacies such as large diameter snags and coarse woody debris at the forest community level are associated with the poor conservation status of native wildlife, especially former top predators. The tentative status of many interior-forest dependent neo-tropical migratory birds also relates to the paucity of mature, deep forest conditions.

This situation has spurred a vigorous public discussion over the last decade about the need for sustainable forestry practices and a complementary network of ecological reserves to restore greater levels of ecological integrity and resilience. Several regional and state level initiatives have led to an emerging public consensus about the key ingredients of sustainable forest management. These initiatives include the four-year effort of the US Congressionally-authorized Northern Forest Lands Council; the work of the FSC Northeastern Region Working Group to establish regional certification guidelines; and continuous state-level debates about forest practices. For example, Vermont recently enacted laws to regulate forest clear-cuts over 40 acres in size, and to impose an indefinite moratorium on aerial herbicide application on forest lands.

VFF was consciously designed to operate within the social context of private, fragmented forest lands, and ecological context of a young, recovering forest. The organization knits diverse owners together in a unified management approach that respects natural recovery processes. Their FSC certification helps to socially validate their ecological forestry practices, and as with organically certified foods provides the credibility to support distinctive marketing claims. Appropriately for this and many regions, VFF promotes forestry that "leaves the best and adds value to some of the rest".

Globalization and Forest Sustainability

Over recent decades, globalization of forest products markets has occurred at an accelerated rate. Forests, forest ownership, and forest products production have been separated by footloose capital and employers seeking to maximize short-term financial returns. As a result formerly economically or technically inaccessible "frontier forests" are now being exploited to serve international markets. Where they remain, subsistence users are being lured into or overrun by economic markets, creating rolling local scarcities as the next stand of now "valuable" forest products are exploited. This process weakens long-established, sometimes ancient linkages between local forests and local communities, causing tragic loss of cultural traditions, knowledge and identity.

Sustainable forestry remains far from a global norm due in part to the lower average costs and higher returns of logging in primary forest as opposed to managing healthy forest ecosystems for a sustainable yield of merchantable products. Various efforts continue around the world to revoke social licenses for commercial logging in primary forests, due to the high environmental and social impacts. Nonetheless, the commodification of forests and related commercial forestry practices now extend from industrialized nations to almost the entire globe.

Resulting rates of deforestation have dire local effects on people, water quality and wildlife species. Impacts on global climate change are increasingly understood, too. According to the NASA Earth Observatory, while rates of deforestation in Amazonia

appear to have declined somewhat in the past decade from the alarming rates in the 1980's, high rates of deforestation have spread to southeast Asia and now to boreal forest in Canada and Russia.^{iv} In fact, imported Russian and Canadian softwood lumber now undercuts the price of locally grown softwood in Vermont retail lumberyards.

In the past fifty years, 20% of the world's forest cover has been lost entirely, displacing wildlife and indigenous peoples. Over half of the world's temperate rainforest has been logged or otherwise cleared. In the mainland United States, over 90% of old-growth in temperate rainforest has been cut, and replaced by agricultural lands, second-growth forests, plantations, and development. According to the most recent estimates by the UN FAO, global deforestation is currently proceeding at about 33 million acres per year (13.5m ha), with some reforestation in industrialized countries and plantation establishment in Asia, reducing net loss of forest to perhaps 22 million acres annually (9m ha).^v

Forest products markets are rapidly globalizing due to low barriers to flows of financial capital, inexpensive containerized freight transport, large disparities in labor costs and practices, environmental regulation and enforcement, high international debt levels in developing nations, balance of payment deficits in industrialized nations and, of course, continued increases in both global population and per capita wood consumption. The further afield wood and wood products travel from their sources, the less is likely to be known about their provenance, the legality and conditions of their harvest and production, the immediate and cumulative environmental impacts in forests, and the positive or negative economic impacts on neighboring human communities.

Of course, the expropriation of natural resources from local people to serve distant interests has a long history and can generate strong emotions. In fact, since the arrival of colonists from Great Britain in the 17th century, the forests of the northeastern United States have been substantively linked to global trade. The subordination of local needs to trade requirements was an early factor leading to the American Revolution. Parliament's "Act of 1729" claimed all white pines in the region for Britain and forbade colonists from harvesting this essential fast-growing, easy to manufacture species. King's agents would destroy softwood mills and even entire settlements to prevent colonists from using white pine. By 1775, the pine tree had become a powerful symbol of British tyranny, and many colonists fought for American independence under their Pine Tree flags.

Over two centuries later, broad public concern about the impact of globalization on the region's forests and communities re-emerged. In particular, the parcelization and sale of almost one million acres of the Northern Forest in 1988 to a group of global investors, focused attention on the divergence of interests between large industrial forest owners increasingly involved in international financial markets, and the general public. This sale was the start of a wave of industrial land exchanges that were perceived to threaten rural livelihoods, the regional economy, and the ecological integrity of the Northern Forest.

Proving the depth of concern, the Northern Forest Lands Council (NFLC) was jointly established in 1990 by the US Congress in collaboration with the states of Maine, New

Hampshire, Vermont, and New York. The public interest in maintaining large contiguous tracts of forest for both economic and ecological purposes was recognized in the mission statement of the NFLC: "...to reinforce the traditional patterns of land ownership and uses of large forest areas in the Northern Forest... through the promotion of economic stability... through the maintenance of large forest areas... the production of a sustainable yield of forest products...and...protecting recreational, wildlife, scenic and wildland resources."vi NFLC ultimately proved unable to overcome members espoused faith in free markets and free trade, and so proposed little regarding controls on land ownership or wood trade other than additional studies. NFLC did however recommend expansion of "green certification" as a market incentive for good management.

Today, VFF operates in the midst of one of the most (legally) porous markets for forest ownership and forest products in industrialized nations. Anyone with the means and interest can "invest" in virtually any amount of available forest land, as British, Canadian, South African and institutional investors have done with millions of acres. Many smaller firms save the bother of long-term management and purchase only timber in what are generally buyers' markets. Due to the monopsony conditions in many timber markets established by situations of very few timber buyers relative to very many forest land owners, or sellers, wood brokers and mills can set prices and even control the scaling and grading of wood delivered by loggers.

Some 45% of all sawlogs harvested in Vermont leave the state, and indeed the country without any processing at all. There are no substantial raw material export barriers - indeed traditional trade and development agencies encourage it. Unwisely however, from a community forestry viewpoint. Since wood processing provides four to eight times the employment of raw material exporting per board foot harvested, this hemorrhage of raw material can be associated with an employment opportunity cost of hundreds of manufacturing jobs.

Cost externalization in logging and wood product manufacturing remains rampant, and information allowing environmentally concerned consumers to exercise informed choice is scarce. On these failures of basic economic assumptions, global forest products markets can not be considered even economically efficient, let alone "sustainable" into the foreseeable future. Yet with free markets as the dominant trade ideology, and continued destructive social polarization over deforestation and forest practices, the attraction of an FSC-style market-based intervention becomes evident.

Certification as a Market Intervention

Interest in a more sustainable development of the biosphere, including the possibility of sustainable forest management (SFM) has been stimulated by the accelerated rates of economic globalization. "Trust, but verify" - a political doctrine of late-period American cold warriors - has been adopted as an operating credo of many pragmatic conservationists who have embraced independent third-party certification. For the National Wildlife Federation, Greenpeace, Rainforest Alliance, World Wildlife Fund, Conservation International and many other environmental and conservation NGO's, FSC

certification has emerged as a powerful vehicle to raise the bar towards sustainable forestry practices locally, nationally and globally, where forestry is appropriate.

FSC certification can ameliorate the impacts of globalization in forest products markets, for better or worse, by helping correct two fundamental economic market failures. First, resources with prices that do not reflect their full cost of production will be over-exploited. Since wood supply is only one of at least two dozen distinct and valuable ecosystem services a forest can provide, a commodity-based emphasis on wood production will usually occur at the expense of other values. Second, without accurate and full information regarding forest products, consumer choice cannot be rationally informed. Below-cost pricing and limited information regarding forest resources are endemic in forest trade and serve to perpetuate exploitative and unsustainable forestry.

Through management plan examination and annual on-site assessments linked to performance-based certification conditions, the FSC process can lead to better internalization of production costs. This at least minimizes collateral damage of logging in the short run and can eventually result in more accurate market pricing for forest products. Associated eco-labels relay valuable information about the forest behind the products. With such remedies, open trade can more likely benefit producers and consumers. So certification can become a fundamental element of a trade strategy to generate financial value from community forests while simultaneously conserving public and ecological values.

Certification Complements Community Forestry

Certification can help sustainably harvested, locally crafted, and social responsible products find a niche in global markets. To do this, community forestry enterprises like VFF focus on telling consumers the stories behind their products, including for some certifying their origins and production. Landowners and managers are certified as meeting or exceeding several dozen principles, standards and criteria and the consumer is assured of this quality of forest management through the stamp of the FSC logo.

The maximum financial return of a timber harvest is reached when the trees are cut, the timber sawn, the wood dried, and furniture or other wood products are sold. While any number of steps might be followed between the stump to the store, it is important to forested communities that these processes happen as close to home as possible. Community-based forestry advocates are working to limit trade in unprocessed, undifferentiated materials, and to promote value-adding processing.

But a well-managed forest doesn't always "offer" what the market wants, or in the quantity desired. Species and age are varied, products are mixed, and availability is dependent on the individual forest. In order to meet the demands of a global market, small-scale landowners and processors are coming together in cooperatives, flexible manufacturing networks, and other associations like VFF to meet the global scale, while retaining the local focus required by the diversity of the forest.

Community forestry practitioners are creatively addressing market demand by promoting low-value and small diameter wood uses, character-marked wood, use of "substitute" tree species and are also advocating for a reduction in subsidies for resource extraction and transportation. Most understand that old-growth or primary forests have great ecological and biological value and are for any variety of reasons increasingly rare, especially in large contiguous blocks. From their perspective though, we can not help to restore old growth conditions if the economics of forest ownership do not encourage and reward long term sustainable forestry. Certification can help provide and sustain these rewards.

FSC Certification Benefits Vermont Family Forests and Local Communities

The FSC certification of VFF's forest management has proven so far to offer the landholders, foresters, producers and their forests a valuable coarse filter between local natural resources and global demand for wood products. Water quality remains unimpaired or even improves over time, important wildlife habitat is identified and protected, and soil productivity is maintained, all while forest products are harvested and sold. Ecological techniques are mandatory for VFF participants, justified in part by the certification contract.

The independent third-party FSC system, based on global principles but regional standards, provides dispassionate guidance about the proportions and quantities of ecosystem goods and services that can be sustainably exploited within a given landscape. Traditional knowledge can aid greatly in identification and conservation of these ecological assets. A rigorous approach to ecological assessment will also tend to identify areas where no harvesting should take place. A coordinated approach to the establishment of ecological reserves and certification can yield the best results for people and wildlife.vii

One example among recent VFF recruits is the Hillsboro Town Forest with 300 acres (121 ha) separated into twelve management units. A volunteer Forest Board set-aside five units for long-term preservation and study after participating in the assessments necessary to be certified, and will manage the other seven units for a sustained yield of diverse wood products. The certification helps to minimize local politics and fiscal pressures as variables affecting the implementation of sound long-term forest management.

VFF has found that their certification enhances stocks of social capital that in turn support stewardship ethics and behavior. VFF provides frequent and focused community forestry activities, and is invited to participate in many others. Approximately thirty indoors and field workshops on a variety of topics leading to certification were conducted by the Addison County Forester and associates in order to recruit about the same number of landowners to the group certification process. Through frequent workshops and with high-profile value-adding demonstration projects, VFF members have attained a positive distinction for their commitment to ecological forestry. VFF adds to this distinctiveness, and protects it from dilution by sophisticated branding and marketing, including on-line.

Finally, VFF's certification is a major factor in obtaining market premiums for their forest products and associated labor. VFF has found the elusive certification premium in every

case they have organized community forest product sales. This has largely occurred by telling a positive environmental and social story about their wood to amenable customers, which is independently verified by the certification auditor. This story is used to transform commercially low-value material into high-value final uses.

In addition, the limited availability of certified wood helps restore balance of market power by creating a seller's club united in best forestry practices and custom quality forest products manufacturing. VFF has been able to double the prices received for their wood, and compensates forest workers for their ecologically sensitive harvesting at approximately 60% above typical rates. These various benefits are creating a positive feedback loop that strongly reinforces the community forest institution of VFF, and are inspiring community forestry initiatives to experiment with FSC certification across the region.

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Montpelier, Vermont, USA
April 2002

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