

**The Quiet Corner Initiative at the
Yale School of Forestry & Environmental Studies**

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Abstract

The Yale School of Forestry and Environmental Studies has embarked on an ambitious effort to conserve the forested landscape of northeastern Connecticut, the Quiet Corner, by engaging private landowners in stewardship and conservation actions. By joining a Woodland Partnership, these landowners become part of a long-term research and management project aimed at maintaining ecosystem health and connectivity and contributing to the rural community viability through ecosystem services markets, renewable energy, and sustainable agriculture. Seven landowners, along a critical water supply stream, signed up for conservation option plans and land management plans the first year. The goal is to increase this to 40 landowners over the next three years, while creating an adaptive management approach to studying social and biophysical changes using a multi-faceted, focused effort in this one region.

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The Quiet Corner Initiative at the Yale School of Forestry & Environmental Studies

Introduction

It may be hard to imagine a “Quiet Corner” in Connecticut, but a drive along route 44 in the northeast corner of the state would make you think you were in Vermont rather than suburban, southern New England. Woodlands dominate the rolling landscape, interspersed with farms, villages, and country roads (figure 1).

Figure 1: The Quiet Corner landscape—confluence of the Quinebaug and Shetucket Rivers

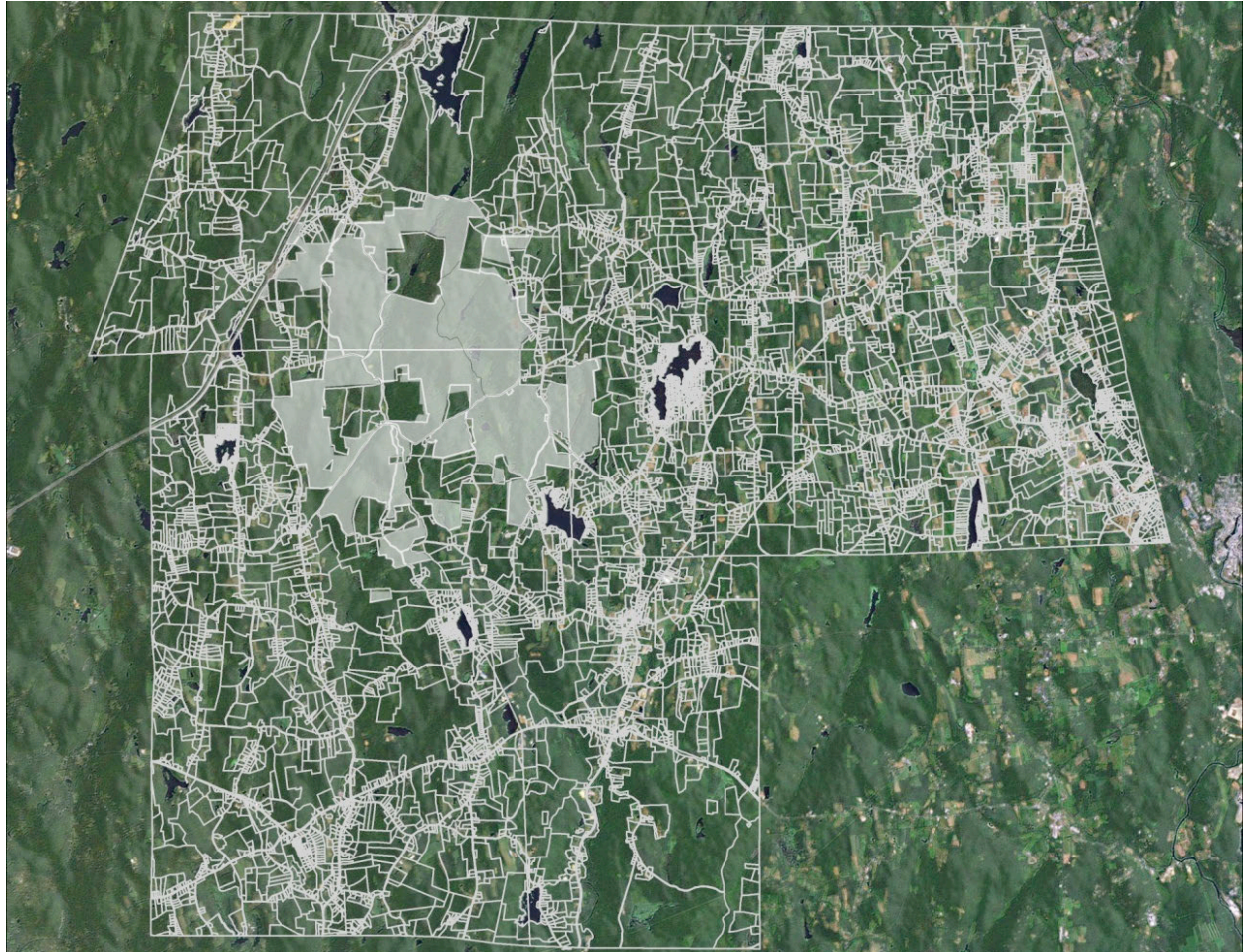


Photo Credit: Leslie Sweetnam, www.glsweetnam.com

Thanks to the early 20th century efforts of the founders of the Connecticut Forest and Park Association, large tracts of intact ecosystems are conserved as state forests (CF&PA 2012). Like much of New England, however, most forests are owned in relatively small parcels by families (figure 2). A remarkable exception is the 7,860 acre Yale-Myers Forest, owned by Yale University and managed as a working forest since 1930 by the Yale School of Forestry and Environmental Studies (Yale FES). Remarkable not only because it is the longest sustainably managed forest in the region, but also because the University has embarked on an ambitious program to create a “living laboratory” where research and education are used to meet the

challenges of fostering healthy, vibrant, rural communities and landscape-scale conservation in the region.

Figure 2: Parcel map of Quiet Corner towns of Ashford, Eastford, Union and Woodstock. The large block near the center is the Yale-Myers forest. The other large blocks are state lands, conservation lands, and private working forests.



Map credit: Richard Campbell, Yale FES

On a cold December day in 2011 seven families, neighbors along the Bigelow Brook, gathered at the Ashford Town Hall to hear about the management plans Yale students had developed for their properties. A seemingly small step, this semester-long effort was a catalyst for getting the Quiet Corner Initiative off the ground. As one landowner expressed it, “We’ve gotten to learn what some of the goals are of our neighbors. Although I know most of our neighbors, we rarely see each other to discuss land use.” Most small landowners don’t have the knowledge or resources to sustainably manage their land (Butler et al. 2007), and even if they do, economies of scale work against them. Thinking about neighborhood- or landscape-level management or conservation is well beyond what most landowners would do without significant support and resources. And they often don’t understand their conservation options. One of the goals of the Quiet Corner Initiative is to enable landowner cooperation where common goals exist, in order to make individual property management easier and more economical.

The Quiet Corner is part of the Thames River Watershed, almost 1900 square miles of rural and forested land in northeastern Connecticut and south-central Massachusetts. An estimated thirteen percent of this land is permanently protected from development, either in the form of public land or conservation easements (Tyrrell et al. 2005). Nested within the Thames Watershed, The Quinebaug-Shetucket Rivers Valley was declared a National Heritage Corridor in 1994, to help with efforts to protect the unique history and rural character of this New England landscape. Known as the “Last Green Valley,” it is one of the last large rural areas remaining in the highly-developed section of the east coast corridor between Boston and Washington, D.C. It is home to the Quinebaug Highlands, a 269 square mile region of mostly privately owned forestland in Connecticut and Massachusetts, identified as one of Connecticut’s Last Great Places by The Nature Conservancy; the privately-owned 4,000 acre Norcross Wildlife Sanctuary in Massachusetts; the Yale-Myers Forest; several state forests; and the Pawcatuck Borderlands, a 200 square mile area of largely contiguous forests along the Connecticut-Rhode Island border.

The region is rich with wildlife and healthy hardwood and coniferous forests. It is one of the last remaining intact forested landscapes in the corridor between Boston and Washington, and shows up as the dark spot in the night lights image (figure 3). These forests provide high value ecosystem services such as wildlife habitat, carbon sequestration, and clean water to downstream communities, including the University of Connecticut’s main campus at Storrs.

Figure 3: NASA night earth image—the Quiet Corner is the dark area circled



Source: <http://visibleearth.nasa.gov/view.php?id=55167>

Although development has abated during the recent economic downturn, previously this largely forested landscape was under pressure from the sprawling metropolitan areas of Boston, Hartford and Providence. The smallest towns in this valley experienced an average population growth of 17% from 1990 to 2000 (Tyrrell et al. 2005) and development has increased in a nibbling sort of way, fragmenting the forest. It is not hard to imagine that this type of suburban development pressure would come back in an improving economy (figure 4). Because so much of the forestland is privately owned, there is no guarantee that unique natural areas like the Quinebaug

Highlands will remain intact or immune to development pressures, and therefore a number of conservation organizations have mobilized an effort to protect this region from development (MASSCONN 2012).

Figure 4: Suburban development in forestland in the Thames Watershed.



Photo credit: Joel Stocker

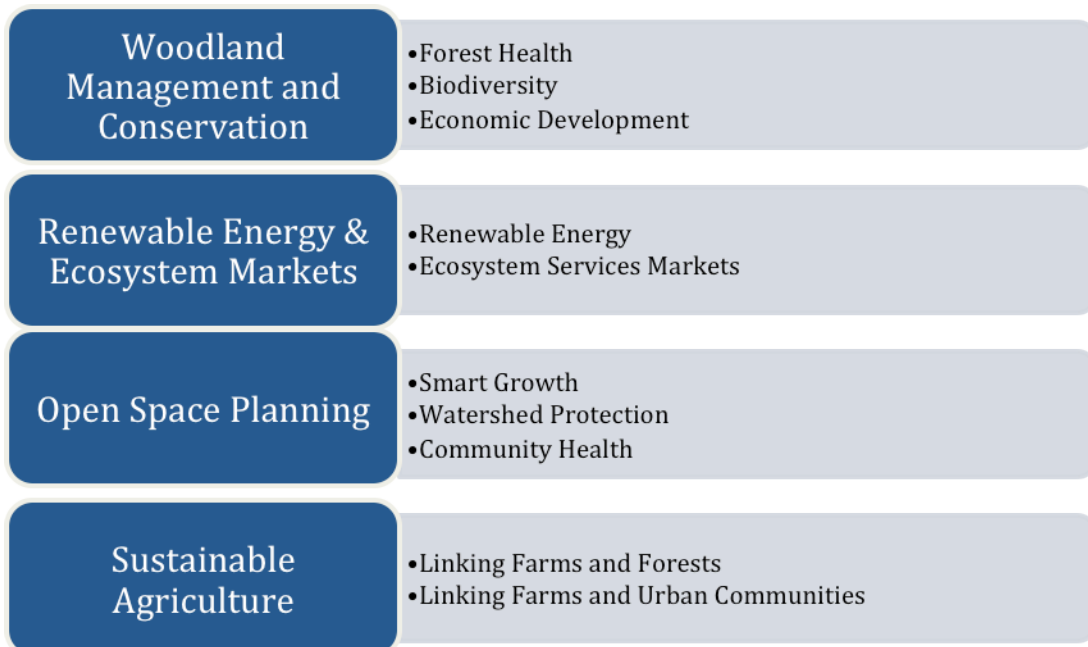
Yale’s Quiet Corner Initiative

Yale’s Quiet Corner Initiative is an effort to integrate the Yale-Myers Forest and the School of Forestry and Environmental Studies more fully into the larger landscape, and to provide research and educational opportunities that address real-world conservation and management problems for students and faculty. It is envisioned as an unprecedented “living laboratory” where research and education meet the challenges of real world situations and where ideas can be tested and refined on the ground. This is a test case of how the University can engage with the local community to bring the best science and management to land use planning and conservation, adaptive land management, appropriate economic development for rural communities, and ultimately lead to stable and healthy communities. It establishes Yale as responsible and forward thinking land steward, with a strong **commitment to the local community.**

As a cornerstone of the Initiative, a partnership was formed for private landowners near the forest. The first steps in the partnership are to develop and implement stewardship plans for these landowners, develop regional conservation strategies and assessments, and assess the public value of ecosystem services provided by private lands, all through a coordinated set of student courses and projects mentored and overseen by faculty.

The broader objective is to develop the first comprehensive repository of **long term, region-wide research data sets** on the biophysical, social and economic indicators associated with adaptive management, conservation and the “science of place” resulting in the ability to track performance of specific initiatives across spatial and temporal scales and providing students an avenue to “learn by doing” while creating a long term research data warehouse. Potential programs include forest management/woodlands conservation, renewable energy and ecosystem services, sustainable agriculture, and open space planning (figure 5).

Figure 5: Programs of the Quiet Corner Initiative



The Yale-Myers Forest is ideally situated to become a hub of research and adaptive management to try out new ideas and foster expansion of the ones that work well. As both a rural and urban landowner, Yale is in a unique position to offer a comprehensive research facility and platform focused on biophysical, social and economic aspects of land conservation and adaptive management. This initiative will provide new education and research opportunities for Yale students and faculty as well as promote the visibility, strength and competitiveness of FES programs, attracting high quality students with a distinctive program not available elsewhere and offering new avenues for cultivating alumni and other financial support. It will also mobilize stakeholders in the Quiet Corner region of Connecticut for the benefit of the surrounding communities, bringing more resources to bear than would be otherwise possible. As part of the long range plan, these efforts can be expanded along the urban-rural continuum, in partnership with Yale FES’s Hixon Center for Urban Ecology.

Starting Small, Thinking Big

“Most folks are interested in their specific neighborhoods. We get them to know each other, foster a more cohesive understanding of their different/similar values and engage them in the idea of a more cohesive plan across the landscape.”

*Mark Ashton,
Director, Yale School Forests and leader of the Quiet Corner Initiative.*

The Initiative began with forest management/woodlands conservation, working from the ground up, bringing Yale’s strengths and resources to bear, starting small and building up. Activities are centered around the Yale-Myers Forest (“the forest”), managed by a program called “The School Forests.”

The School Forests’ three-pronged mission of management, research, and education guides the activities at the forest. Every masters student at the Yale School of Forestry and Environmental Studies spends one week of orientation at the forest, practicing sampling methods and other field skills, while bonding with their new classmates. Many continue their relationship with the forest, conducting field research and working as apprentice foresters. The apprentice foresters, about a dozen of whom are hired each summer, gain first-hand skills and knowledge about sustainable forest management techniques. The summer crew learns how to write silvicultural prescriptions and mark timber sales, and the proceeds from the annual timber harvest that they design support their apprenticeships and the School Forests budget.

In addition to being a fertile ground for student learning, the School Forests directors and managers have always worked to maintain good relations with neighbors in the towns of Eastford, Ashford, Union and Woodstock, and to serve as a source of education for them about the region’s forests. Several times per year, they host public workshops, tours and seminars for individuals and community groups on topics such as forest history, maple sugaring, and conservation. A separate series of workshops, geared specifically to Woodland Partnership members, provides a forum in which neighbors can get to know one another and discuss common stewardship interests (figure 6).

Figure 6: Participants in a field-based workshop at Yale-Myers Forest



Photo credit: Angela Orthmeyer, Yale FES

It was in Yale FES's tradition of engagement with the land and the local community that the Quiet Corner Initiative was conceived. In the spring of 2009, as their clinical project for the Strategies for Land Conservation course, two students conducted a landowner survey and interviewed area residents, teachers, and conservation professionals, to gauge sentiment toward the University and to uncover ideas about how the community could be more engaged in stewardship and education efforts outside the boundaries of its forest. The results of this research showed a strong interest in public workshops. In the summer of 2010, a student funded by the Berkeley Conservation Scholars Program conducted a more in-depth survey of local landowners which illuminated the lack of active management occurring on private property in the area, and again, an interest in learning more about land management. Three-quarters of the survey respondents expressed interest in participating in workshops and two-thirds indicated they were interested in being part of a woodland partnership.

With this encouragement, the school forest proposed the formation of a Woodland Partnership in a meeting at the Ashford town hall in December of 2010. The initial goal of the partnership, which has 40 members, is to aid small parcel holders in meeting economies of scale for management activities and land conservation. Ideally, the partnership would be expanded to 100 members and extend the work to other areas such as payment for ecosystem services, renewable energy, and even sustainable agriculture.

The initial efforts of the Quiet Corner Initiative have been guided by several faculty members who view practice-based learning as paramount to natural resource management education. Building on the structure of courses they already offer each year, these faculty members have

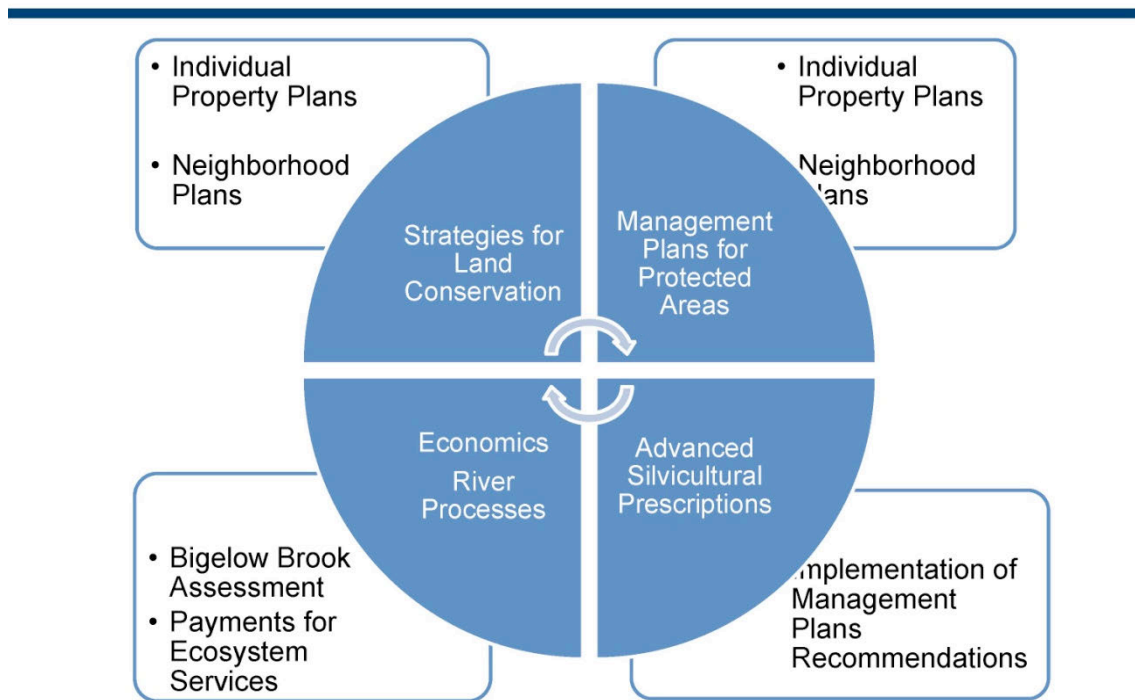
been able to incorporate Quiet Corner landowners as project “clients” around which teams of masters students center their term projects. By using the existing framework of established graduate course offerings, Yale is able to provide professional quality services to neighbors of the Yale-Myers Forest, without requiring additional faculty resources.

Progress through Coordinated Clinical Courses

The building blocks towards the larger vision for the Initiative are a coordinated set of clinical courses strategically positioned to engage landowners in perceiving their land as a valuable part of the larger landscape (figure 7). Two courses already making an impact in the Quiet Corner are Strategies for Land Conservation and Management Plans for Protected Areas. In Strategies for Land Conservation, taught by Bradford Gentry, students study the legal, financial, and management aspects of conservation tools, and undertake clinical projects with local land conservation organizations. In Spring of 2011, a student team was charged with the task of exploring and promoting potential conservation options available to landowners in the Bigelow Brook sub-watershed adjacent to the Yale Forest.

Figure 7: FES courses foundational to the Quiet Corner Initiative

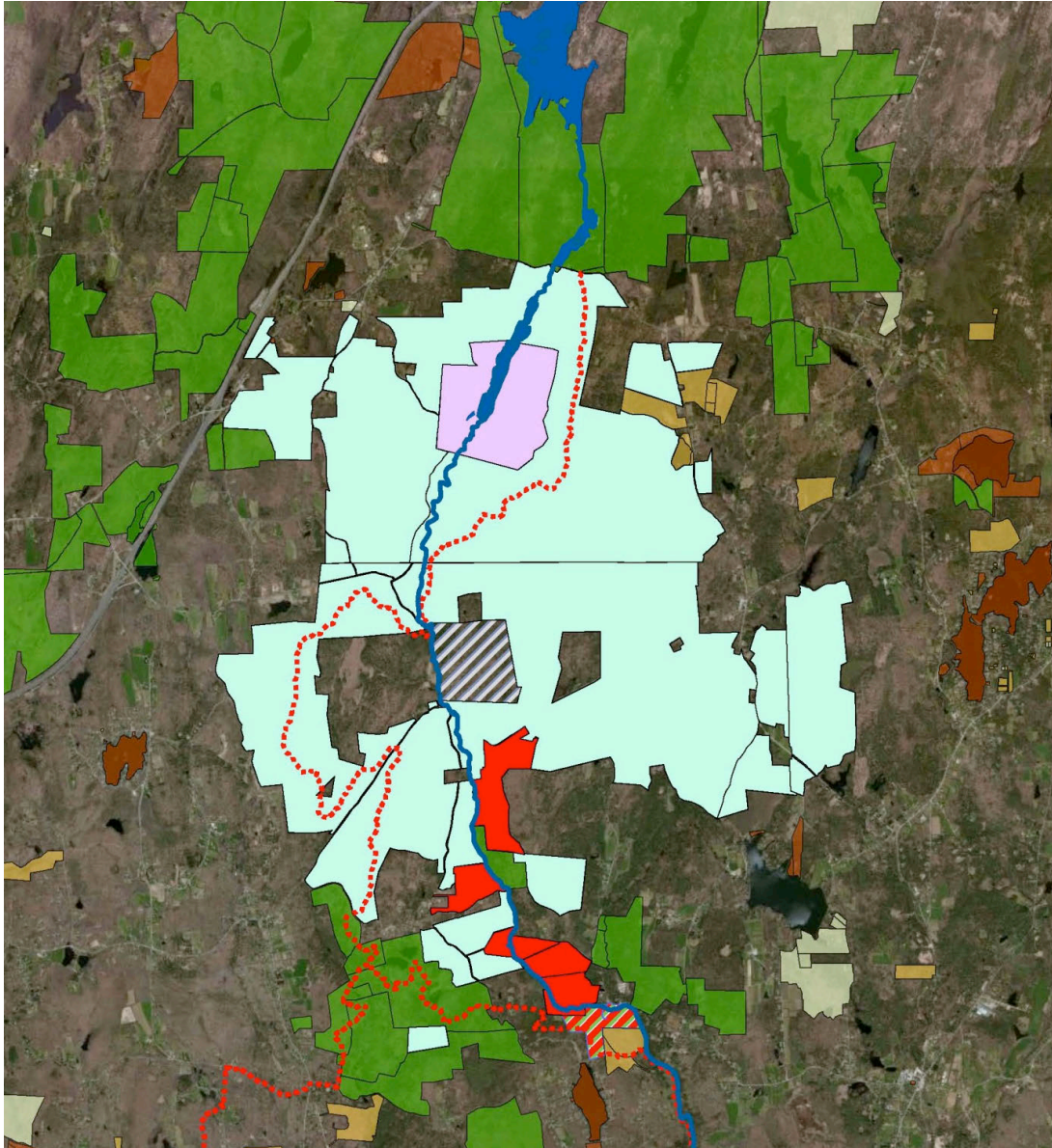
FES Courses Foundational to the Quiet Corner Initiative



Bigelow Brook was chosen as the first area of concentration for several compelling reasons. The private properties along Bigelow Brook make up a corridor between already protected lands (figure 8), so maintaining a well-managed ecosystem in this area can have a large conservation impact. Bigelow Brook is important for downstream water quality and as such has been identified as a conservation priority (Green Valley Institute 2011). And last, but by no means

least, there was one eager and well-connected landowner along the Brook who was instrumental in pulling his neighbors into the program.

Figure 8: The Yale-Myers Neighborhood. Properties in the Bigelow Brook Watershed participating in the first phase of the QCI are identified in red; the Yale-Myers forest is in light blue; state lands in green. Dotted red line represents trails that are part of the Connecticut Blue Trail system.



Map credit: Shane Hetzler, Yale FES.

The team produced a Conservation Options Analysis: a two-page document that outlined and explained who key conservation players are in the Quiet Corner, and what funding opportunities exist at the private, state, and local levels (box 1). The Analysis also included suggestions about what Yale’s role could be in future conservation efforts, and gave a description of various area land trusts that might make good partners for Bigelow Brook landowners.

Box 1

Landowner Conservation Options Analysis

Strategies for Land Conservation, taught by Brad Gentry, was the first course to engage with Quiet Corner landowners as part of its curriculum. In Spring 2011, a two-student team set out to learn more about the conservation options available to Quiet Corner residents, and to assess the viability of these different options with regard to individual landowner goals. With guidance from their “client,” the Yale School Forests Manager, the team set their sights on the properties with frontage along Bigelow Brook, a tributary of the federally recognized Natchaug River, which feeds the water supply for downstream towns, including the University of Connecticut campus, and is core habitat for a number of rare and endangered species.

The students visited with four landowners agreed to participate in the project. During these meetings, landowners shared visions for their properties’ future, and students got a better feel for the range of values and objectives that rural landowners seek from their land. With these needs and values in mind, the team tailored a personalized Conservation Options Analysis for each landowner. The comprehensive document detailed different options available to the clients, including management plans and conservation easements. To facilitate landowner exploration of conservation easement opportunities, the Options Analysis included a description of the most compatible local and regional land trusts and government funding programs, as well as current contact information for each of these entities.

The Conservation Options Analysis was distributed to the landowners, all of whom expressed interest in one suggestion in particular: a student-written management plan based on their individual properties, with the potential for integrating management recommendations across parcel boundaries at the landscape scale. Through another clinic-based course, Management Plans for Protected Areas, taught by Mark Ashton, student teams were assigned the seven Bigelow Brook landowners as clients in the fall semester of 2011. Students worked closely with their clients to ensure that management recommendations were tailored to each landowner’s unique objectives, including managing for timber, wildlife, recreation, and maple sugaring. At the conclusion of the term each landowner received a management plan with detailed information about their property’s history, physiography, forest composition and management options based on existing site characteristics and landowner goals (box 2).

Box 2

The Making of a Management Plan

The owners have lived on their 74-acre parcel in Eastford for eighteen years; their family has been stewards of the property along the Bigelow Brook for nearly a century, and respect for this legacy is an important element in how they view the land. Their house was built with timber harvested from the property. They hold dear the rural character, and connection to the land, and have both a strong interest in limiting excessive development around their property and preserving their land's income-generating merits.

This family was the first of the Quiet Corner landowners to express interest in some form of a partnership, following a chance run-in with Richard Campbell (manager of Yale-Myers Forest) at a neighborhood farm stand. They mentioned that they were interested in protecting the portion of their land, and that of their neighbors, along Bigelow Brook, but hadn't had much time to investigate any options. Being active in the community, it was fortuitous that they became key charter members for what became known as the Quiet Corner Woodland Partnership, and they were helpful in recruiting several other landowners to serve as clients for the management plans class.

Their two principle objectives were sustainable management of the forest for income generation, and maintenance of forest health and wildlife. To meet these objectives, they were interested in timber harvests, maple sugaring, and the potential sale of conservation easements.

The family owns a small portable sawmill with which they process timber harvested from their property and that of their neighbors. The timber, primarily white pine, is sold for construction in the Quiet Corner area. While the family regularly harvests 22,000 board feet of white pine annually, the mill has additional capacity and so the student team was asked to assess the possibility of increasing the annual harvests by about 30 percent.

The students undertook a comprehensive forest inventory, accounting for the current and future timber resource. The harvesting recommendations in the final plan blended the clients' desire for timber with their commitment to protect wildlife habitat and the pristine waters of Bigelow Brook. While the student team was not able to recommend a harvesting regime yielding the full 30 percent increase, they were able to devise a schedule yielding greater volumes of white pine, while allowing for sufficient regeneration of the species into the future by promoting maturation of the existing stock.

While the family plans to continue their sawmill operation for the near future, the work is physically strenuous and they expressed interest in exploring additional revenue streams that would prove less taxing as they grow older. Their property has a plentiful stock of sugar maples from which they would like to produce maple syrup, however the trees are not yet of sufficient size to support an economically significant operation. To speed up the process by which these trees could produce large volumes of syrup, the student team

proposed a detailed thinning treatment to eliminate competition from non-maple species. Nevertheless, there won't be any sugaring at a useful scale for many decades.

As a final recommendation toward meeting the goal of protecting the Bigelow Brook while generating income, the student team advised more research into the sale of a conservation easement on the portions of the property directly adjacent to the brook. Since this area is only 17 acres, cooperation with adjacent landowners to apply for a collective easement may make the property a more attractive investment to area land trusts. Students in a separate course on land conservation are working to integrate easement potential across property boundaries to promote greater habitat connectivity and marketability of the land for conservation funding.

After working closely with them for four months, the student team presented the family with a professional-quality 60-page management plan. The plan included information about the property such as the ownership history, biological assessments of the soils, hydrology, and geology, quantitative assessments of the existing vegetation, and the full recommendations for future management. The clients were very pleased with the quality of the product they received and are currently working with the land conservation class to put some of their recommendations into action.

Students in Management Plans for Protected Areas report that participation in the course was one of the most comprehensive educational experiences they have had at Yale. Producing a management plan requires student teams to draw on many of the skills they've gained through earlier coursework such as silviculture, soils, GIS, hydrology, and social science, to produce a professional quality product for a real client. This field-based learning complements classroom curriculum and exposes students to challenges representative of the professions they are training for. While students are reaping the benefits of a living laboratory, landowners are receiving, at no charge, a management plan that typically costs a prohibitive \$10,000, and is a critical first step toward more thoughtful long-term stewardship.

With each landowner in possession of a management plan for their individual property, a student team from the spring 2011 Strategies for Land Conservation course was tasked with developing the Bigelow Brook Neighborhood Plan as their clinical project. Using the management plans produced in the fall by their peers, the team developed a matrix of landowner objectives and management strategies to determine where commonalities existed between neighbors. The areas of greatest overlapping interest were timber harvesting (to meet various objectives), maple sugaring, and the collective securing of conservation easements for income. Because of the small parcel size of the individual properties, timber-harvesting operations often don't meet economies of scale. With a collective group of contiguous landowners interested in managing timber, harvests can be conducted more efficiently and with the construction of fewer logging trails and staging areas.

The spring 2012 team met with each landowner to get acquainted personally and to gauge landowner commitment to the objectives and recommendations stated in the management plans. The visits were very insightful for the project team, as it turned out landowner time constraints had narrowed the range of immediate interest to the exploration of conservation easement options. Most landowners said they were at least open to the idea of easements on their land if they were to be paid, but few were interested in easements that required public access to qualify. Concerns regarding public access were mostly based on previous experiences with littering, invasion of privacy, and unauthorized ATV use. Currently, the student team is talking with the Connecticut Department of Energy and Environmental Protection and local land trusts to determine what funding may be available for conservation easements that protect Bigelow Brook.

While the spring 2012 team has been working with the Bigelow Brook residents to coordinate management plans across property boundaries, another team in the same class has begun outreach to a new group of potential clients in the nearby Still River watershed. Using the Bigelow Brook activities as a precedent, they are recruiting the next generation of management plan recipients for fall 2012.

In the fall of 2012, while students in the Management Plans course will be working on a new set of properties along Still River, another class will be helping the Bigelow Brook residents enact some of the recommendations from the prior year's management plans. In a course title Advanced Silvicultural Prescriptions, taught by Mark Ashton, students will write and implement prescriptions to meet the objectives identified in each landowner's plan.

Budget and Resources

Most of the work thus far has been done within normal Yale FES operating budgets. FES is a graduate school with primary emphasis on a two-year professional masters degree. Applied work, through field work and project classes, is central to the educational model. This is a perfect fit for the Quiet Corner Initiative. Clinical and field-based classes have shifted emphasis to the Quiet Corner for their projects. Faculty teaching and mentoring are part of the usual academic work of the School. Additional funds have been raised to support student internships to work on specific projects. The total amount of external funds raised to date is \$280,000, including a new \$230,000 three-year grant from the USDA Forest Service Northeastern Area State and Private Forestry.

Measures of Success and Impact

The QCI is a young initiative—as a work in progress, it is much too early to say anything about proven results. It's an adaptive learning process, encouraging passive owners to take more of a “neighborhood” approach and think strategically about the future of their land and the larger region. There is a reluctance to nail down metrics at this early stage, as the team is in a rumination period. Nevertheless, the vision is that over time this Initiative will:

- increase collaboration among diverse stakeholders in the Quiet Corner who are currently only organized in small pockets or around single issues;
- create more sustainable communities and better stewardship of landscapes—with implications beyond Connecticut;
- increase the amount of land in the region that is permanently protected from development;
- help to improve livelihoods in the region through new avenues for economic development;
- link rural and urban interests (New Haven to Quiet Corner); and
- protect Yale’s own forest asset, and expand its future research and educational opportunities.

Possible mid-term benchmarks are:

- number of active members in the Quiet Corner Woodland Partnership;
- a periodic assessment of how well management plans are being implemented;
- continuous surveys to evaluate conservation ethics;
- systematic archiving of management plan data and research data; and
- evaluation of changes in values and behaviors over time.

Next Steps: Creating Momentum for Landscape-Scale Conservation

Critical to successful landscape-scale conservation is the ability to increase capacity for landscape-level planning to reduce costs and bring economies of scale to small landowners for both management and conservation. By promoting sustainable management of private lands and building the capacity to implement it, the Initiative will serve to maintain working forests, their biodiversity and health, and the productive capacity of the ecosystem. It will also maintain and enhance a sustainable forest-based economy and the multiple socioeconomic benefits received by both private landowners and the public in the region. Building upon current efforts, the aim is to complete work on another three sub-watersheds, one per year over the next three years, for which funding has been secured. These have been identified as the (1) Still River, (2) Morse Meadow Brook, and (3) Bussey Brook systems.

Specific next steps include:

- expanding capacity to create forest stewardship plans and scale-appropriate forest operations for small private landowners within the greater Quiet Corner region;
- providing greater access to markets for tangible products (timber, non-timber) for small landowners by becoming group FSC certified (piggy-backing on the FSC certification of the Yale-Myers Forest);
- developing land conservation strategies for individual landowners and aggregations of landowners, including possible sales of conservation easements along with potential cost-share programs through Natural Resource Conservation Service;
- assessing the viability of developing payments for ecosystem services (water, carbon, energy, recreation) and, if viable, to help develop and implement a payments scheme;
- developing an assessment methodology to gauge success over time; and
- sponsoring a Quiet Corner Woodlands Partnership workshop series - an iterative, building process with workshops becoming more advanced over time with topics such as landuse history and forest ecology, stand dynamics and silviculture, wildlife habitat management, and ecosystem services.

Graduate students (masters and doctoral), as part of their academic and professional training, will develop regional and site-specific conservation plans, assess landowner resources and values, create and help implement forest stewardship plans, and provide workshops/training for landowners in support of these efforts. Faculty, as well as professional foresters and conservation planners, will mentor and work with the students through courses and research groups with the help from Connecticut Department of Energy and Environmental Protection, Connecticut Forest and Park Association and Eastern Connecticut Forest Landowners Association.

Barriers and Opportunities

As with all such efforts, success will rely on a long-term commitment of people and resources. Yale faculty, staff and students and Quiet Corner landowners have to stay in this for the long-haul, along with local and state conservation organizations and funders. Although this is a challenge, the approach of starting small, within a framework of big ideas and possibilities, should provide the momentum necessary to keep the Initiative going. The Initiative fits very well into the mission and curriculum of the School of Forestry and Environmental Studies, and so has a good chance of becoming institutionalized.

Working on a landscape scale requires cooperation among New England neighbors where there is little history of cooperation on what could be perceived as private family matters. This can be overcome by starting small with eager landowners, showing the advantages of participation, and thus attracting more landowners to the programs over time.

Although this Initiative began as the brainchild of one faculty member, several others are now committed to directing clinical class projects to the Quiet Corner, working within the agreed-upon framework. As applied research, this type of program fits very well with both the professional and teaching interests of FES faculty and students, and in particular the mission and curriculum of the masters degree program. Thus the institutional commitment is strong.

Bigger ideas (landscape-scale conservation easements, energy, ecosystem services markets) will require bigger investments. Funding will always be a challenge. It may be particularly difficult to obtain funding for purchasing conservation easements in the current economy. The strategy is to build a track record on early successes that will convince funders to make the necessary investment to expand those successes to a larger landscape with more programs.

The Long Haul

This Initiative is the beginning of a long-term partnership among Yale FES, local private landowners, conservation organizations, local forest industry, and the State to increase the sustainable management of forests in the Quiet Corner region. Over the next three years, it is expected that the Initiative will reach at least forty properties and 4,000 acres with management and conservation actions, including a trial Forest Stewardship Council (FSC) group certification program, and the design of a payment for ecosystem services program.

Results from this experience will be published; workshops developed into web-based modules; and the partnership used as a demonstration learning experience for landowners and professionals from other regions. The aim is to work on ten-year cycles between sub-watersheds in the Natchaug Basin and in 2021 to return to the Bigelow Brook sub-watershed where the program began in 2011.

Yale FES has the stamina to maintain such a framework by incorporating this into the core of the Masters level professional student education program—which has developed a rich tradition of sustainable forest management over the last 100 years. Using the principles of a continuous forest inventory system, the information collected at each time-step will be used to compare social and biophysical change and to allow adjustments in management goals and objectives. Such information will serve as a rich data source for analysis and publication. Few such data banks and monitoring protocols exist today to gauge success and failure, even though large amounts of money have been spent on development of collaborative forest management partnerships throughout the nation.

References

- Butler, Brett J., Mary Tyrrell, Geoff Feinberg, Scott VanManen, Larry Wiseman, and Scott Wallinger. 2007. Understanding and Reaching Family Forest Owners: Lessons from Social Marketing Research. *Journal of Forestry* 105(7): 348–357.
- Connecticut Forest & Park Association. 2012. *About Us*. Available at <http://www.ctwoodlands.org/about>. Accessed April 7, 2012.
- Green Valley Institute. 2011. *Natchaug River Basin Municipal Conservation Compact April 28, 2011*. Available at <http://www.greenvalleyinstitute.org/NCAP.htm>, Accessed May 8, 2012.
- MASSCONN partnership. 2012. Available at <http://www.opacumlt.org/massconn/>. Accessed April 7, 2012
- Tyrrell, Mary L., Myrna H.P. Hall, and R. Neil Sampson. 2005. Dynamic Models of Land Use Change in Northeastern USA: Developing Tools, Techniques, and Talents for Effective Conservation Action. In: Laband, David N. ed. *Emerging Issues Along Urban-Rural Interfaces: Linking Science and Society*. Conference Proceedings March 13–16, 2005. Atlanta, Georgia.