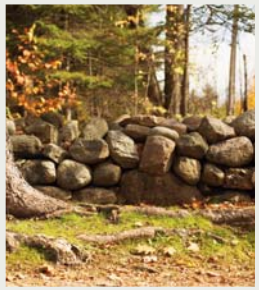
Yale School of Forestry &
Environmental Studies
360 Prospect Street
New Haven, Connecticut 06511
USA

Mission of the Global Institute of Sustainable Forestry
"To foster leadership through innovative programs and activities in research, education and outreach; to create and test new tools and methods; and to understand better and support sustainable forest management worldwide."

Issue Summary

A Yale Forest Forum Series Publication
Volume 10 Number 1
2008

YFF Review



Incentives for Forestland Conservation in Connecticut

A summary of a forum and workshop exploring the effectiveness of Connecticut's tax incentive programs for forestland conservation

A Yale Forest Forum Event

April 29, 2008
Global Institute of
Sustainable Forestry

New Haven, Connecticut

A Yale Forest Forum Series Publication Volume 10 Number 1 2008

YFF Review

Incentives for Forestland Conservation in Connecticut

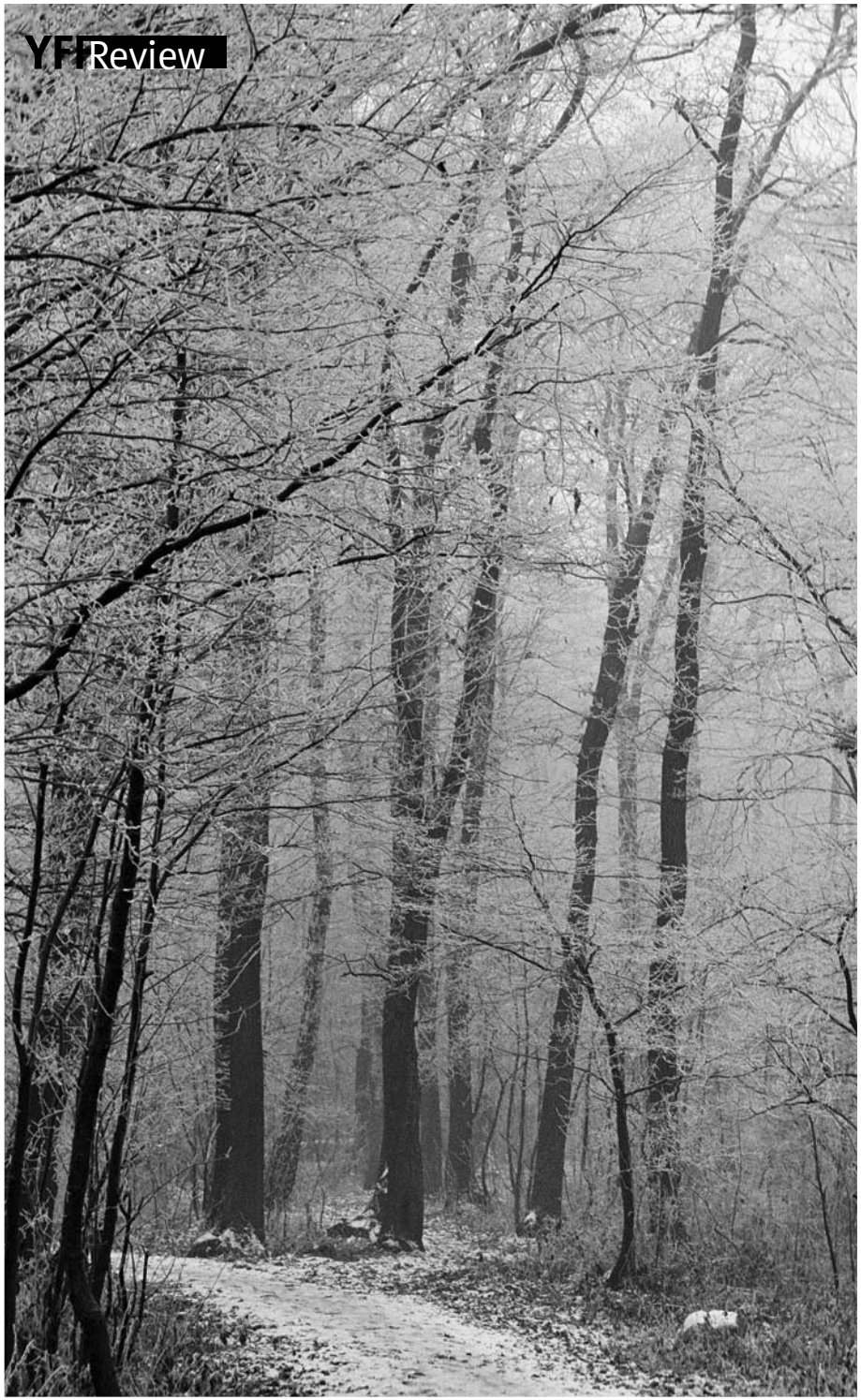
A summary of a forum and workshop exploring the effectiveness of Connecticut's tax incentive programs for forestland conservation

Issue Editor
Deborah Spalding

Series Editor
Mary L. Tyrrell

Global Institute of Sustainable Forestry
School of Forestry & Environmental Studies
Yale University

360 Prospect Street, New Haven CT 06511
phone (203) 432.5117 fax (203) 432.3809
email: gisf@yale.edu web: www.yale.edu/gisf



Contents

This event was made possible by a grant from the USDA Forest Service.

Executive Summary

The Global Institute of Sustainable Forestry at Yale University's School of Forestry and Environmental Studies held a forum and workshop to debate the effectiveness of Connecticut state tax incentives in promoting forestland preservation and sustainable working landscapes in the state. This event was unique in that it brought together an unprecedented diversity of stakeholders with a variety of perspectives on Connecticut's current tax programs. It gave participants the rare opportunity to hear from state policymakers outside Connecticut about programs that have worked and not worked in other jurisdictions. The event also included a panel of experts on incentive programs beyond taxes to give legislators a greater suite of mechanisms to consider in formulating policies to promote Connecticut's forests. The closed workshop on the second day took the discussion a step further by designing a set of action items for policymakers to consider as they work to promote and protect forests in the state.

The workshop participants recommended several specific action items. These fell under eight broad policy directives:

- Support existing tax laws while responding to today's land use challenges
- Recognize the unique role of Connecticut's municipalities
- Create incentives outside property taxes by using income and sales tax credits
- Foster through collaboration the complementary role of forestry and farming
- Promote the role forests play in economic development
- Aggregate forestlands to create better scale for management
- Engage in greater education and outreach
- Design additional landowner revenue opportunities from environmental services from forests

Issue Introduction

For over 130 years, the State of Connecticut has used tax incentives as a way to preserve its forests and to keep open space as a visible and productive part of the landscape. Beginning with the 1877 law entitled, "An Act Concerning the Planting of Trees and Tax thereon", the state legislature has supported the key role of Connecticut's forests in maintaining the state's rural character and natural resource base. Today, over 112,000 landowners are enrolled in the state's forestland tax incentive program.

However, times have changed since the 1800s. Population density has increased, leading to greater fragmentation of the state's forestlands and pressure from urban and suburban sprawl. While aerial views show an attractive landscape of large tracts of tree cover, the canopies mask an understory of forest fragmentation from homes and other development. As many private forests continue to age, forest diversity has decreased while invasive species continue to encroach.

Still, Connecticut's forests provide significant environmental and economic values to its residents, from production of natural resources, water quality and quantity enhancement, pollution management, biodiversity, recreation, and aesthetics. Traditionally, like in many other states, tax incentive programs have been used as the primary means to reward landowners for keeping their land in open space. This has largely been through reductions in property taxes for forest landowners. But questions remain whether such tax structures alone are the best mechanism for compensating landowners and fully recognizing the values generated by their forests.

It may be more useful to view property tax incentives as simply one tool to relieve the pressure from alternative land uses options. Although they can be effective, over-reliance on tax incentives creates burdens on municipalities, which must balance reduced tax revenues with budgetary needs to fund critical local programs. It is also important to recognize that tax incentives can take a variety of forms. These may include state income tax credits for working forests, sales tax credits for infrastructure

investment, or state tax credits for implementing proper forest management practices. Applying a more comprehensive approach to tax incentives, the state can help to create relief for landowners without causing additional budget pressure at the town level.

Historically, one key impediment to greater preservation has been a lack of landowner awareness and understanding, not only of the land itself and available incentives to protect it, but also of the greater public benefits derived from forests in private hands. Like in many states, the majority of Connecticut's private forest landowners do not engage in formal or sustainable forest management practices. Preferring to "let nature take its course", many landowners simply leave their land as it is. The result is aging forests, evidenced by a drop in early successional habitat from over 20% in the 1950s to less than 3% at the end of the 1990s. Adding to this a concurrent increase in fragmentation, the ecological health of Connecticut's forested ecosystem is under stress. One way to relieve this stress is to create a more diverse age and stand structure in the State's forests. This would help forests to resist disease, pests and invasive species; provide an adequate supply and quality of drinking water to state residents; maintain a healthy mosaic of wildlife habitat; and promote a long term supply of wood products from working forests. Today, Connecticut residents enjoy the beauty of its many forests. But these viewsheds belie a more troubling trend that will continue if more landowners do not implement long term stewardship plans.

This problem will accelerate when the current generation of landowners passes land onto its heirs. Many of these soon-to-be forestland owners may have less connection to the land and little awareness of available tax incentives. They may even perceive their income requirements to be at odds with forestland preservation. There must be a suite of incentives in place, not only to reach out and educate a new generation of landowners, but to offer an attractive stream of income and tax relief to compete with returns from other land use choices.

To this end, education and outreach can be enhanced through a coalition of forest practitioners, nonprofit organizations and extension and demonstration programs. Educating landowners on the need for forest management, and requiring management plans for participation in tax incentive programs, can serve a dual purpose of increasing forest health and productivity while making greater economic use of the state's consulting foresters. The state can stimulate interest by helping to offset the cost of using professional foresters through grants or tax write-off measures.

No set of incentives for forestland conservation will be complete, however, without functioning working forests in the state. Supporting a viable local wood industry in Connecticut will stimulate local demand for wood products from Connecticut's forests, create new jobs, and help to diversify the state's economy. Incentive programs must extend beyond the simple purchase and protection of forestland. They must also encourage investment in wood processing infrastructure, technology and manufacturing. While this is unlikely to be a dominant industry for the state, it can provide a niche for local businesses to thrive. This will help the state to support itself by responsibly utilizing its own natural resource base. And it will allow open spaces to contribute to the health of the economy.

And finally, the value of Connecticut's forestland must be measured within the context of newly emerging environmental markets. These include ecosystem services such as water, carbon, biodiversity, and renewable energy sources. Although these markets are still in early stages of development, policymakers must play an active role in establishing appropriate parameters for implementation in Connecticut. While some environmental services will be more viable due to scale issues and the particular forest types of southern New England, steps should be taken when appropriate to extend the suite of available options to landowners.

Presenter Summaries

INTRODUCTORY REMARKS

Chad Oliver
Pinchot Professor of Forestry and Environmental Studies, Yale School of Forestry & Environmental Studies
Deborah Spalding
Yale School of Forestry & Environmental Studies

Chad Oliver opened the session and discussed the role and importance of diverse forest structures for long term support of wildlife habitat, recreation, wood products and ecosystem services. In light of increasing forest fragmentation in the state and decreased stand diversity, Oliver called upon the audience to first articulate a set of values to be provided by Connecticut's forests. From this, the state should then construct appropriate incentives to maximize those values.

Deborah Spalding followed with a presentation on current forest ownership trends in Connecticut. Citing a national woodlands survey and state and federal forest inventory data, Spalding highlighted an aging demographic, higher turnover of forest ownership, lack of formal management plans on private lands, and a maturing forest in need of greater stand diversity.

Donald Smith
Former State Forester, State of Connecticut

We are responsible for the quality of life of those who come after us. We are communally responsible for the state of the forest as stewards. Those who own forestland bear an increased share of that responsibility. We must motivate forestland owners to conserve their land by promoting sound stewardship and providing educational opportunities to encourage sustainable management practices.

"Our first priority must be to retain or improve (on) the integrity of our forested ecosystems."

— Donald Smith

Our first priority must be to retain or improve the integrity of our forested ecosystems. As part of this effort, Connecticut has had a long history of providing favorable tax incentives for landowners who keep their land forested. The first statute in the state to create tax incentives for landowners was enacted in 1877. Entitled, "An Act Concerning the Planting of Trees and Tax thereon", the statute exempted forestland owners from taxation for 10 years, which was ultimately extended to 20 years. Interestingly, this did not simply encourage forestland preservation on those lands of low value. The legacy of this early incentive can be seen in urban parks such as Elizabeth Park in West Hartford, and the campus of St. Joseph College which was once part of the landholdings of a wealthy owner and former Connecticut State Treasurer who applied for tax exemption under the 1887 law prior to his death a short time later.

In 1911, a commission was appointed to investigate the taxation of forestland. This resulted in "An Act concerning the Taxation of Woodland" in 1913. Also known as the "10 mill law", this law required a minimum of 25 acres of woodland and a maximum land value exclusive of timber of not more than $100/acre. At this point, the Connecticut State Forester began to take a role in determining the tax status of forestland. The land was examined and if it met the requirements, the application was approved, designating the land as forest for a minimum of 50 years. The tax levy on this land was not to exceed 10 mills[1] hence the

[1] Millage rates or "mills" are used to calculate property taxes. A mill is equal to $1.00 of tax for each $1,000 of assessment. Property taxes are determined by multiplying the property's assessed value by the "mill rate" and then dividing by 1,000.

name "10 mill law". Since no properties exist today with a land value under $100/acre, no new land is eligible under this law. However, 74 landowners accounting for 13,000 acres still hold land classified under the statute today. This is largely due to the stiff penalties for declassification which has created an effective deterrent to changing the land use. Under this law, if there is a withdrawal from the program, the assessor deducts the valuation of both the land and the timber (as established at the time of classification) from the current value of such land and timber. The assessor then collects a tax on the excess value thus determined at the rate of five mills per year for the entire number of years that the land was classified as forest.

The next major tax law impacting forestland in Connecticut was enacted in 1963. Known as "Public Act 490", this legislation recognized the public interest in maintaining and protecting forest land from conversion to other uses due to the economic pressures created by rising land values. Since the state forester played a pivotal role in determining the eligibility of land under the 1913 law, this role was initially continued in Public Act 490. However, in 2004, the law was amended to allow qualified private sector, certified foresters retained by the landowner to provide the data to assessors used to make the tax determination. At the time the state forester role in Public Act 490 classification ceased, 6,500 landowners accounting for 545,000 acres were enrolled in the program.

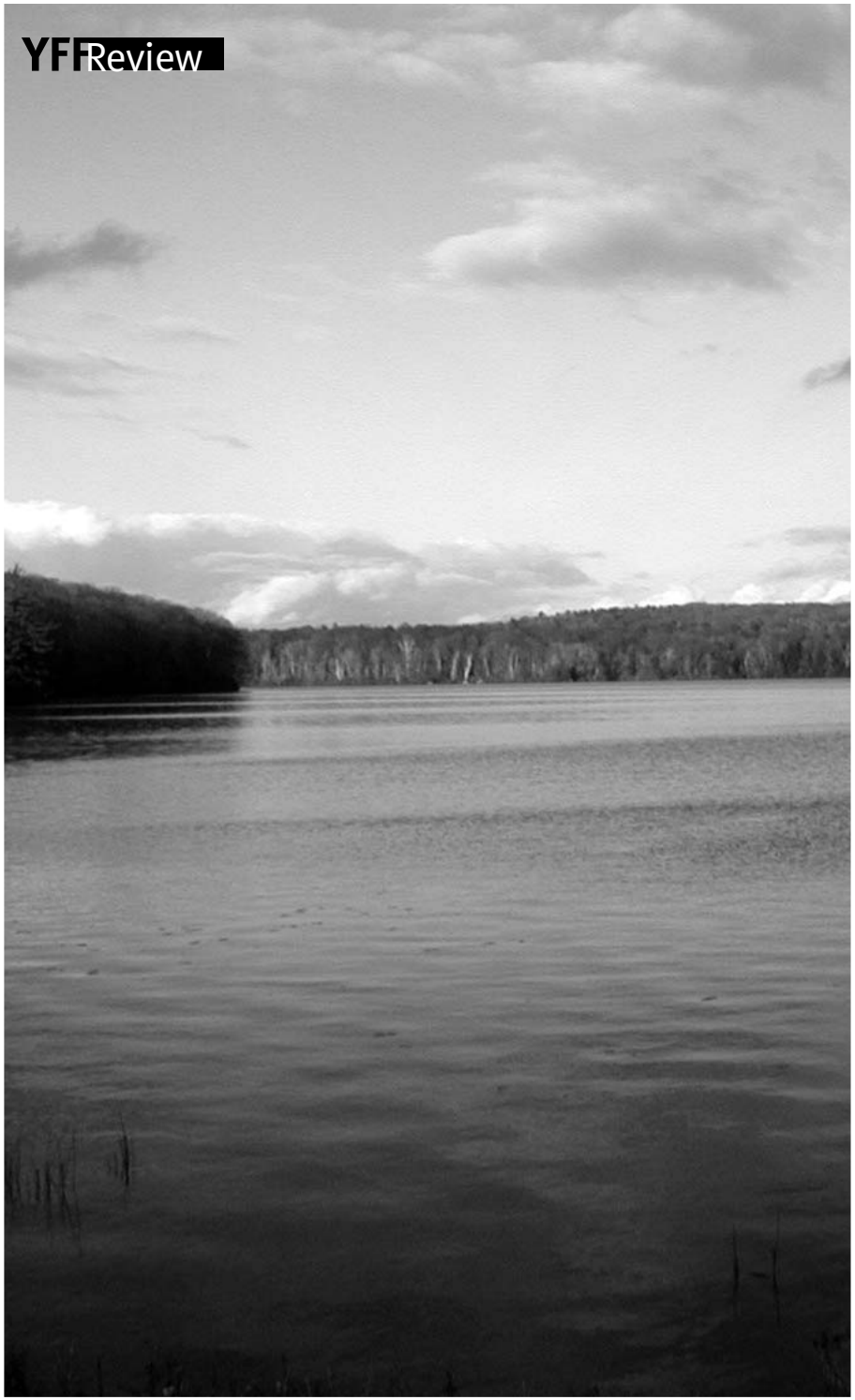
In 2005, the law was amended again to deem the 490 classification as personal to the owner, not the property. In this way, the forestland classification terminates upon sale or transfer of the property. The substantial tax benefit, coupled with the reduced commitment term (10 year penalty structure) has enticed more landowners to enroll in this program relative to the 1913 law. One might conclude, therefore, that Public Act 490 has been a success. Indeed, although the amount of forestland land in the state has dropped from 64% in 1952 to 58% today, there is still an impressive amount of land still forested, particularly in relation to other states.

On the other hand, the short commitment term and the reduced penalty have led to more speculators using Public Act 490 than the 10 mill law. Parcelization has continued to accelerate under Public Act 490 while it was too prohibitive under the 1913 law. Across the forests of Connecticut, average parcel size has declined from 47 acres in the mid 1950s to approximately 12.8 acres today. During that period, the number of forest owners has jumped from 44,000 owners to over 108,000 owners. This trend toward increased forest fragmentation has had a profound impact on the functionality and integrity of the state's forests. In short, it is not simply about acreage; it is also about quality and functionality. The state lacks practical land use policies to address the explosion in urban expansion. The state also needs to offer greater economic incentives to own and manage forestland.

The result of these trends can be seen in an increasingly dysfunctional ecosystem, limited hydrological function, severely restricted capacity for regeneration, and declining genetic and biological diversity. We cannot merely delineate our forests by aggregating our trees. We must focus on long term functionality and health. Although we will never stop forest fragmentation and cannot turn back the clock, we must begin to identify critically important forestland and provide permanent protection.

Taxes are a prime concern to those who stand to inherit the forest. Sixty percent of the children of today's forest owners are not involved in the land—and 60% of those who are not involved indicated that they have no interest in involvement. Not surprisingly, those who will inherit the forest view the land largely as an asset measured in terms of monetary value which can be commodified, leveraged, and liquidated for financial gain. This creates risk of change to nonforest uses.

The critical question to ask is whether a law enacted in 1963 is relevant when healthy functioning forests are at risk of fragmentation and parcelization. Perhaps a more effective approach would be a better fit for Connecticut's circumstances today.



PANEL 1: STAKEHOLDER'S PERSPECTIVES

William R. Bentley
Principal, Salmon Brook Associates

While forestland owners know how to generate investment returns from timber, they do not understand how other values, such as conservation or ecosystem services, benefit them. Working forests are often a way to maintain open space; a better understanding of these other values will help encourage more forest owners to manage their lands. To put the importance of forested vs. farm open space in perspective, there are six times as many forest landowners in the US than there are farm owners. In Connecticut, 84% of the commercial forests are privately owned by over 112,000 owners. Virtually all of these are held in small parcels.

Today, the growth of CT's forests exceeds removals by approximately 2:1. However, it is important to understand that nearly 40% of removals in Connecticut are for land-use change and not "conventional" harvests. The forests tend to be between 80-100 years with very little forestland classified as early successional forest.

Using Granby, Connecticut as an example, forest fragmentation continues at a rapid pace largely because of its location between Hartford and Springfield. Open space is major issue in Granby despite the 4,400 acre McClain Wildlife Refuge and some state and town forest lands. The fact that the town maintains conserved forestland is the result of a few key, visionary people. For example, Senator George McLain, who wrote the first migratory waterfowl act, established a Trust through his will that funds the McLean Refuge for use by the citizens of Connecticut. Most of the nearby state forests are the result of similar forward thinking.

Public Act 490 is critical to preserving open space, but the generational transfer of property may lead to development. Some landowners, including the speaker's in-laws, have donated conservation easements or sold lands at bargain prices. Such transactions help open space over

the long term. In addition, stewardship plans can be implemented to maintain the health of the forest while ensuring enough timber income to pay for other desired values and services.

The citizens of Connecticut often rely on land trusts to preserve open space. However, the long term viability of land preservation rests on vibrant working landscapes that maintain the aesthetic character of the state's rural landscapes, provide a lower cost mechanism for preserving land than public ownership, and contribute to the local economy. Unmanaged preserves are expensive to acquire and do not promote the rural character of our state. At the same time, local towns do not have the funds to purchase desired acreage for open space. Private ownership in working forests and farms is much more efficient and effective means of maintaining open space.

Support for forest owners exists throughout the state, including the forestry extension programs with the University of Connecticut, the American Forest Foundation Tree Farm Program, the USDA's Natural Resource Conservation Service, the Connecticut Department of Environmental Protection forest stewardship programs, and the Connecticut Forest and Park Association, a private non-profit organization.

The timber value of forests is easy to see and to quantify. Increases in imber values result from physical growth, changes in log quality, and changes in real value per unit volume over time. Social values, however, are difficult to quantify. To date, we have been unable to adequately compensate forest landowners for the ecosystem services embedded in their land, such as clean air, water and open space. Beyond regulation and tax incentives, we need a social contract that provides institutional mechanisms to keep open forested landscapes. We must also ensure these mechanisms are long term, creating incentives for proper stewardship.

Frank Chiaramonte
First Selectman, Town of Harwinton

Harwinton, Connecticut is the oldest town in Litchfield County. It has 5,500 residents across its 32 square miles. There is one state forest in the town owned by the Connecticut Department of Environmental Protection (DEP).

The local government is a big proponent of open space. Although the town would like the DEP to increase its holdings through incremental purchases that come up for sale, the DEP does not have the money to commit to large scale and more regular land acquisition. While the town engages in its own land acquisitions, it is often unable to compete in private transactions and lacks funding to meet its own goals.

As a result, the town relies on and utilizes other mechanisms to meet conservation needs. The town is involved in the Naugatuck River Greenway Project. Within Harwinton, the town land trust has acquired over 220 acres. In addition, the town has begun to work with the Trust for Public Land to purchase acreage on the market. However, in some cases, landowners would rather sell directly to the town than to a conservation organization. This continues to be a local challenge.

Melissa Spear
Connecticut State Director, The Trust for Public Land

The Trust for Public Land (TPL) is a national conservation organization whose mission is land for people. This includes traditional conservation preserves, working lands, and urban landscapes. When people are given access to open space, they are better able to recognize and appreciate what protected lands do for them and their communities.

TPL has been in Connecticut for 12 years and in that time has protected 7,000-8,000 acres. Currently, TPL is involved in 2,000 properties that are "in play". The organization pays close attention to tax incentives for landowners since these programs often drive landowner decision making. Currently, TPL is working with Working Lands Alliance to promote a legislative effort to create an individual tax credit for donated and bargain sales land in Connecticut. Having worked in the 12 other states currently offering individual tax credits for land conservation, the organization believes that this can be a significant motivator for landowners to donate or sell their land at bargain prices.

There are three mechanisms currently working in Connecticut to promote forestland preservation. The first is Public Act 490. Nearly all of the land TPL is working on falls under 490. While this is important for forestry, it is also critical for working farms. Without tax incentives for working farmers, many farming operations would not be economically viable. For example, in Connecticut, a 100 acre farm under Public Act 490 would have a tax deduction to approximately $500 from $3,000. Despite the importance of Public Act 490, there is a lack of information about lands under the act, particularly farmland. At the same time, there is also little aggregated information about suitable land outside the Act.

The second critical mechanism for promoting forestland preservation in Connecticut is the tax credit system. Currently this exists as a corporate tax credit in the state. Corporations who donate land can claim a tax credit up to 50% of the fair market value of the donation over a period of 15 years. Unfortunately, this tax credit system does not extend to individuals who donate land. TPL has proposed an individual tax credit. As an organization with expertise in conservation and real estate, TPL seeks to facilitate transactions from the private sector to the government or land trust by representing both the land owner and the town, as well as various other stakeholder perspectives. TPL's individual tax credit proposal calls for a tax credit of 50% of the fair market value (similar to corporations) but capped at $350,000 per individual. At the state level, tax credits would be capped at $10 million per year. This proposal is not without merit. In North Carolina, a conservation tax credit for individuals was implemented in 1980. They have since seen 80,000 acres go through the program as donations or bargain sales at a total cost of $40 million. The fair market value of land protected through this mechanism is $165 million, suggesting this program has been quite cost effective. TPL's experience with these bargain sales suggests that it is often the tax credit which pushes the "deal" over the hurdle to completion. Such a program in Connecticut would likely increase the number of landowners interested in donating land for conservation purposes.

The last mechanism in the state is property tax relief. Connecticut is unique in that towns have individual autonomy in the way taxes are raised and spent. This local autonomy extends to the sale or donation of a conservation easement. In a typical conservation easement structure, a landowner selling or donating 80% of the land value would theoretically only be taxed on the remaining 20%. While this is the case in some towns, it is not universally or systematically applied across the state. In fact, many towns still levy taxes on the full land value or HBU (highest and best use) value.

The continual challenge in Connecticut, much like any other state, is finding sufficient funds to support program goals. For many land conservation deals, public funding is critical. Often, however, conservation commands a lower priority in state budgeting, particularly during difficult economic times. Currently, total public funding in Connecticut for conservation is $25 million. Given land in Connecticut

costs an average of $8,000/acre, this does not create many opportunities for conserving land, particularly in relation to the current land at risk.

While Governor Rowland was a strong proponent of open space, total state funding has dropped since his administration. This has pushed the burden onto the shoulders of local municipalities who have had to step up their funding of projects in order to fill that gap. TPL has assisted local governments in bonding initiatives for open space. Although this increases the local burden on residents, more and more municipalities are recognizing the need for residents to pay for the positive externalities that open spaces provide in the form of ecosystem services, from recreation to water quality/quantity. These are services which residents consume but, to date, have not paid for commensurate with the benefits they yield.

Historically, the state has shied away from programs that have been very successful elsewhere. For example, in New Jersey, a portion of the sales tax revenues are allocated to open space purchases. Proceeds from the sales tax can be securitized by issuing a revenue bond that is backed by the sales tax and used to purchase open space, even at levels that exceed any one year allocation from tax revenues. However, in Connecticut, there is a strong cultural belief that such a structure would essentially serve as a regressive tax. Other states have levied a conveyance tax to create a "war chest" for funding open space purchases. Again, however, in Connecticut, there is strong opposition, particularly in the homebuilding community, which is vocally opposed to a conveyance tax.

This year, for the second time in two years, a coalition has tried to pass a Face of Connecticut Initiative to earmark $100 million per year to open space, farmland and historic preservation over the next ten years. They are hoping that a line item will be put in the budget. If successful, this would be a huge victory for open space preservation, particularly on lands that have multiple values (i.e. historic, conservation, working lands).

One tax that has been a success for the state is Public Act 228, or the Community Investment Act. Under this act, a $30 recording fee is assessed for every document filed on municipal records. The revenues from this fee are split by four agencies: Department of Agriculture (for farmland protection), Department of Environmental Protection, the Housing Finance Authority, and Commission on Culture & Tourism. This has generated about $5 million per year for open space preservation.

And yet the assault on tax incentives in Connecticut continues. This is particularly acute at the local level. Town tax assessors control the administration of Public Act 490. Typically, these assessors have two year terms. With each new tax assessor, there is a risk that any property may lose its 490 status if the assessor feels the property owner is not complying with the regulatory framework. The appeal process is cumbersome and lengthy. Given all of the budget pressures and competing interests in the individual towns, it is not surprising to see some towns become a bit overzealous in rescinding Public Act 490 status on certain properties.

In one interesting case, a land trust in Bridgeport was sued by the tax assessor who claimed that its tax exempt status was in jeopardy due to the fact that the land trust owned an island that was under water during a portion of the tidal cycle. Despite the fact that the island serves as a critical habitat, the assessor argued that it was not fulfilling its educational or public use requirement. This example highlights a gap in the current statute that puts at risk any property owned by a land trust that is not in active use.

Discussion Summary

Following is a summary of the panel's responses to questions raised by the audience.

How does one prioritize land for preservation?

(Chiaramonte) The town of Harwinton focuses on land abutting state forest or land that abuts existing conservation or land trust properties. (Spear) Every town is required to have a conservation and development plan, including an open space plan. Conservation commissions, appointed by the Boards of Selectmen, prioritize what land should be protected, often on a parcel by parcel basis. In applying for DEP funding for open space purchases, one must meet a set of criteria, such as connectivity, water, wildlife, and forest health. TPL implemented a greenprinting program in the Litchfield Hills to model and intersect natural resource benefits and threats.

How are towns protecting working landscapes?

(Spear) There seems to be a focus on simply purchasing land. This is indeed a huge issue. The Working Lands Alliance talks a lot about agricultural viability and the need to sustain an agricultural economy. While farmers markets are important and growing, there needs to be infrastructure to promote locally grown food and to help new farmers buy and establish farms on conserved land. (Bentley). It is important that the local community begins to see forests as working landscapes because it is far cheaper to create working landscapes than to simply preserve them. In Granby, several landowners hold walks and workshops to educate the public on the fact that forests are indeed working landscapes. Land trusts are beginning to recognize the value of working lands and are making greater efforts to secure easements.

How are smart growth initiatives progressing in Connecticut?

(Bentley) Many town Planning and Zoning boards are beginning to look at smart growth as a more rational approach to preserving open space. Such efforts are supported around the state by organizations such as the Connecticut Forest & Park Association, the Green Valley Institute, as well as a mixture of local leaders, practitioners, and land managers. Although clustering will still create demand for services such as schools and roads, the payoff is that it provides permanent conservation. (Spear) The town of Woodstock has just implemented new regulations that require a density plan with a goal to reducing the density to 50% of the standard. The challenge is that many people in rural areas of Connecticut do not want to live close to each other, which makes clustering a difficult strategy to implement.

PANEL 2: A VIEW FROM OTHER STATES

William Horvath
Former Wisconsin State Representative, Wisconsin Woodland Owners Association Representative on the Wisconsin Forestry Council

It is important to understand the German roots embedded in the historical development of Wisconsin legislation and their impact on the forest landscape since settlement by Europeans. Equally, and perhaps more importantly, one must also recognize that despite all efforts to regulate and control the landscape and land use policies, ultimately mother nature may alter the desired outcome.

When Wisconsin was settled, it was a woodland state with the exception of a prairie region to the south. There were large expanses of conifers to fuel the industrial revolution in the United States and to meet the growing needs for railroad ties and wood framed houses. The logging practices of the late 1800s and early 1900s, however, led to a series of severe forest fires, including the great Peshtigo Fire, which was the worst fire in the United States. Ironically, this fire occurred on the same night as the Great Chicago Fire, and burned nearly 1.5 million acres while claiming the lives of 1,500 people.

As a result of this fire, the legislature set out to “correct the mistakes” of the lumber barons. The first legislative response was a constitutional amendment in 1924 setting aside 2/10 of a mill on all real estate in the state of Wisconsin for forestry purposes. Although this met with resistance by many industrial landowners, it has persisted to date and has created an $80 million/year fund to pay for the administration of the forestry division as well as the salaries of 650 employees. This has provided a very stable source of income for state forest management programs.

In addition, largely because of the fires, the state legislature set aside large tracts of land which became the state forests and are now a key

component of the recreational base in Wisconsin. When the depression of the late 1920s and early 1930s drastically reduced the value of "cut over" lands, the state legislature passed another law to allow county government to purchase tax delinquent lands and create county forests. The strength of county government in Wisconsin is significant and is a key difference between Wisconsin and Connecticut. Of the 72 counties in the state, 29 are in the county forest land program and account for 2.4 million acres. These lands tend to be very well managed and often give the counties a significant source of funding.

The University of Wisconsin has also played a key role in the development of forest policies in the state. In an effort to promote the economy in the northern part of the state, the university and the state legislature encouraged cutover lands to be managed as dairy farms. Unfortunately, the climate was not conducive for food production to support dairy herds, and as a result, many farms failed or went into back taxes.

Largely due to its Germanic heritage, Wisconsin has often used regulation to meet state economic goals. Wisconsin had the first rural zoning laws in the US back in the 1920s. The legislature went so far as to relocate landowners who were outside the zone where they could receive basic services. Also during the 1920s, the state passed the first of two forest tax laws, often referred to as the forest crop law. Landowners with more than 40 acres could enter into fifty year agreements to practice forestry in return for ten cents an acre. The second law, the woodland tax law, was enacted in 1952 and focused on 40 acres or less.

The paper industry has also played a role in the development of forestland policies. Many paper mills have been lead promoters of forestry through education including Trees for Tomorrow, a teacher training and student education program. Wisconsin has environmental education rules which require all certified science teachers to have a background in natural resources. Although this has created a barrier to entry for many teachers coming from out of state, the law continues

and has been successful. Wisconsin has also placed a 3 cent sales tax on all trees sold in the four state nurseries in order to fund a K-12 forest education program. This may be the only program of its kind in the US. The state legislature also passed legislation authorizing schools to have school forests. Currently, there are 1,400 school forests in Wisconsin used for forestry and conservation education.

In 1985, the two forest crop laws were brought up to date. At that time, the state had to respond to a growing population of hunters who insisted they have access to hunt on land under a forest related tax break. The legislature compromised and allowed landowners to close their land to hunting provided they had less than 80 acres. Any landowner who refused to open the land for hunting or other recreational uses paid a high tax rate although still well under the non-forested rates.

Today, the present law, the Managed Forestland Act (MFL), taxes forestland at $5.50 per acre. The paper and lumber industries supported this law since it gave them a tax break and continues to promote forestry as a key component of the economic and job base of the state. Since 1985, 30,000 people have signed agreements under MFL, impacting 2.6 million acres of forestland. This has ensured a stable supply of wood supply for the timber industry. About 90% of the wood harvested in Wisconsin stays in the state as secondary product.

While this law was intended to protect forestland, there has emerged a trend similar to that seen in other states: increased forest fragmentation. Wealthy individuals have continued to purchase land for the sole purpose of recreational use, primarily hunting. Today, approximately 362,000 people own forestland in Wisconsin, largely for recreation. Unfortunately, many of these landowners do not properly manage their land and often erroneously believe that a forest left unattended is "natural". Compounding this, since they often do not need regular income, they do not see the advantages of managing the land for wood.

Hunters are also becoming increasingly critical of what they perceive to be unfair tax breaks under the MFL law. Currently, they are supporting efforts to require all MFL land to be open to hunting. This is occurring at the same time hunting leases are becoming more popular in the state, and used on lands that had previously been publicly accessible under MFL. This has tied up a lot of rural land and made it inaccessible to the public, and to hunters who have used the land for generations.

One of the challenges today in Wisconsin is the levy limits currently in place. State and local governments are seeking to increase property tax revenue to meet budgetary needs. Farmers, who are very powerful in the state and well organized under the Farm Bureau, were able to get a tax law passed that reduced taxes on all farmland to 50% of tax value. This has taken a large percentage of potential revenue out of the state's hands.

But perhaps the biggest challenge for the state going forward is the unpopular concept that there are simply too many people for the resource base. There are 5.5 million people on 30 million acres in the state. Out-of-state retirees are putting a lot of pressure on rural land. In response, the state should consider tying MFL to zoning and begin to do a better job of protecting forestland in blocks. While land trusts are helping to protect large undeveloped blocks of land in the state, there needs to a more concerted effort within the legislature.

Donald Van Hassent
Associate Director, Maryland Department of Natural Resources, Forest Service

Maryland faces a number of similar issues as Connecticut in terms of forestland preservation. Both are small states along the I-95 corridor where there are a number of major urban centers with large suburbs that transition into rural areas. In addition, both states have faced significant development over the last few hundred years. In terms of demographics, there are 157,000 landowners in Maryland with an average parcel size of 12 acres (versus 13 for Connecticut). Like Connecticut, the forest landowner base is aging; for example, in the Chesapeake watershed, seventy percent of landowners are older than 55 years old. This is likely to accelerate the trend of parcelization and fragmentation over the next decade. Most landowners do not see timber or other natural resources as a priority for owning forestland. Although there are opportunities for attractive returns in forestland, the interest is quite low.

The forests themselves are quite similar. Trees tend to be older with low seedling and sapling populations. Despite the fact that satellite imagery shows large acreage of forestland, much of that land has houses under the canopy, which means that the land does not function as open forest.

There are several tax incentives in the state, however, to maintain forestland and engage in sustainable management practices. There are two primary programs and one more informal program for landowners. The first is the Forest Conservation Management Agreement (FCMA). The FCMA program requires a five acre minimum (versus 20+ acres in other states). These acres must be contiguous and cannot be composed of smaller parcels. This is a fifteen year legal agreement recorded in the land records. It is inspected every five years to ensure adherence to the written forest management plan.

Under the FCMA, land is valued at $125/acre. A tax rate is then applied on top of that which varies by county, from $0.80-$1.00 per $100 of assessed value. The state runs the program through the Maryland Forest Service in conjunction with the Department of Assessments and Taxation. There is an entry fee of $50 or, in larger parcels, 0.22% of the assessed value. An inspection fee of $100 or 20% of the program entry fee is charged every five years. There are penalties for violation, and while it does not happen very often, the back taxes levied as a penalty for violation can be very expensive for a landowner. However, given the recent rise in land values, the penalties for violation may not be high enough to deter landowners from taking their land out of the program.

The agreement can be amended if, for example, a landowner needs to sell a portion of the land to meet income needs. The agreement can also be transferred, which is significant given the average land ownership tenure in the state is 12 years.

The second program is the Woodland Assessment Program (WAP). This second program falls under agricultural assessment rules since forestland in Maryland is considered an agricultural use. While there is still a five acre minimum, there is no minimum length of time required to stay in the program. Landowners must follow the stated management plan. In Maryland, properties are reassessed every three years. If a landowner participates in the WAP program, there is a requirement every three years to provide a letter to the tax office from a licensed forester verifying that the land is in compliance. Without a letter, the land is reassessed at its HBU (highest and best use) value although there is no back tax penalty.

The benefit of this program is that the land is assessed at $187.50 per acre. However, it is subject to the agricultural transfer tax. If the land is sold within four years of reassessment, a transfer tax is levied at a scaling rate of 5% of the sale price for more than 20 acres, 4% from land between 10-20 acres, and 3% for land less than 10 acres.

The third program falls under a category the state calls “Associated Land”. Associated land is typically forestland that is too steep or too wet to farm yet is part of an active working farm. This land is eligible for an agricultural assessment that is slightly less than the rest of the property but is not at the lowest rate possible. For example, it might be at $250/acre versus the WAP rate of $187.50.

There is one final program that the state has not yet funded. It is part of the Maryland Agriculture and Resource Base Industry and Development Council (MARBICO), which is a product of the state’s economic development efforts. Operating as a quasi-government agency, it receives state funding and extends loans to agricultural and forestry enterprises for improving operations and upgrading equipment. Known as the Sustainable Forestry Emergency Loan Fund, this program is designed to give landowners an alternative to cutting their wood too early or selling part of their land to cover taxes. Participants in this program must have previously been turned down by a conventional lending institution and must adhere to a forest management plan. The terms of this loan are up to 10 years, with a 2% interest rate, a 0.5% origination fee, and principal repayment deferred for the first year. During the repayment period, landowners are precluded from selling their land for development.

"It is far more beneficial to use local wood cut under high standards for local purposes than to import the wood from abroad where harvesting methods are unknown and perhaps less sustainable."

— Robert O'Connor

Robert O'Connor
Director of Land and Forest Policy, Executive Office of Environmental Affairs, Commonwealth of Massachusetts

Like Maryland, Massachusetts has a lot in common with Connecticut in terms of forestland and ownership patterns. Of the three million acres that are forested, 2 million are in private hands. There are approximately 293,000 land landowners in Massachusetts. Although the average parcel size is seven acres, there are 31,000 landowners who own 1.8 million acres.

Like Connecticut, Massachusetts is facing a real threat from fragmentation. Research conducted by the Harvest Forest shows that in the less developed region of north-central Massachusetts, over the last 15 years areas unfragmented forest land has dropped from 1,100 acres to 800 acres. The last forest inventory indicates that 75% of current forestland is within a quarter mile of development. Industrial forestry is also experiencing a difficult time with about one third of the mills in the commonwealth shutting down in the last 10-15 years. Working forests are dwindling as very little formal harvesting taking place. Only about 15% of the land in Massachusetts is in the Current Use Forest Tax Law Program. Known as the Chapter 61 program, only about 5,000 landowners, representing 300,000-400,000 acres, are enrolled. This contrasts with a 65% participation rate of forest landowners in New Hampshire.

Recently, the commonwealth has revamped this law to make it more landowner friendly and encourage greater participation. Looking at some of the programs that have worked elsewhere, Massachusetts has identified several common goals with other New England states. Working with various stakeholders including landowners, conservation groups, state foresters, municipal leaders, and recreational users, the commonwealth has recognized and promoted the notion that working forests do indeed protect open space.

One difference in Massachusetts current use law is that the town has a right of first refusal if a landowner leaves the program and solicits offers for sale. This is in addition to any back taxes that might be owned as a result of land reclassification. If a landowner receives an offer, the town has the right to match the offer for up to one year after a landowner leaves the program. This has been a significant avenue for towns to be able to pick up land, albeit at fair market value. The revamped law has better defined this rule by more clearly articulating what is a "bona fide" offer so that towns can better value any contingencies added to an offer. This was due to several court challenges to the interpretation of a bona fide offer. It is important to note that the town cannot use the right of first refusal to build an athletic field or school; it must be used for conservation purposes.

Another change in the current use law relates to the 8% stumpage tax that went to the town following a timber sale. This was removed as well as an application fee in order to make it more attractive to working forest landowners. In addition, the forest value had been based on 95% reduction in the taxes that would have been paid on HBU values. However, landowners in the eastern part of the commonwealth felt that this was too expensive particularly for heirs who could not afford the tax upon inheritance. Now the taxes are based on the value of the land for forestry or farming purposes, not based on a discount to HBU.

The prior tax program had a variety of different look back tax calculations for properties leaving the program, from five to ten years with different types of interest rates. This was simplified to a five year look back upon exiting the program. Although Massachusetts stands to lose a variety of revenues from penalties as well as the stumpage tax, there is a consensus that the simplicity of the programs create a better incentive to preserve forestland.

There is a conveyance tax within the program, but it is only for the first five years. Designed to deter speculators, the conveyance tax rate is reduced each year before disappearing after year five.

While it is too early to determine whether the changes to the tax law will generate more interest by landowners, stakeholders are generally satisfied with the more streamlined process. Now, the commonwealth is looking at various other incentive programs. When the Federal Forest Stewardship Program ended last year, the commonwealth offered to pay any landowner the full cost of a stewardship plan. Mass mailings were sent to 16,000 landowners. Of these 750 people signed up and completed the plan. Two thirds of these went on to join the current use program. Since the current use plan requires a management plan, enrollment in the forest stewardship program helped landowners fulfill one of the key obligations of the current use plan. This program is now being extended.

Massachusetts is also considering using the Forest Stewardship Council (FSC) certification program in tandem with the current use program. The commonwealth had the first public tract of land (Quabbin Reservoir) certified under FSC. Then in 2004, all the state lands were certified. Also in 2004, a woodland owners cooperative was certified under FSC, partly as a marketing tool. The commwealth would like to offer landowners an ability to join a green certification scheme if they are part of the current use program. Massachusetts has allowed an FSC audit to determine whether the current use program rules would meet the requirements to allow landowners such a designation. As part of the commonwealth's efforts, they have hired a green certification forester to oversee the program. While the certification program has helped the state to attract $2.5 million in additional funding and helped to improve their program management, it is not known today whether landowners will sign up for the certification option.

The commonwealth is trying to launch a "one-stop shopping" landowner incentive program with $1.6 million in funding over the next two years. One of the programs would allow a landowner to sell carbon credits on the Chicago Climate Exchange if the land is under a third party certification program. Under this program, the commonwealth will pay for the cost of the carbon audit. Another program includes estate planning services. The landowner could apply for a grant from the state to implement estate planning, including forestland ownership succession. Finally, there is a pilot program where the commonwealth would fund business planning for a small forestry operation and extend an additional grant of $20,000 to implement the plan.

Although the commonwealth believes there are significant long term benefits to helping landowners realize ecosystem service benefits embedded in their lands, there is still some skepticism regarding the extent of true preservation. As a result, Massachusetts is requiring easements or other similar agreements in exchange for participating in the program. So far, it has funded seven forest business grants at $20,000 each. For this, they have extracted 20 year easements on 515 acres.

In broader initiatives, Massachusetts is trying to work on other tax incentives for farming and forestry businesses that would be a mix of grants, loans and investment tax credits. Specifically, the commonwealth would like to give state income tax credits to landowners who employ a consulting forester to write a management plan. The state is hoping that this is promoted and marketed by both foresters and tax preparers.

Overall, the commonwealth hopes to further advance the ecological and economic benefit of working forests. Until recently, Massachusetts had more land trusts than any other state, yet only a handful actually engage in formal forest management on their land. Only 700,000-800,000 acres in Massachusetts are harvested as part of the state cutting practices act. The commonwealth would like to see this increase. It is far more beneficial to use local wood cut under high standards for local purposes than to import the wood from abroad where harvesting methods are unknown and perhaps less sustainable. It is also critical to link people to the land so that they understand the source of wood products and appreciate the benefits of long term stewardship.

PANEL 3: OTHER INCENTIVE PROGRAMS

Tom Tuchmann
President, US Forest Capital

While public money exists to fund conservation finance projects, it is limited. It is far more productive to tap the larger pool of private capital in order to accomplish conservation goals. US Forest Capital is an organization that uses private capital markets, private equity and public monies to leverage large-scale conservation acquisitions.

Conservation finance is an investment whereby a portion of a property's financial values, whether it is development, timber harvest or other values, are set aside by private financing. This financing approach is in contrast to an ecosystem services approach discussed later in the panel. Unlike ecosystem services, which are centered on selling revenue streams from a property, financial vehicles allow someone to acquire forestland at lower costs of capital. This lower cost "buys down" a conservation value such as development rights, riparian buffers, alternative silvicultural practices, etc.

In addition to traditional financing tools, there are various other vehicles that one must understand before undertaking conservation investment. For example, one might consider a private/non-profit structure, private sector funding, or government funding. There are also several quasi-government/private financing tools which allow not-for-profit organizations or municipalities to have access to lower costs of capital. These are typically distributed through some kind of government sponsored issuing authority although this is not necessarily required. It is important to consider hybrid structures, or a combination of public and private capital for a particular forest conservation deal, rather than simply a private debt or public financing structure. Hybrid deals will often allow participants to raise more money and fund a greater level of conservation than what would have been allowed otherwise.

To complete a conservation investment, US Forest Capital first assumes one must pay fair market value for a property. The merits of each deal are considered individually without a boilerplate, predetermined financing structure. There are several steps to consider. First, US Forest Capital assesses how it can bring true equity to the transaction, i.e. bring in private investment in timber with a commercial hurdle rate. Second, the organization determines how conservation equity can be used. This capital, whether it is from a public, philanthropic and/or not for profit organization, comes at little or no cost of capital. Third, US Forest capital determines the most appropriate role debt should play. Debt can take a number of different forms from general obligation bonds on the back of the taxpayers, to debt backed by the revenues of the funded activity or project. In this way, US Forest Capital seeks to ensure the project itself services the money being borrowed.

US Forest Capital has created Community Forest Bonds to leverage timber returns by allowing landowners to borrow off timber or other natural resource revenue streams to acquire lands. US Forest Capital looks at revenue bonds, rather than taxpayer-backed debt to fund a deal. The organization then helps to blend each financing component, private equity, conservation capital, and debt, to fund the acquisition and preservation of a forest resource.

There are both advantages and disadvantages to using debt. One advantage is that it allows one to leverage both public and private money. In other words, if public funding sources are $2 million for a particular project, and the project can borrow an additional $4 million backed by the timber revenues, then a $6 million asset can be purchased with only $2 million of public financing. A second advantage to using debt is timing. Unlike Forest Legacy Program transactions which may take two years to secure funding, debt can be issued within three to six months. A third advantage of using debt is the ability for a project to utilize alternative governance structures. Interested individuals can create nonprofit forestry organizations while many municipalities can

create community forest authorities. These groups are then able to borrow using municipal debt (which is more attractive than commercial debt) and use the timber revenues as collateral. The disadvantage, however, is that the project usually needs to be of sufficient scale (i.e. at least $10-15 million) to make the transaction costs bearable for debt issuers to have an nterest.

As part of its overall effort in creating attractive financing opportunities for conservation and working lands, US Forest Capital has been working with Congress to pass the Community Forestry Conservation Act, which would allow municipalities and private nonprofit organizations to borrow at tax exempt revenue bond rates. Such financing would allow these organizations to borrow at lower rates so long as a conservation easement was placed over the property. Tax exempt debt is not a new structure and has been used over the last century to fund other activities, such as hospital construction. It is now being considered as a financing option for forests. While the Act individually passed both the House and Senate numerous times, it has not been successfully included in a conference report. US Forest Capital will be leading an effort to assure its successful passage in the 111th Congress.

Konstantine Drakonakis
Manager of Investments and Infrastructure Development, Connecticut Clean Energy Fund

"Investing in new biomass energy technologies has the capacity to breathe new life into the lumber mills of Connecticut."

— Konstantine Drakonakis

The Connecticut Clean Energy Fund is administered by Connecticut Innovations. Its primary mission is to install renewable energy into the grid for the benefit of the ratepayer. Today, utility bills include a surcharge to help the state fund its clean energy program.

There are three goals of the fund. The first and largest is the installed capacity program which focuses on bringing renewable electrical generating capacity to the existing grid. Eighty-five percent of the fund is geared toward achieving this goal. Most of this is geared toward onsite distributed generation, including projects under one megawatt of capacity, and focuses on all types of renewable energy, including biomass. The only caveat is that combustion technologies cannot be used in a project. Any renewable energy project must use advanced low emission technologies.

The second goal of the fund is to invest directly in emerging technologies, largely those which are pre-commercial. There are currently several programs in place including an operation demonstration program for beta stage technologies– one being a biomass gasification project located at a sawmill in North Canaan. In addition to the operational demonstration program, the Fund also engages in early stage venture capital investments to support emerging cleantech companies.

The third goal of the fund is to stimulate the voluntary market to adopt renewable energy. All three goals work together to stimulate interest, support the renewable energy market, provide grants, and invest directly into new technologies.

Project 150 is a program under the first goal which refers to the creation of 150 mw of installed renewable energy capacity. Currently, there are two biomass projects under this initiative in Plainfield and the Waterbury

area, totaling 16 mw. These projects have been approved by the Department of Public Utility Control and have purchased power agreements (PPAs). They are now undergoing the permitting process. The Connecticut Clean Energy Fund is watching to see how the economics of these projects play out over time. The fund is interested in how Connecticut's managed forests, lumber mills and transfer stations might contribute to an aggregation model to service these facilities. Initially, the project used a 100 mile radius around the project sites to determine feasibility and hauling costs. A study concluded that 75-100 mw of installed capacity could be feasible for the state although this number may be reduced as fuel/hauling prices continue to rise. As it becomes more expensive to haul wood, the radius shrinks, leading to a reduction in biomass facility size.

As a result, it is reasonable to conclude that the most attractive economic use of biomass facilities is in the form of smaller cogeneration projects. For example, the project in North Canaan is a 320 kilowatt cogeneration project at Talon Lumber. There are two components to this facility: a finished down draft gasifier coupled with a German designed generator to produce electricity and a hot water distribution system. Combining this with a water blanket, the unit takes in waste wood chip products, gasifies the feestock into a syngas which is scrubbed of its tars and any other byproducts before it is run through the engine to produce electricity. When this unit was conceived, it was considered very innovative as it captured low value waste heat which could be used to run a kiln, drying wood, and thereby reduce operating costs. To date there have been some delays in the project due to problems cleaning up the gas and creating too much carbon or coke buildup. Once the facility installs more traditional scrubbers, however, it will be operational.

The Connecticut Clean Energy Fund believes that investing in new biomass energy technologies has the capacity to breathe new life into the lumber mills of Connecticut. The fund offers various rebates and grants to buy down capital costs for installing renewable energy capacity. For example, a biomass facility of the size described could get an

upfront grant of $1.6 million and then receive a $3.30 rebate rate to upgrade the facility to one megawatt. On top of this, the operator would get heat savings from the cogeneration as well as Renewable Energy Credits (RECs). One REC trades at approximately $40-60 per mw. For a 500 kilowatt plant, a REC would be generated every two hours. In one day, a plant could generate 12 RECs equating to $600 per day, or $18,000 per month. Plants operating 10 hours a day for five days per week would also be able to sell the power generated on the weekend back to the grid for further savings. These initiatives are a key component of the fund's mission and hopefully will create incremental interest and demand for renewable energy, including biomass.

"Fragmentation is one example of long term public trade-offs for short term public and private gains."

— Dan Spethmann

Dan Spethmann
Manager of Investment Programs, New Forests, Inc.

There are many competing interests for forestland with both short and long term implications. Fragmentation is one example of long term public trade-offs for short term public and private gains. Society needs to understand the long term economic outlook for environmental services in order to maintain the health and proper functioning of our lands. Shifts in ownership structure have been driven by the tax code as C Corporations have divested lands and transitioned the ownership structure to private interests, including Timber Investment Management Organizations (TIMO). Many of these interests have planning horizons of 15 years as opposed to prior 50-60 year planning horizons. As various stakeholders compete for different land uses, it is important that there is a mechanism and a level playing field for long term stewardship.

There are a number of ways for forestland preservation to compete with other uses. First, there is the simple model of paying for land and utilizing public funding. Unfortunately, as the economy continues to sputter, the amount of available capital to fund traditional purchasing of land will likely shrink. Second, one can take the approach outlined in an earlier presentation to fund purchases with debt, such as community forest bonds. The third way is to utilize ecosystem markets. These include water, mitigation, carbon and biodiversity. Most of these markets are in the early stage of development creating a tendency for stakeholders to lump them together. However, these markets are all quite different and in different stages of maturity.

Forestry will likely be a difficult project type within carbon markets due to complexities associated with demonstrating additionality and permanence. While the Regional Greenhouse Gas Initiative (RGGI) in the Northeast allows carbon credit generation from afforestation and reforestation, it has been more difficult to reach a consensus on allowing avoided deforestation projects. In addition, the transaction costs are very high for landowners. Plus, certain programs, whether it be Forest Legacy or carbon credits may not allow landowners to sell multiple revenue streams on the same property. For example, lands held in the Forest Legacy Program cannot be managed for carbon credits since carbon credits are viewed as part of a "regulatory market". As such, proceeds from sale of credits in a regulatory market are perceived as federal dollars, which are not allowed to be stacked on top of other federal grants such as the Forest Legacy Program.

This makes it less economically attractive to tie up the land in the expectation of potential future market development. Some of the transaction costs can be alleviated, particularly for smaller landowners, by forming cooperatives. Cooperatives also have the added advantage that they create a mosaic of stewardship and conservation plans. But the future is uncertain as many landowners take a wait and see approach.

Today, many transactions are boutique in nature and not indicative of a "real" market. Some transactions may also have unintended consequences. For example, there is significant pressure in the middle prairies to grow and harvest corn for ethanol. As land is transferred to corn ethanol production, land that had been sequestering carbon for centuries is suddenly changed in use leading to high carbon releases that are intended to, ironically, increase cleaner energy sources. Organizations such as Ducks Unlimited are becoming more involved in purchasing conservation easements so that this long lived carbon stored on the land can remain sequestered.

WORKSHOP SUMMARY

On April 29, 2008, a group of landowners, practicing foresters, policymakers, financiers, and academic professionals met to review Connecticut's current tax incentives and to make recommendations on ways to improve state programs for promoting forestland preservation and working forests.

Several recommendations emerged from the workshop, from enhancing the current tax laws, to promoting economic development, to exploring new revenue streams for landowners. During the workshop, there was widespread support of current tax programs, particularly Public Act 490, as well as recognition the unique role Connecticut's municipal entities play in implementing the program. Participants agreed that working within the state's current structure will be a key element to the successful implementation of any incentive program for forestland preservation and working forests. Together, the recommendations below are designed to reflect the diverse interests of all stakeholders while promoting self-sustaining programs to preserve open space in Connecticut and enhance the economic benefits of its natural resource base.

Support Existing Tax Laws While Responding to Today's Land Use Challenges

The workshop participants strongly agreed that tax incentives, such as Public Act 490, are an effective tool for preserving open space. Significantly altering this law or its intentions is not a viable option. However, the law was passed in 1963 when demographic, economic and land use conditions and pressures were quite different from current conditions in Connecticut. Forest fragmentation, urbanization and population density has increased, creating the need to expand incentives for smaller landholdings as well as those contiguous to existing larger parcels of open space. Options include:

(1) Expand the program to include parcels under 25 acres (without creating further pressure to fragment landholdings)

(2) Include parcels that are in-holdings or adjacent to currently undeveloped land

In addition, there is a need for greater understanding of program participants and their motivations. This will help PA 490 achieve its goals. Options include:

(3) Develop a more systematic and detailed knowledge of who participates in PA 490 and why

This would give policymakers needed insight into the reasons why certain landowners choose PA 490 and why others may not participate.

(4) Require town assessors to report all parcels greater than 10 acres

This would help the state to build a database of landownership trends to aid in education, outreach, and tracking land use patterns in the state.

(5) Create incentives to encourage a longer commitment period by forest owners in the PA 490 program

It is important, however, to not simply create stiffer penalties for withdrawal from PA 490. This may create a disincentive to participate and be a deterrent to new landowners considering the program.

Recognize the Unique Role of Connecticut's Municipalities

While the state develops and recommends use values every five years in Connecticut, many towns establish their own use value in assessing forestland at the local level. This leads to uneven application of PA 490 among towns and gives local government wide authority in assessing and promoting open space. Recommendations include:

(1) Amend PA 490 to require town use of state use values. Towns could then appeal state set use values to the Department of Revenue Service.

Since property tax revenues provide the backbone to fund town budgets, there is often pressure by local leaders to boost tax revenues, which may come at the expense of tax breaks for landowners. To this end, there should be town level incentive programs to encourage forestland preservation. Options include:

(2) Pool forest resources into revenue generating cooperatives. These may be group FSC certified wood cooperatives (with certification costs subsidized by the state) as well as pooled forests for carbon credits.

(3) Engage in greater education and outreach to help local tax assessors understand the wider role of forests beyond simply their participation in the tax base.

Create Incentives Other than Property Taxes by Using Income and Sales Tax Credits

In an effort to balance the effect that lower property taxes have on local town budgets, participants explored the role that other tax incentives can play in encouraging landowners to preserve forested properties and to better manage these lands for both income and ecosystem health.

Few forestland owners in Connecticut, including those who participate in PA 490, consistently adhere to a formal management plan. This is largely due to a lack of awareness. Landowners need to better understand the role proper management plays in maintaining forest health (versus a "leave alone" policy). Steps need to be taken to aid landowners in finding and using a consulting forester and offsetting the costs associated with designing and implementing a management plan. Recommendations include:

(1) Offer income tax credits to landowners who manage their land according to a formal, written plan

(2) Allow income tax credits and/or tax exemptions for timber-related income

(3) Authorize sales tax credits for purchases or upgrades of equipment.

Unlike some other states in the northeast, Connecticut has a relatively small corps of service foresters to monitor forests, educate landowners, and promote forest management. Recommendations include:

(4) Create tax incentives to employ private, consulting foresters

Helping landowners to gain access and utilize professional forestry advice would not only help to improve the overall sustainability of the state's forests and create better oversight of forestland, but it would also support the local economy by creating jobs and income for local foresters.

Recognize the Complementary Roles of Forestry and Farming

Today, a higher percentage of land under PA 490 is used for farming versus forestry. The Connecticut Farm Bureau is a strong organization that has been the leader in advancing legislative efforts regarding open space and working lands. While there are structural differences between a farm and a forest, and while farmland in PA 490 must be managed as a working farm (unlike forests), there is much to be gained by coordinating efforts with the agricultural community. Both working farms and forests help to preserve the rural character of the state while supporting local economies.

(1) Develop a stronger relationship with agricultural stakeholders in the state

This would include forming stronger relationships with such organizations as the Connecticut Farm Bureau as well as local town agricultural commissions. Not only would collaboration between farmers and foresters generate a formidable stakeholder group in the legislature, but greater coordination and information sharing with agricultural interests would also improve knowledge of land use and ownership trends in the state. It may also help to create a more proactive system for monitoring and working with new and existing landowners.

Bringing together the Connecticut Forest & Park Association, the Connecticut Farm Bureau, the Connecticut Farmland Trust and local land trusts could create a potentially powerful and effective land-based coalition with a strong grassroots base. Coordinated action by these groups could have an effective and positive influence on policymaking as well as future action by the legislature in land use laws and incentive programs, and open space protection.

Promote the Role Forests Play in Economic Development

Forests not only provide recreational, aesthetic, water quality, and other benefits, but they also produce important natural resources in the form of wood and wood products. To ensure a healthy and stable economic role for forests in Connecticut, there must be an adequate supply of raw materials along with proper infrastructure to process these raw materials in a cost effective, sustainable way.

The workshop participants identified several steps that can be taken to promote working forests in the state. Since working forests cannot survive without mill infrastructure, economic incentives to purchase, operate and upgrade facilities need to be put in place.

(1) Foster new technology and new products for low grade materials that make harvesting more profitable.

Already, steps are being taken in this direction within Connecticut, including the Connecticut Clean Energy Fund's program to promote biomass technology. This could be expanded. Other recommendations include:

(2) Create programs that help extend small business loans to mills

This will increase the economic viability of mills in the state. It will also help to create secondary revenue streams to mills. Today, most lumber leaves Connecticut as raw logs. Investing in mills will help them to better utilize bark, sawdust and other secondary products. This would not only help support mill operations, but it will also increase the efficiency and utilization of the state's forest resource. At the same time, this would help to reduce mills' over-dependence on housing starts for revenues and the ensuing volatility it creates for sawmill owners.

(3) Offer subsidies to promote "Connecticut Grown" timber products

Promoting the use of timber products within the state has been a very successful program outside Connecticut. Not only would this bolster the local economy, but it would make the state more self-sufficient in utilizing its own resource base.

Aggregate Forestlands to Create Better Scale for Management

During the formal proceedings, panelists highlighted the role community forestry can play in open space preservation and working lands. However, many of these programs work best when there are large numbers of oversized parcels. In CT, where parcels tend to be smaller, transaction costs are higher, not only for conservation purchases of forestland but for owners of working forests. This creates a greater need for pooled resources and lands, and more coordinated management goals.

(1) Towns should explore the creation of local community forests, including town forests.

Pooled forest resources such as cooperatives would generate a more stable supply of income while encouraging smaller landowners to take part. Pooling forestlands would also make purchases of land or easements more attractive given their greater scale, particularly when seeking public money and nonprofit conservation funds.

(2) Allow the aggregation of forests under working forest conservation easements

Such easements could be for a limited term, such as 20 years. Forest owners who agree to participate under a pooled working forest conservation easement would be required to adhere to a formal management plan that ensures both sustainability and productivity. Such easements could not only provide tax relief for participants, but also tax credits for timber produced under the plan.

Engage in Greater Education and Outreach

Many speakers highlighted the need to help forest owners better understand their land. Programs such as PA 490 as well as other incentives are more widely used when landowners have a better sense of the values and benefits their forests provide. This is particularly critical today as many lands will transition to a new generation of heirs, who may have little connection to the lands they inherit or limited interest in goals other than short term returns.

However, this requires property visits by foresters and individual contact with landowners. Currently, there are not enough foresters in the Department of Environmental Protection to address this need.

(1) Implement outreach programs through the University of Connecticut Cooperative Extension – Forestry Program

(2) Help private consulting foresters better market their services in order to connect foresters with landowners and better educate landowners in forest management .

The state could consider a sales tax on landscaping materials to help fund education and outreach as well as seeking federal dollars.

Beyond Taxes: Additional Revenue Streams from Environmental Benefits Provided by Forests

Although ecosystem services are becoming a more widely discussed topic among policymakers seeking to demonstrate and promote the numerous environmental values provided by open space, many of these new markets, including carbon, water, biodiversity, and wetlands are still in early stages of development. Connecticut should continue to explore its role in these markets while recognizing the unique opportunities and challenges posed by the state's land base. For example, in today's emerging carbon market, there may be limited opportunities for Connecticut due to insufficient scale from smaller projects as well as uncertainties surrounding allowing current forests (as opposed to reforestation projects) to generate carbon credits under regional regulatory proposals. Proposals include:

(1) Water fees paid to landowners who keep local watersheds functioning by keeping their land in a forested state

(2) Tax credits or other payments to landowners who provide access to their properties to recreational users

(3) Pooled carbon credit schemes for incremental carbon sequestered in forests

As markets develop, these programs could be expanded, providing a number of income options for landowners to consider beyond simply land sales for development.

Participants

Mark S. Ashton
Morris K. Jessup Professor of Silviculture and Forest Ecology
Director of School Forests
Yale School of Forestry & Environmental Studies

William Bentley
Principal
Salmon Brook Associates

Frank Chiaramonte
First Selectman
Town of Harwinton

Konstantine Drakonakis
Manager of Investments and Infrastructure Development
Connecticut Clean Energy Fund
Currently: Director
LaunchCapital, LLC

William Horvath
Former Wisconsin State Representative
Wisconsin Woodland Owners Association Representative
Wisconsin Forestry Council

Robert O'Connor
Director of Land and Forest Policy
Executive Office of Environmental Affairs, Commonwealth of Massachusetts

Chadwick Dearing Oliver
Pinchot Professor of Forestry and Environmental Studies
Director, Global Institute of Sustainable Forestry
Yale School of Forestry & Environmental Studies

Lawrence Rousseau
Service Forester
Department of Environmental Protection, Western Headquarters

Donald Smith
Former State Forester
State of Connecticut

Deborah Spalding
Yale School of Forestry & Environmental Studies
Currently: Managing Partner
Working Lands Investment Partners, LLC

Melissa Spear
Connecticut State Director
Trust for Public Land

Dan Spethmann
Manager, Investment Programs
New Forests, Inc
Currently: Managing Partner
Working Lands Investment Partners, LLC

Tom Strumolo
Environmental & Energy Consultant
Maplewood Farm

Tom Tuchmann
President
US Forest Capital

Donald Van Hassent
Associate Director
Maryland Department of Natural Resources, Forest Service

References

Bentley, William, Estimating Responses to Forest Management Investments on Connecticut Woodlands: A Simple Model, CFPA Note No. 4, Connecticut Forest & Park Association, December, 2005.

Brooks, Robert T., Abundance, distribution, trends and ownership patterns of early-successional forests in the northeastern United States, Forest Ecology & Management, 185: 2003, pp. 64-74.

Butler, Brett J., Family Forest Owners of the United States, 2006: A Technical Document Supporting the Forest Service 2010 RPA Assessment, US Forest Service, June, 2008.

Flounders, Helene, T., ed., Connecticut Statewide Forest Resource Plan: 2004-2013.

Kittredge, David B., Finley, Andrew O., Foster, David, R., Timber harvesting as an ongoing disturbance in a landscape of diverse ownership, Forest Ecology & Management, 180: 2003, 425-442.

Martin, Christopher, State Forester, Connecticut Forest Resource Fact Sheet, Fiscal Year, 2008.

USDA Forest Service, Northeastern Research Station, Connecticut's Forest Resources: 2005, A USDA Forest Inventory & Analysis Update, April 17, 2006.

Resources for More Information

Connecticut Department of Environmental Protection Forestry Division
www.ct.gov/dep/forestry

Connecticut Forestland Taxation Background Information
www.ct.gov/dep/cwp/view.asp?a=2697&q=322788&depNav_GID=1631

Connecticut Forest & Park Association
www.ctwoodlands.org/

Connecticut Farm Bureau Association
www.cfba.org/

Connecticut Clean Energy Fund
www.ctcleanenergy.com/

The Trust for Public Land (Connecticut)
www.tpl.org/connecticut

University of Connecticut Cooperative Extension Forestry
www.canr.uconn.edu/ces/forest/

US Forest Capital
www.usforestcapital.com

New Forests, Inc.
www.newforests-us.com/

Maryland Department of Natural Resources, Forest Service
www.dnr.state.md.us/forests/

Massachusetts Current Use Forest Tax Program
www.mass.gov/dcr/stewardship/forestry/service/fortax.htm

Wisconsin Forest Tax Laws
www.dnr.state.wi.us/forestry/ftax/

Wisconsin Council on Forestry
www.wisconsinforestry.org/

Town of Harwinton, CT
http://harwinton.us/

USDA Forest Service, Forest Inventory and Analysis National Program,
National Woodland Owner Survey
www.fia.fs.fed.us/nwos/

YFF Review

The *YFF Review* joins the GISF Website as an outreach tool to improve the accessibility of information on issues relating to forestland use and conservation. The purpose of the Review is to inform stakeholders about programs and activities sponsored by GISF. We hope that you will find the information in each *YFF Review* useful and stimulating. For more information visit our website at www.yale.edu/gisf.

The Yale Forest Forum (YFF) was established in 1994 by a diverse group of leaders in forestry to focus national attention on forest policy and management in the United States. The group convened the Seventh American Forest Congress to collaboratively develop and articulate a common vision of forest management to diverse stakeholders.

Since it's founding in 1900, the Yale School of Forestry & Environmental Studies has been in the forefront of developing a science-based approach to forest management, and in training leaders to face their generation's challenges to sustaining forests.

Marsh Hall, home of GISF, on the Yale University campus

The School's Global Institute of Sustainable Forestry continues this tradition, in its mission to integrate, strengthen, and redirect the School's forestry research, education, and outreach to address the needs of the 21st century and a globalized environment. The Global Institute fosters leadership through innovative programs, activities, and research to support sustainable forest management both domestically and worldwide.

In pursuit of these ideals, GISF has developed several programs to carry on the work of the Institute, including the Program on Private Forests, the Program on Forest Certification, The Forests Dialogue, the Program on Forest Physiology and Biotechnology, the Program on Forest Health, the Program on Landscape Management, and the Program in Tropical Forestry.

The Yale Forest Forum is now the convening body of the Global Institute of Sustainable Forestry. Through YFF, the Institute holds events at the Yale School of Forestry & Environmental Studies involving stakeholders from all sectors.

For more information or additional copies of our publications, please contact us at:

Yale Forest Forum
360 Prospect Street
New Haven, CT 06511

Phone: (203) 432.5117
Fax (203) 432.3809
Email: gisf@yale.edu
Web: www.yale.edu/gisf