

Conservation at the Landscape Scale¹:
Leadership and Action in Conservation in Vermont

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A Report Prepared by

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¹ In this report, landscape-scale conservation refers to the approach of conserving large, contiguous areas through the acquisition of land and/or conservation easements. However, it is important to note that other models and strategies have also been employed. For other examples, see Brown et al.(eds.) (2005); Laven et al (2005); and Tuxill et al. (2000).

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Introduction

Vermont and New England

The political boundaries of Vermont overlay a series of natural landscapes. The Champlain Valley, the Connecticut River watershed, and the Northern Forest are examples of landscapes that stretch beyond Vermont to neighboring states and provinces. Superimposed over Vermont's ecological and political geography, lies the social and economic diversity of its communities. Indeed, Vermont's landscapes create the foundation for the cultural heritage and economic activities of its communities.

Vermonters maintain a strong sense of place and each biophysical region within the state exhibits its own sense of identity. With few large towns or cities, Vermonters live within and have a strong connection to their natural environment. The 1988 Governor's Commission on Vermont's Future and a study measuring Vermonter's community values and attitudes on sprawl conducted by the Vermont Forum on Sprawl a decade later reported that the most important values commonly held by Vermonters are community life, agricultural heritage/working landscape and environmental quality¹.

The larger New England region also has a strong sense of identity and cohesiveness deeply entwined with its natural resources. Through the traditions of logging, farming, fishing and even quarrying, New Englanders have been strongly tied to their natural world. The region still maintains an economic dependency on its natural resources and landscape-dependent tourism represents a significant economic sector. New England evokes a powerful image in people's minds of rolling hills, quaint farms and towns, forests, hardy independent citizens and a rich history older than most regions in the United States.

Landscape Scale Conservation

Landscape scale conservation is an emerging field that marries conservation biology and landscape ecology with sociology and incorporates the historic, economic, and political aspects of a region's human population into conservation planning. Conservation at the landscape scale represents a significant paradigm shift for many conservationists (Minteer and Manning, 2003)². Traditional conservation organizations now collaborate with non-traditional partners in the private and public sectors to coordinate resources and efforts. In order to bridge the communication gap commonly found across different sectors, coalition organizations such as Vermont's Smart Growth Collaborative are forming to address areas of common interest.

As players in landscape scale conservation, individual communities may be more in-tune to their own complex relationship with the natural and social worlds. Grassroots efforts surrounding sustainable community development and environmental conservation emerge from citizens' concerns about a quickly changing landscape. Local projects can enable citizens to play an active role in shaping what they want their landscape to be (Barrett, 2005), while community-

¹ Both reports listed four common values. The fourth values noted in the two reports were different; education and low crime rates in 1988 and 1998 respectively.

<http://www.vtsprawl.org/Initiatives/research/Exploring%20Sprawl/Newsletter1/CompleteRpt.htm>

² See also: Laven, Daniel N., Nora J. Mitchell, Deane Wang, guest editors. 2005 Conservation at the Landscape Level. A special issue of the *George Wright Forum* 22:1 for a more explicit treatment of this topic and additional references.

based organizations seek to directly address the values, concerns and constraints unique to each community.

Project Scope and Goals

This document will provide a snapshot of landscape scale conservation efforts in Vermont and provide insights gleaned from interviews with conservation leaders about current challenges and new directions. Ten leading Vermont conservationists representing nine organizations were interviewed between February and May 2005 (Appendix I). Interviewees were asked to discuss their understanding of landscape scale conservation, whether their organization incorporated this concept in their programs and how. Interviewees were also asked to discuss (1) their thoughts on the level of collaboration their organization participated in, (2) potential stakeholders they believe are routinely left out of conservation conversations, (3) barriers to conservation efforts in the state, and (4) strengths in Vermont's conservation community.

The motivation for this project is to explore common themes outlined by speakers at the 2003-2004 *Conservation at the Landscape Scale* lecture series. We investigated the prevalence of these themes in Vermont's conservation community through the following set of questions:

1. How are 'science/issue-driven and 'community/place-based' approaches represented in the Vermont conservation community?
2. What is the prevalence and nature of multi-objective projects and collaborative partnerships?
3. What public policy obstacles have conservationists encountered?
4. What leadership models have been successful in ground-breaking dialogues, collaborative partnerships, and landscape scale conservation?

Two recent publications, the Conservation Study Institute's *The Landscape of Conservation Stewardship* and Liz Thompson's *Vermont's Natural Heritage* explore the complex nature of landscape scale conservation. This document will complement these efforts by providing greater detail about the perceptions and experiences of conservationists engaged in on-the-ground efforts and the challenges and opportunities they encounter.

Themes in Landscape Scale Conservation

The 2003-2004 lecture series, *Conservation at the Landscape Scale: Emerging Models and Paradigms*¹, brought speakers from Vermont, the U.S., and the world to discuss successes and lessons learned in landscape scale conservation (Appendix II). Two primary themes in conservation efforts worldwide were articulated. The first theme reflects the continuum of conservation strategies ranging from science-based, bio-geographic landscape protection to a broader, socio-cultural view of landscape conservation. The former view was presented by Reed Noss who discussed the key role that protected areas play in the science of conservation biology. Alternatively, Adrian Phillips offered an alternative perspective of conservation that more readily acknowledges the human dimensions in landscapes. The second theme emerges from important transitions occurring in the realm of landscape scale conservation efforts as multi-

¹ <http://www.uvm.edu/conservationlectures/>

objective and collaborative programs have added a new complexity to traditional conservation initiatives.

Landscape means different things to different people. Within the scientific community, a landscape can be a watershed, a region defined by soil or vegetation type, or an ecologically cohesive space. When the human dimension is overlain, the same biophysical landscape can have its boundaries re-defined. For a grassroots conservation organization, landscape may be the local forest, watershed or even agriculture community. For the ecologist providing assistance to the same grassroots organization, landscape may be the habitat and connecting corridors necessary for a species to survive. And for the national-level conservation organization, landscape may mean an entire bioregion that crosses political boundaries and encompasses multiple watersheds, towns, villages, highways, flora, fauna, core protected areas, buffers and corridors.

Across these scales, conservationists may use proactive or reactive planning tools. In his lecture, Jeff McNeely discussed *scenario planning* or the “use of stories designed to stimulate new ways of thinking about the future” (McNeely 2005). The use of scenario-planning can enable communities, town planners, and conservationists to breakdown the processes that produce both favorable and unfavorable results by working backwards. *If I want to see X, what A, B and/or C do I need to accomplish or potentially change?* An added benefit of scenario planning is that it asks people to think about what they want their future to look like or to potentially understand the consequences of their own actions. The 1998 VFOS study found that 94% of the Vermonters surveyed valued preserved open lands as highly desirable in a community. Of those respondents, 74% desired living in an outlying area and not in a compact community. If used by communities or town planners, tools such as scenario planning would force residents to think about a future where 74% of the people want their own parcel of land in a rural area while trying to maintain preserved open space. Challenges such as this face many conservation organizations in the State both directly and indirectly.

Vermont’s conservation community is represented by an array of organizations focusing on a multitude of natural and social issues. Individually and collectively, they use a broad suite of tools, incentives, and restrictions to foster specific development and conservation practices. The individuals who create the face of landscape scale conservation bring their own sets of values and perspectives. Despite their diversity, there are many similarities and points of commonality that bind Vermont’s conservation community together. What follows is a ‘virtual conversation’ among the ten conservationists – quotes and ideas which emerged from the interviews have been organized into a set of themes to illustrate the range of perspectives and experiences among Vermont conservationists.

Vermont's Conservation Community

Motivation for Conservation Work

What are the values that motivate Vermont’s conservation leaders to dedicate their energy and time to promoting their vision of Vermont’s landscape? The answers may be as numerous as the individuals who take on this important work. Each individual interviewed identifies with their landscape based upon their own values and their connection to the place where they live and spend their time.

You can't escape the personal in this work. (Nancy Bell)

[We are] here as landowners, homeowners... We were in love with the landscape. Why do you choose an area to live in? You come to an area because you love it. (Marty Illick)

A scientific respect for ecosystem integrity and function as well as the rich experience of living in the natural world fuels the work of many conservationists.

I would guess that at the back of most people's heads who are involved in conservation is a deep appreciation of ecological systems. (Ben Machin)

The experience of being in a wilderness area, the experience of being far away, being in a place dominated by natural processes, of being in a place you can't see the impact of human hand, that is an awesome experience. (Kathleen Fitzgerald)

Herein lies an important strength of Vermont's conservation community: the common understanding that what they are individually and collectively working towards is valuable. Most Vermonters name the natural environment as one of their core values and wish to preserve open space. Interviewees readily discussed the connection between landscape, community and land use. All discussed the idea of a vision for Vermont's landscape although few articulated what their vision is. All voiced their concern for what they felt was a quickly changing landscape. Although most interviewees referred to the biophysical landscape when discussing change, concern about growing communities, loss of community connection and changing values was underscored. Among these conservationists, Vermont's landscape is viewed as both a natural and social resource to be conserved.

Hills and valleys, creeks and ponds, forests and meadows, wetland and waterfalls – these features characterize our natural landscape and shape the ecological infrastructure or the natural system that support our rural communities. Volunteers, selectboards, school boards, planning commissions, firefighters, soccer coaches and PTOs characterize our social infrastructure. These ecological and social services are traditionally not calculated in dollars. They are priceless, and we know that our rural towns and economies are dependent upon a close relationship between our human and natural communities. (Lewis Creek Watershed Association Newsletter)

All interviewees spoke with passion when they described why they were working on conservation in Vermont. These conservationists see themselves as members of their communities, not as individuals residing in a location, performing a job, and utilizing available services and resources. There is a culture of discussion, collaboration and an effort at consensus building.

I think there is something about Vermont that attracts interesting people. There is a scale to it. Instead of getting overwhelmed by national or international politics or economics...it feels like it is at an operable level. It's around relationships, and not lobbying relationships, it feels like genuine relationships. People are in Vermont for common reasons. (Gil Livingston)

The personal relationship conservationists have with a landscape ultimately influences how work efforts are prioritized and addressed.

[The Vermont Land Trust board is] identifying a land ethic with goals. We ought to describe what we think is an optimal relationship with land with that land ethic. (Gil Livingston)

Organizational Niches

Vermont's conservation community comprises a broad spectrum of philosophies and efforts. Organizations expand and evolve as community needs and environmental pressures change.

You have to understand the threats and ecological processes...so you can direct your conservation practices...[This is especially challenging] in Vermont where everything is in tiny pieces. You do the best you can. (Bob Klein)

Each organization fills a niche, with some organizations complementing each other's efforts, while others overlap and still others are in direct conflict. How does a small state such as Vermont accommodate over 500 land trusts and conservation organizations? Perhaps it is the size itself and relatively high quality of the natural landscape that promotes cooperation.

It is a small state and everybody knows each other. And that is important...it is a microcosm of conflicting [views]. Everybody knows each other and everybody [has their own values.] [Yet] we all know what we want to achieve which is to make sure there is something of [ecological] value there. (Liz Thompson)

Or perhaps it is the variety of community and landowner concerns and interests that enables an even greater variety of organizations to meet this demand.

I think the variety of organizations having different focuses has been good because it's kept us out of each other's way. That is one of the things that I've kept on track with. It's not the Conservation Fund saying 'thou shall protect wildlife habitat'. It was looking for my niche in the larger landscape piece. (Nancy Bell)

The different niches that individual conservation organizations occupy are separated by both goals and strategies. Some groups bring a strong issue focus to their work while the work of others is more rooted in a general desire to build community engagement in preserving natural values. This variation in fundamental goals results in diverging approaches to the selection and implementation of conservation projects.

I know there are different models to approaching this within the conservation community. [There are] other organizations that focus closely on the high research value areas and there are other organizations that are more client-oriented where they are looking for people who want to be part of conservation and they don't care if it is a farm or a forest or a wetland. I would like to think we fall somewhere in the middle... the basic thrust of the project is to represent the interests of the landowners, which in turn benefits the community and the land. (Ben Machin)

In aggregate, Vermont's numerous conservation organizations represent a wide spectrum of values found in the state's general population. However, in recent years, the conservation community in Vermont has entertained an informal dialogue about whether there are too many different organizations trying to achieve the same goals. Concerns include confusion among the public and competition among organizations.

I think, of course, people get confused. There is a multiplicity of organizations...I'm not sure it's entirely clear, even to each organization, what one does compared to another. The

good news is, I think, there is a higher chance to find an organizational path that is towards what a community is doing because there are choices...[and] as much as anything, it's this social thing. People know each other; there is inter-organizational respect, and perhaps more clarity about the mission of each organization. (Gil Livingston)

Collaboration & Networks

While the diversity of organizations and approaches in Vermont's conservation community has sparked an evolution toward more specific organizational niches, it has been complemented by an expansion of the conservation networks and an increase in collaborative efforts. The incentive for collaboration may only continue to increase as successes are seen and donor organizations favor collaborative projects.

It's great to look statewide. There is only so much manpower to go around and money, we need to look at the opportunities. Always at the back of my mind [there is] a larger picture of where I know other folks are working; being in touch with The Nature Conservancy and saying 'What are your focus areas? Where can we build on each other's work?' They have a very defined purpose and if we can double up on the conservation in an area I know they are going to be doing some work to increase the size of buffers and increase the width of corridors. It benefits conservation exponentially. I see that as becoming more and more necessary. (Nancy Bell)

Part of it is an entrepreneurial creative spirit that I think is in a bunch of sectors around Vermont, not just in land conservation...We innovate, we experiment, we take risks, we achieve success...I think there are ways in which we think about land conservation that is advanced. Part of it is we attract wonderful people. (Gil Livingston)

Collaboration occurs to many different degrees and can range from simply referring inquiries from landowners to more relevant organizations to actual joint ownership of protected areas.

The conservation challenges we face are significant and by collaborating, we can leverage conservation and achieve greater success. A lot of our projects have been collaborative for various reasons. If we are working with a landowner who wants his/her land forever wild and his/her land has trails on it, we will work with that local trail organization. (Kathleen Fitzgerald)

Collaboration occurs at many different levels and community-based organizations can be thought of as a collaboration among individuals.

This project, at the grassroots level, is all about relationships. It wouldn't exist without trust in those relationships. I think that is what is a little different about this model. The relationships between the people (landowners) involved in the project are more important or equally important as the spatial relationships between the parcels of land. (Ben Machin)

Wilderness -- multi-use – scenic – agriculture – connectivity – native -- rare -- mixed-development. Each term describes a lens through which Vermont's organizations see landscapes. In order to collaborate, each organization must understand the lens through which its partners view the same landscape.

Our goal is protecting ecological integrity. That is a huge thing. We must ask the challenging question of what will it take to preserve ecological integrity in the Northeast. We must be ready to ask this question. Different organizations have different goals. So

when there is tension about what different people are doing on the land, [you have to ask] what are their goals and do we share the same goals? In some ways we probably do share the same goals and we believe we can get there. (Kathleen Fitzgerald)

Change within the Conservation Community

The players in Vermont's conservation community are not static. New individuals and organizations get involved in response to perceived needs and changing socio-economic conditions and are making important contributions to the overall conservation movement. Useful models are replicated (e.g., land trusts, non-profit status) but are tailored to specific local desires and specific logistical needs.

What we are seeing...is an increase in land trusts in this region that is unprecedented...They are popping up because of the threats they are seeing...[and] because of the unprecedented land sales...[and] certainly these land trusts are having great impacts both locally and regionally. (Kathleen Fitzgerald)

How an individual identifies with their landscape shapes the lens through which they see landscapes and the approach they bring to their conservation efforts. The Vermont conservation community is built upon the values of the individuals representing each organization or effort. Each organization has its distinct mission and conservationists tend to align themselves with the organization whose mission mirrors their own values. For example, the Orange County

Building a New Niche for Wilderness Conservation

Kathleen Fitzgerald, Executive Director and co-founder of the Northeast Wilderness Trust, has a deep love and respect for wilderness that compels her to work to protect it. She began her environmental career working on national-scale issues with like-minded individuals and producing Wild Earth magazine, a publication merging conservation biology and advocacy. In time, she became the Northeast regional coordinator for Wildlands and began looking at *designing a conservation network that would sustain large mammals and natural processes*. Principles of conservation biology guided their efforts toward *whole reserve design for the entire region as opposed to a piece-meal approach*. Scientifically, they understood the importance of encompassing ecological systems.

By expanding her lens to the landscape level, Kathleen began to look beyond ecological land values to the reality of current land-use in the region. *If we are going to talk about conservation measures, let's take a look at who owns the region and how we can best work with who owns the region. In the Northeast, protected lands is about private lands in my mind, with about 93% of the region privately owned*. This realization brought her to work for a local land trust where, although her focus shifted from wildlands, she gained important skills in the nuts and bolts of land conservation. Kathleen's work with the land trust enabled her to gain a greater understanding of the variety of landowner concerns and requests.

This work also enabled her to see that a conservation niche was not being adequately filled. There were few organizations directly addressing landowners' requests to preserve their land as forever-wild. Kathleen worked with a group of conservation partners to determine whether creating a new land trust was the answer. *I think a lot of us are not eager to create yet another non-profit. [But] it was pretty clear that there was a need for a wilderness land trust. With less than 3% of the region preserved as forever-wild, and no land trust focused exclusively on wilderness preservation, the answer was clear*.

Kathleen continues to question whether the conservation community in Vermont and the Northeast is doing enough to ensure the viability of the region's natural heritage. *Where have we protected these areas? Most of these areas are high elevation rock and ice land*. Her strong commitment to establishing core reserves in threatened areas leads her to question whether public investments in conservation have sufficiently prioritized natural values relative to human uses. *The large conservation projects that involve public funds started to get, in my mind, people questioning 'what are we using our public funding for?' It is a good question to ask. What is our public funding, our federal and state funding, going for in these large-scale conservation deals? We need more public funding for wilderness preservation*.

The vision that impassions Kathleen's conservation work is of a restored Northeastern region that has regained substantial connectivity of its natural ecosystems. *When we think about the Northeast, we think about the story of recovery...this recovery is incomplete. It's at this point in time where we have a choice about what is going to happen next. Are we going to allow this recovery process to continue?*

Headwaters Project emerged when individuals expressed common concerns about a similar issue and looked for assistance.

Three different groups of landowners got interested in conservation in the same area at the same time...one was anchored by the largest piece of property... owned by a timber company. Another was a land cooperative where one of the leaders of the land cooperative was interested in conserving the land. And the third was a cluster of properties near where I grew up. And they all contacted [a State employee] who does Forest Legacy work about the possibility of finding Forest Legacy funding to conserve some of those properties. She said you should all get together and talk to each other. And we did. (Ben Machin)

Landscape scale conservation benefits from flexible approaches and the combination of both proactive and reactive strategies. Organizations and individuals find that they need to monitor more than just ecological integrity. They must also keep tabs on changing perceptions and social values to avoid negative outcomes and missed opportunities.

...Interestingly, affordable housing is really important...What I've realized in my own town and other places is that increasingly land and housing are getting sold for second home ownership and retirement. If I had really been far thinking I would have been promoting a huge amount of affordable housing in this community. Keeping a community diverse keeps the land prices down and thus, furthers conservation. (Nancy Bell)

Doing Conservation Work

Defining the 'Scale' of Landscape Scale Conservation

At what scale do conservationists operate when discussing the concept of 'landscape'? Is there an accepted definition of what landscape scale is? Approaching natural resource conservation from a landscape scale is unique because the scale is fluid.

Landscape portrays different things to different people. (Marty Illick)

Speak to conservationists about scale and their lens or scope will vary relative to the issue. An individual landowner will discuss the physical and social landscape of their community, yet when they discuss, for example, an invasive species, their lens may refocus to discuss the issue on their land as well as connecting regions. Their immediate landscape is connected to the larger landscape into which the species is expanding.

The way that conservationists identify and implement projects to protect natural areas is deeply influenced by the way that they perceive landscapes. Those approaching landscape from a scientific lens may see it as the physical landscape necessary to maintain ecological function. A place-based conservationist's definition of appropriate scale may emphasize community settlement patterns and the local matrix of developed and undeveloped parcels. Individual perception of the Vermont landscape is rooted in personal experience, and therefore, is highly varied.

You can describe landscape at any scale; you can describe it as the landscape of the eco-region or the watershed scale...I think the typical vision for a landscape scale conservation effort is to maintain [what is there.] (Liz Thompson)

Emerging Conservation Leaders

A thoughtful tone fills Nancy Bell's voice when she begins discussing her journey into the conservation arena. A resident of Shrewsbury, Vermont for the last 25 years, Nancy has no formal training in natural resource conservation or planning. She describes her involvement in conservation, specifically black bear habitat, as completely serendipitous.

Two things happened. One was land here in Shrewsbury was slated for development and Killington ski area, at the same time....proposed a major increase in their capacity...It just kind of came to the floor and fortuitously I got involved going to Act 250 hearings...At the same time I got involved with a group of folks here...addressing this potential development [in Shrewsbury.] (Nancy Bell)

Ultimately, Nancy helped start a land trust in Shrewsbury that purchased the land under threat of development. Two key ingredients -- concern for impending changes to her landscape and a flexible work schedule -- led Nancy to become a state-level advocate for bear habitat conservation in Vermont, *[a] niche [that] wasn't being filled in the state.*

Similarly, a sense of place is the foundation for Marty Illick's conservation work as Executive Director of the Lewis Creek Association. Along with her neighbors, Marty witnessed the changes development pressure brought to her community over the last two decades. Although she had no scientific training, she, along with other members of the Lewis Creek Association, sought out knowledge about local watershed ecology to complement their intuitive attachment to their landscape. This combination of personal connection and ecological understanding is expressed in all aspects of LCA's multi-disciplinary approach.

As LCA's sole employee, Marty is not afraid to search out and use any training opportunity or available resource, such as the student service-learning program at the University of Vermont, to accomplish specific projects. She has also been innovative in cultivating a succession of opportunities for residents and community groups to participate in rather than repeating the same activities, such as tree planting and stream clean up, year after year. This has produced a more engaged community with an increased sense of ownership in the landscape.

We just wanted to be very clear that our main goal was to think about sustainable community development and conservation. (Marty Illick)

Nancy and Marty are two individuals who cared enough about their landscape to become involved. In some ways, their stories are not so different from that of many emerging community leaders. Both had a strong sense of what they wanted their landscape to look like and, although they had no formal training, they had a willingness to learn and to get involved.

Speaking about the Lewis Creek Association's watershed-based work, Marty Illick acknowledges the importance of working at a small enough scale to build and maintain substantive relationships within and across town boundaries.

In our 80 square [mile] shape, it is also a really nice space to get things done...we are connected enough to the town of Starksboro to not feel like strangers. And you have to be friends to get things done. How far can our reach be and still have a nice social relationship with enough of the community so that on face value that they know you and trust you. (Marty Illick)

But Marty is the first to admit how important it is to think about the larger landscape.

It was all about a larger matrix. Thinking about connectivity of wildlife habitat conservation. You couldn't live with one little patch of forest. It's not going to ever have any longevity unless it was connected. You automatically, by learning the science, have to go out [and expand the area you are looking at]. (Marty Illick)

For some conservationists, expanding the scale of their work beyond state boundaries has become a central focus. Beth Humstone, recently the Executive Director of the Vermont Forum on Sprawl, is now working with the Institute for Sustainable Communities and teamed with the New England Futures Project¹ to enhance regional collaboration and dialogue.

[We need to] identify the values that really unite New England, recognizing there certainly are values that differ from southern and northern New England...There has to be a way of acknowledging what brings us together at the same time acknowledging there are [differences]...The issues and values of people who live in the Northern Forests [have a lot in common] with people who live along the coast of New England. They have the tourism issue; they have the major resource issue... (Beth Humstone)

The focus of the Vermont chapter of The Nature Conservancy ranges from localized protection of rare and endangered species and biological communities to large-scale efforts to address broader threats such as pathogens, pest species, and acid-rain deposition. Their lens continually changes as the issue and effort changes. A multi-pronged approach and multiple scales may be used to address one issue.

TNC is working on threats that are larger than just Vermont, but they are threats to our priorities in Vermont. (Bob Klein)

Species-specific conservation, especially for large or wide-ranging animals, requires planning at a scale that is relevant to the state or region's population. This insight forced Nancy Bell to expand the scale at which she thought about and worked for black bear conservation.

It was really an issue of black bear habitat and connectivity...and realizing at the end of it, we saved 3,000 acres but it didn't really mean much due to the fragmentation. (Nancy Bell)

Now Nancy focuses on existing protected areas, primarily state and national forests, and how to connect them.

I see the world in core habitat blocks and connectivity. (Nancy Bell)

For Nancy, bear ecology outlines the need for her efforts and, to a large extent, where she will work and the urgency of her work. The biology determines what needs to be done; sociology determines how it will be done.

Science and Conservation

How does scientific understanding of the natural world inform and guide the work of Vermont conservationists? For some organizations that are staffed by scientifically trained individuals, ecosystem science is the touchstone for everything they do. The Nature Conservancy exemplifies this model with its strong emphasis on conservation biology. TNC implements their strategic eco-regional planning process, 'Conservation by Design', to identify high-priority areas within fragmented landscapes and strategies to meet their overarching goal. As part of an international organization, the Vermont chapter directs its efforts to projects that fit within the larger TNC mission.

Eco-regional planning is sort of the embodiment of making conservation biology active...it is completely nested, this system. We go from eco-regions down...there are issues that percolate up, threats at [one] scale that drive you up into [larger] scales...they are all

¹ <http://www.iscvt.org/!nefhome.htm>

nested in a sense. Then we go down also, to a site plan situation...what are the conservation designs at a very specific site? (Bob Klein)

The science of conservation biology makes clear to TNC conservationists that there are substantial, pressing threats to landscape qualities they value. This understanding of impending crisis for endangered species and biological communities has tended to shape conservation strategies that prioritize natural areas protection over human uses of landscapes. The concepts of core reserves, buffers and corridors are integral components of the definition of landscape. Recognition that the human dimension of landscape cannot be ignored has led TNC to begin to think about the social and cultural dimensions of landscapes they work in. This suggests that cores (i.e., easements and land acquisition) may be necessary but not sufficient approaches.

Our first bias is, and I think it is a core value, an aspect of it, is a tendency to fence [human uses] out. The core reserve concept or the natural area concept is still strong and it goes into most of our site plans in some way. But we now start thinking about the larger landscape and how humans fit into it. (Bob Klein)

For other organizations, scientific understanding emerges in response to engagement in conservation work. In many cases, individuals who value the intrinsic beauty and recreational opportunities where they live seek out a deeper understanding of local ecology when they begin to see changes in landscape quality. The learning curve for Marty Illick and other Lewis Creek Association members has been steep. Although they knew they were connected to one another, it wasn't until they looked at their watershed ecologically that it really came together.

How did it connect to the larger landscape? Where do the critters go?...Once you learn that little piece of landscape that is in your neighborhood, yeah, you do tend to want to [expand your scope]. And that is exactly what happens. (Marty Illick)

The role of science in landscape scale conservation heavily influences the scale at which an organization will focus. Marty, for example, may have defined her landscape in terms of political or land ownership boundaries or even by the connectivity of local forests or the Lewis Creek. It took learning the science behind the ecological processes on her land, including the relationship of Lewis Creek to its watershed, to redefine the definition of her landscape.

This variable lens of scale and broader definitions of landscape seem to be important factors influencing how conservation efforts are applied. A strong understanding of the biological processes is necessary to conserve any natural resource. But to understand the full scope of threats challenging conservation, one must include the human presence in landscapes.

Merging Missions

At both the Vermont Land Trust (VLT) and the Vermont chapter of The Nature Conservancy (TNC), organizational leaders have been in place for several decades. Over this time span, Darby Bradley and Bob Klein have collaborated on many projects. VLT's land ethic is based on a blend of social and natural values that compromise a working landscape, whereas TNC is grounded in their mission to 'preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive'. The focus of each organization is different, yet their objectives often overlap. They have been able to collaborate through a commitment to communication and cooperation. Each offers landowners a diverse set of opportunities and each knows they cannot achieve their mission alone.

We are mostly about working landscape, but in a do-no-harm format with respect to biology...There is really high potential [for collaboration], especially with The Nature Conservancy's focus on the Champlain Basin, a pretty fragmented working landscape. If we didn't talk, it would be a mess. (Gil Livingston)

I would say it is still an art. The idea that there is one grand scheme for prioritization isn't a reality. In the end, how you allocate your resources and time is a mix of 'yeah this is a really great opportunity' versus 'here's an opportunity to create a broad partnership with another organization that would touch on many different places' and you know going into it that it isn't always going to be your priorities, it is going to be a mix. But, an act of getting leverage and partnership at a landscape level. (Bob Klein)

In recent years, the collaboration between VLT and TNC has moved to a new level as they have opened the door to sharing intimate knowledge of each other's finances and internal prioritization methods. While labor intensive, this frank communication has created an *ease of working relationship, [and] clarity about what each other's niche is.*

We have this incestuous relationship. We are all really good friends, we do a lot of deals together, we own [project] land together...Literally, if a landowner calls us and the land is in a matrix block. Especially a reserve...within that block, we stop the conversation, call The Nature Conservancy, encourage the landowner to talk directly. If they won't talk directly we may serve as TNC's surrogate. But we would not, within a core matrix block, conduct a transaction that is inconsistent with what their long-term goals are within that area. (Gil Livingston)

VLT and TNC are committed to their relationship as much as they are their individual missions. Although this stems from a desire for sustainable, multi-lateral efforts, the reality of common funding sources and 'dividing the conservation pie' between as many stakeholders as possible is apparent.

Resources are finite, and we tend, and this is not exclusively true, but essentially, between the Vermont Land Trust, the Trust for Public Lands, the Conservation Fund, The Nature Conservancy, and also the Upper Valley Land Trust and the Lake Champlain Land Trust...once you're at that level, the deal skills are common, the innovations are common, the money is all the same...We all sort of think about the same money sources. (Gil Livingston)

An Expanding Vision of Conservation

Decisions about conservation projects are fundamentally driven by the natural values of individual parcels, but increasingly, a major component of conservation work in Vermont is about engaging with individuals and communities. People live throughout most of Vermont's landscapes and the way that conservation projects are initiated and implemented, more and more, accounts for the needs and desires of the owners, neighbors, and users of conserved parcels.

We may have plans for a direction in conservation but really what's going to make a difference is how we relate it to the people on the ground. And directions [should be] fluid enough to align with their desires and what they perceive as quality of life. (Nancy Bell)

[Our goals is to] build community or support community at the same time as we conserve land, it's really those projects that we look for...Working bilaterally with landowners can be less effective than deeply engaging with communities and listening to what their needs are and serving those needs which are based on the land connection... (Gil Livingston)

As more areas of Vermont experience greater development pressure, the range of people interested in the benefits of conservation has expanded. This new level of interest is building on the foundation of conservation projects from earlier years.

I think the concept of conservation is out there all across Vermont...There were some previously conserved properties in our area that acted both as anchors for our efforts in terms of the physical location to the property, but more importantly they got people thinking about conservation 15 years ago, 10 years ago when they were first conserved. (Ben Machin)

This expanded vision of conservation may be the greatest catalyst for multi-objective collaborative efforts. Organizations must decide whether to grow internally to manage multi-objective projects or identify partner organizations to provide specific expertise and perspective.

There are real benefits and real frustrations that emerge as conservationists develop a more complex understanding of the nature and impact of their work on local communities. There is an increasing awareness of the potential for unintended negative consequences that can result from individual conservation easements, especially in areas where local communities have not yet articulated their own conservation and development priorities.

We've got to watch ourselves. We could be protecting land in a place a community should really grow. It just points back to the need for better planning. They are having a situation right now in Newport Center...the farm is right up to the edge of the village. I remember we talked about 'Where is the community going to grow? Should there be some land set aside for affordable housing in the future on this farm so that the village can grow?'...If only the town had done their planning at the time the easement was purchased then they would have been able to provide for that...[conservation] can help, but it can only help in the presence of good planning that says 'this is where the land is we want to protect is and this is where we want to grow'. (Beth Humstone)

Crossing Traditional Lines: Reaching Out to New Partners

As conservationists expand their understanding of the context of their work, the possibility of new types of partnerships has caught the attention of many. The level of community engagement and the value a society has placed upon conservation can be gauged by the degree of partner diversity (Diamant et al., 2003). Nancy Bell has been putting this concept into practice and has been able to engage a wide variety of stakeholders, even some not commonly thought of as conservationists. Recently she spent the day with the Agency of Transportation regional director to discuss the condition of a bridge.

[We spent the day] talking about the bear crossing and this corridor. He got into it; he got totally engaged in the whole bear issue. (Nancy Bell)

Soon thereafter, the AOT regional director initiated posting of Vermont's first 'Bear Crossing' signs. New alliances were forged by building relationships, sharing information and the purpose of conservation activities.

In the case of the Vermont Forum on Sprawl, broad-based, multi-sector partnerships were a goal from the very beginning.

We operated on many fronts. We didn't just work with communities', zoning or something. We decided that we were going to work with the private sector...developers, builders... business people, economic development specialists, affordable housing groups, architects, landscape architects, people involved in preservation, people involved in conservation.... to help us identify, figure out the strategies that would be effective. So pretty early on we developed alliances with diverse groups. (Beth Humstone)

Other types of partnership arrangements can emerge when existing conservation program infrastructure is ill-suited to landowners' needs. The Orange County Headwaters Project arose in response to local conservation goals that needed organizational support.

When this group of people got together to talk about conservation and the Forest Legacy program, we realized that there were a lot of people who were interested in conservation because they thought it was a good idea, because they wanted to do something collectively, but for whom Forest Legacy is not a good match. They weren't interested in being that intimately involved in a government program. They weren't interested in having guaranteed public access in perpetuity...the common thread (among project participants) is that they all want to donate development rights on their property and they want help doing it. They want (to make) a donation, they want support, and they want coordination. They want us to represent them in dealing with any of the organizations, big partners, because that, to individual people, can be a bit overwhelming. I think that is why conservation at the landscape scale doesn't usually happen... people, when dealing directly with some of these organizations, are overwhelmed and they have a lot of other things going on. Even if they want to do something they don't have the time and the comfort level because they don't have the relationship directly with the organization. So what we are trying to do is assist a group of people that have really strong relationships with each other to do what they want to do. And what they want to do is work collaboratively and by doing that they are accomplishing so much more ecologically, economically, everything...They have us focus on it, develop

relationships with the partner organizations. So instead of 30 different little relationships we can really focus on building trust with the key partners. (Ben Machin)

Partnerships often arise for a multitude of reasons. Stakeholders have sought each other out or initiated a partnership because of common goals or beliefs. Some partnerships work consciously towards a mutually beneficial outcome. Other partnerships are either more serendipitous or, in some cases, more political in nature. Nancy Bell's meeting with the regional AOT director was planned, but only to achieve information. It was only through their conversation that a non-traditional, previously antagonistic partner became personally invested in a conservation initiative. The outcomes of the meeting cost the AOT almost nothing, but for bear conservation the outcomes were significant. When conservationists begin recognizing that other entities sharing their greater landscapes are potential collaborators, new relationships are formed, new knowledge is produced, and common values are identified. This, in turn, may help develop a more connected network working towards landscape-scale conservation goals.

Reaching Out To Communities

In the early days of land conservation in Vermont there was limited involvement at the community level, either initiated by a community seeking to conserve particular parcels of land or other resources, or by a land trust looking for moral or financial support for their efforts. In a few cases, local or municipal land trusts were established, or relationships were intentionally formed between local citizens and land trusts. As conservation efforts matured and became more prolific, the level of interest increased for creating partnerships at a variety of levels (i.e., local, regional, and national).

Organizations across all sectors realize the potential for long-term benefits when community engagement is viewed as creating and cultivating relationships

... Maintaining good relations is how you prevent violations. (Gil Livingston)

And take the challenges and concerns facing each community individually, incorporating it into their own strategy.

[The Vermont Land Trust is] very focused on the health of communities as a core concept. (Gil Livingston)

Working with communities on conservation issues has become Nancy Bell's passion. Nancy uses her own sense of place as a connecting point to the communities with which she works.

It's so personal, land and landscape is so personal...it's hard to make policy around human behavior. It's really about just continually listening, sharing and finding out about what's important to the public. Generally, if you ask people what they love about where they live, it's all about the landscape. Asking about what they love where they live opens a whole different dialogue than going in and saying this is really important to protect. It can come in after you ask the question, but if it comes in before you ask the question, it's just a whole different dynamic of relating. (Nancy Bell)

Nancy also understands the importance of flexible conservation strategies that reflect the needs of individual communities.

You can have an agenda for your conservation model. But increasingly what's going to have it work is a community that holds that same agenda. And it may not be for the same reasons. Can you craft a policy that dictates that? It is always going to be organic no matter what. You may have all the policy and opportunity to have people speak up at public meetings but that's not going to get it. What it takes is the folks talking at the general stores and over coffee...the town of Plymouth for years they said no, no, no to additional public land and conservation. I just kept going back and saying 'What about now?' And they said 'No'. And I would say 'What about now?' And they said 'No'...and then finally they said 'Maybe'. And we entered into a relationship of reciprocity, assisting the town to meet its needs for expansion of their cemetery. And now, this last project, which we went in for with Forest Legacy, we went in and asked if they would support it and they were thrilled. And 'Please come back if there is anything we can do'... The relationship has been built. They know now that it's not a bad thing... they really saw the value in it. They could see that this is the only way to connect areas of public land across a major highway. (Nancy Bell)

Community-Driven Projects

Working at the scale of local communities brings a unique set of challenges and opportunities. Conservation strategies that work in one community may not work as well in another, often because communities differ in their specific socio-cultural, economic, and geographic conditions.

People have asked us to help them do similar things in their area. We could help, we could advise but we couldn't easily coordinate another project like this somewhere else because... we have all these relationships in place, we know the land, we know the area and we're part of it. Yeah, it can be replicated, but its not replicated by a whiz-bang consultant that comes in from the outside and gives you all kinds of smart ideas. It's replicated by people in their communities who have worked over a long period of time to build relationships and social capital and are interested in doing the right thing and doing it together. So areas where people move in and out more often are less likely to succeed. (Ben Machin)

Each community has its own articulation of what's important to it. And, really you can't make any assumptions about anything community to community...Every project comes with its new opportunities, new challenges, strange and unusual partnerships...Each project has its own life. (Nancy Bell)

Just as the work of conservation organizations has an impact on the local communities where projects are implemented, working in and with communities can influence the way an organization operates and structures itself.

[The Vermont Land Trust] shifted the governance model to this idea that board members should be representative of the community. And broadly representative...[Their] number one objective...is to be listening to their communities, testing our judgment against what they hear frequently -- have them serve as conduits for a broad series of interests throughout Vermont. (Gil Livingston)

Emergence of a Grassroots Organization: The right people at the right place at the right time

Across the watershed, changes in stream flow and loss of undisturbed land became increasingly evident to residents of the Lewis Creek watershed. In the late 1980's, a growing apprehension about the changing landscape was articulated in conversations with friends and neighbors. The town of Charlotte had recently completed a scenic roadway study and people's minds were on conservation. Through social networks, community members voiced their concerns and discovered a common bond in their desire to protect the qualities they loved about their landscape.

An important catalyst for change was a land acquisition grant given to the Hinesburg Land Trust by the Vermont Land Trust that called for the creation of a greenbelt on the Lewis Creek. In January 1990, over fifty residents of the Lewis Creek came to the first meeting to discuss this potential project. The coordinator of the meeting, Andrea Morgante, whose favorite swimming hole was in the Lewis Creek, believed natural resource planning was not well represented in Vermont's regional planning process. *She was able to suggest the perspective that we begin to look at the landscape from a watershed point of view. This appeared to be a new regional way on thinking in Vermont.*

By early 1990, the Lewis Creek Conservation Committee (LCCC) was formed. Early work focused on data collection and community education through newsletters, maps, and workshops. At the same time, a University of Vermont graduate student was designing a stream bank inventory procedure for citizens. This tool enabled LCCC members to become immersed in the ecological health and resource base of their watershed and led to the creation of biological and hydrological watershed maps and identification of valuable pockets of biodiversity. The active and growing membership found funding resources to support their work, and the LCCC transformed into the Lewis Creek Watershed Association (LCA), a name that reflected its new paradigm.

The LCA takes an integrated approach founded on the watershed's ecological health. Their mission statement outlines their focus, *to protect, maintain and restore ecological health while promoting social values that support sustainable community development in the Lewis Creek watershed region and Vermont.* The June 2003 LCA newsletter, 'The Kingfisher', articulates the connection to the community:

...dedicated to lovers of rural life – hunters, loggers, hikers, anglers, parents, children, gardeners, farmers, selectboards, school boards and fire-fighters; these are the people of Monkton, Charlotte, Ferrisburgh, Hinesburg, Bristol and Starksboro. LCA has been investigating the watershed with scientists to more clearly define our rural traditions and heritage.

LCA members also got engaged in the history of the Lewis Creek. Decades ago, the Lewis Creek was straightened and channelized. Through collaborative efforts with Vermont's Department of Environmental Conservation, LCA has begun to restore sections of the Lewis Creek. Once again, engaged citizens gained new skills in stream geomorphology and the resources necessary to reclaim the meanders and streambanks. And LCA negotiated yet another new learning curve in the political realm of property rights as landowners were identified and approached about restoration efforts.

You end up learning about natural resource conservation and then you learn about the politics because, of course, you have to. That's what you do on the local level, is you make things happen. That is a social thing...you have to learn the science and you have to apply it...all the time, everyday. (Marty Illick)

The LCA brings a holistic approach to their work. They conduct educational tours and presentations, catering programs to specific audiences. They work with town planners to move towards sustainable growth, they get young people involved in their own stream-team programs and they work with individual landowners to discuss the concerns specific to their land.

The emergence of the Lewis Creek Association represents a new direction in Vermont's conservation community based on the acceptance of landscape-level planning and the science of landscape ecology. This new ecological understanding of their watershed empowered LCA members to actively address the issues affecting their community. The desire to maintain their landscape without hindering their growth compounded with the passion and dedication of the core group of LCA members continues to drive LCA efforts. After 15 years of education, training, planning and civic dialogue, LCA boasts a community connected to its natural landscape beyond just an appreciation for its beauty.

Funding and Resources

The purchase of easements and other central elements of conservation work require money, often substantial quantities of money. In a small state like Vermont, the question of where an organization can turn to acquire funds to accomplish its work is an on-going challenge.

Resources are finite, and we tend, and this is not exclusively true, but essentially, between the Vermont Land Trust, the Trust for Public Lands, the Conservation Fund, The Nature Conservancy, and also the Upper Valley Land Trust and the Lake Champlain Land Trust. Once you're at that level, the deal skills are common, the innovations are common, the money is all the same.... We all sort of think about the same money sources. (Gil Livingston)

[I think of myself as] an opportunistic feeder, like black bears. I try to stay out of the competitive mode with other organizations and just continue to focus on getting conservation done. It doesn't really matter who gets the credit for it, it's just that, for me, the connectivity and the larger landscape pieces are really extremely important...I continue to look at where we have community support. Where is there going to be community support and the variation on funding? Where can we use Agency of Transportation money and community money and state money, kind of mix and match to be able to pull [it all together]...In order to get federal funding and dollar awareness, political awareness and dollar awareness you do need to have a credible project. And you do need to have the communities rise up in favor of a broader approach. (Nancy Bell)

The pool of funds for conservation work expands and contracts in response to many factors, but real changes in federal funding streams affect the work of Vermont conservationists.

It is becoming increasingly challenging because funding is drying up federally...I think everyone is coming to an awareness that we are in a different world and we need to regroup. I think it is a critical time because organizational survival may be put ahead of conservation. What really should be the conservation goals? (Nancy Bell)

Community-based organizations often struggle with acquiring even small amounts of funding to support their efforts. Although community-based groups are in many ways better positioned to draw in and rely on volunteer energy, funds to support part- or full-time staff people may be essential to achieving the continuity of effort that is needed to produce real results.

We have a surprisingly connected and savvy group of people involved in the project. The knowledge this group had at the onset, or has gained through this project, is the most easily transferable part of the project from one place to another. What you need, of course, to make this happen is money to cover someone's time to pull this together, to coordinate. (Ben Machin)

Marty Illick points to some of the logistical challenges that can weigh down a small community-based group and questions the feasibility and efficiency of each watershed-based group negotiating legal and financial hurdles on their own.

Is this concept of regional watershed organizations, affordable and sustainable over the long-term? It is a new question that is on the table in the state. We started out to help towns and the state achieve some very laudable goals through resourceful and cost-effective measures. We set up 501(C) 3 organizations to bring in private dollars and volunteer labor to get work done, but now we are asked to individually increase our overheads...when a

more efficient organizational model may be more sustainable. So the present model of resourceful activism becomes questionable. (Marty Illick)

What does the future hold?

Unfilled Niches

In reflecting on challenges still to be taken on, conservationists point to opportunities for engagement in the policy process. Nancy Bell is turning her attention to regions like the Northern Connecticut River watershed that are poised to experience major development pressure. Her goal is to cultivate the social capital necessary to channel that pressure into sustainable development.

In Essex County, an area of transition from industrial forestry to sustainable forests and recreational development, there is an immense amount of economic opportunity. A few opportunities are going to be driving the show if communities don't step in to say how they want it to look. The combination of opportunity and necessity creates policy and movement. It wasn't anything anyone planned. It was certainly thought of but we couldn't have anticipated the dynamics that would eventually set it in motion, and while conservation is based on scientific data, human behavior relating to change is not. (Nancy Bell)

Beth Humstone echoes these concerns about the potential for major landscape changes in the absence of vibrant, relevant, local and regional planning structures.

I don't think we spent enough time on rural residential sprawl. I think it is a difficult one. Our guidebooks did. We developed approaches for how communities could deal with it. But in terms of operating at a state level and a policy level to really draw attention to what is happening, I don't think we did enough. We had Darby Bradley from the Vermont Land Trust on our board. He said, 'you know, there is so much work going on in conservation' that he thought one of the niches that needed to be filled was 'how do you do development?'...There wasn't an organization out there that was really focused on how you do development...There's work that's been done. But there is no real regional approach. (Beth Humstone)

Beth also offers insights about missing dimensions of previous conservation strategies, specifically a more holistic approach to the full-range of needs of local communities.

We had a vision and a mission...we talked about having compact settlements separated by rural countryside. I think that statement really should be re-evaluated today. It doesn't really bring in social and economic issues. It doesn't actually say anything about the environment either. It is a vision of a land-use pattern. But it is lacking those dimensions. (Beth Humstone)

As Vermont's conservation community has evolved toward a more complex, multi-dimensional entity and the variety of people engaged in some form of conservation work increases, new paradigms might be needed. For established organizations, new tensions may develop between attachment to well-honed, time-tested organizational strategies and the desire to foster and engage grassroots groups.

It's very easy for these organizations, whether they're statewide land trusts, local land trusts, or national environmental organizations, to do business in the way they normally do

business...But when you have a whole group that drives itself up from the grassroots like we have here, the question is 'can the environmental organizations meet you half way?' We have been very encouraged by what we have found in working with the Vermont Land Trust. But we have had some other organizations we would like to work with that we haven't ironed out the kinks with. We look messy to them, I think. The question is, if at the heart of their mission statement is to do work like this, if everyone is talking about landscape level conservation, if everybody is talking about helping community groups, are they really equipped to do this type of work? Here is really what everyone's been talking about but few have been able to do...

If you can couple intense grassroots involvement with these powerful organizations that are so well-established, I think you can accomplish what everyone wants to accomplish. But it takes people getting out of their comfort zone a little bit on both ends. (Ben Machin)

Because conservation work often takes the form of intense pursuit of specific project accomplishments, attention and time may not always be available to document and reflect on how to replicate successful strategies or develop more effective approaches.

If we are [successful], the lesson to be learned is you can do this within your own community if you are serious about it, and you can dedicate some resources to some coordination. I think we need more documentation of the project and a case study or assessment conducted...we need to plug somebody in from the research angle so that they can ensure we are gathering the right information along the way. This is really kind of a fundamental step in this to make sure we are documenting as we go. So you're not coming in [three years later] and saying 'what happened?' We'll have some records of what happened and why. What made it work or didn't work. (Ben Machin)

Community Evolution

As in the biological community of an ecosystem, components of Vermont's conservation community operate at multiple scales, occupy many different niches, and pursue a variety of goals and life strategies. Rather than a static set of organizations occupying unchanging niches, Vermont conservation groups respond dynamically to external and internal patterns of change. For example, as governmental commitment to conservation has changed over time, private conservation groups have moved into newly emptied niches, evolving their organizational structures and strategies accordingly. In some cases, mutualistic relationships have developed in which formal and informal collaboration allowed organizations to expand their sphere of action or improve the quality of their work.

On the other hand, there is an awareness of the potential for competition among conservation groups for funding resources and constituencies. Vermont's conservationists recognize the small size of their community. The level of collaboration between conservation organizations and communities is enhanced by the state's small size. A cooperative spirit driven by a vision of what people want Vermont's landscape to look like limits competitive exclusion. Although each organization has its own mission and each community its unique values, the overarching vision of a rural working landscape dotted with compact communities enables diverse conservationists to work cooperatively.

Conservation organizations occupy a variety of trophic levels. Community-based conservation groups tend to be generalists who direct their attention to a broader suite of issues that are compelling to local residents. Issue-based conservation groups work at a broader geographic scale, but are much more specific in the types of projects they pursue and the strategies they employ. There are also examples in Vermont of collaborative efforts to work at an even larger scale to address both broad geography and an expanded set of environmental issues and drivers of environmental problems (e.g., Vermont Forum on Sprawl).

As Vermont's conservation community continues its dynamic evolution, it may exhibit increasing diversity and complexity. From the study of ecosystems, we see that these qualities are commonly linked to increased community stability and resilience. Greater interaction among conservation groups and stronger capacity for synergistic action may, in fact, be an indicator of an increasingly healthy conservation community in Vermont.

Conclusions

The motivation for this project was to create a platform for understanding landscape scale conservation efforts in Vermont. As outlined in the introduction, a set of questions pertaining to landscape scale conservation in Vermont was developed from common themes found in the 2003-2004 Conservation Lecture Series. Interviews with a cross-section of Vermont's conservation community were conducted to answer these questions.

How are 'science/issue-driven' and 'community/place-based' approaches represented in the Vermont conservation community?

Organizations exhibit varying degrees of reliance on science and community desires to guide conservation priorities, however some balance of the two seems essential. In some cases, individual conservationists are inspired by their own personal values and vision for landscapes and this is embodied in the organizations they form or join. Scientifically-trained conservationists infuse their ecological knowledge into their work, while many conservationists blend science with community needs and opportunities. Significantly, it appears that individuals on many points of this spectrum recognize and respect the importance of the work that others are doing.

There is also an increasing recognition of the need to expand the scope of conservation work to consider a larger geographic scale and a broader range of issues, while not losing the personal and trust relationships that fuel much of the community-based conservation work. As individuals reflect on the impacts and limitations of earlier conservation initiatives, they point to the need to work at a greater geographic scale in order to create habitat connectivity, achieve significant cumulative improvement in water quality, or maintain community integrity. Similarly, reflection on the unintended consequences or confrontational processes of earlier projects, has led some conservationists to cultivate a broader definition of conservation issues to accommodate important community needs such as affordable housing and sustainable growth strategies.

What is the prevalence and nature of multi-objective projects and collaborative partnerships?

While conservation leaders may begin their involvement with a strong scientific or community orientation, it appears to be common for this orientation to expand to encompass a larger suite of considerations and objectives as they forge working relationships with client groups or other conservationists. It is likely that, collectively, this evolution has the potential to reduce conflict and competition and boost cooperation and compromise in the negotiation of specific conservation projects, as well as larger policy efforts.

There appears to be a general understanding of the importance of different roles in addressing the diversity of conservation opportunities at the local, regional, and state levels. Community-based organizations are uniquely situated to meet the specific goals and constraints of local areas, while statewide land trusts are well positioned to acquire funds, to administer easements, and to operate efficiently and strategically. There appears to be a high degree of willingness to acknowledge organizational niches and to provide assistance and referrals.

The value of consortium activities, community engagement, and non-traditional partnerships is taking root in the paradigms and practices of Vermont conservationists as they come to acknowledge that they need to reach out in order to accomplish their missions. Working collaboratively and authentically integrating community members can require real effort to understand other perspectives and to adapt internal policies and procedures. Several individuals discussed their motivation and strategies to include municipal and state officials, local residents, and members of the business community in planning and implementing conservation work. As the Vermont conservation community transitions from a focus on the work of individual organizations on distinct issues toward broader missions and inclusive networks, traditional boundaries are likely to become more fluid and dynamic.

What public policy obstacles have conservationists encountered?

Access to funding to operate conservation organizations and implement land conservation is a vital and perennial issue. The allocation of a limited pool of public and private resources across Vermont's conservation community has changed over time and is likely to be dynamic in the future. There is an awareness of the potential for increased competition for funding should resources become scarcer. This awareness has sparked a general conversation about the impact of the proliferation of small conservation groups and the number of organizations needed to sustainably accomplish conservation missions.

Small and newly formed conservation groups encounter specific barriers to conservation action, specifically negotiating administrative and logistical hurdles and acquiring minimal funding. These challenges are particularly noteworthy when organizations take on the responsibility of holding conservation easements and the attendant need to provide for long-term compliance monitoring.

What leadership models have been successful in ground-breaking dialogues, collaborative partnerships, and landscape scale conservation?

The conservation community in Vermont has developed over several decades and exhibits a high level of maturity in the range of leadership skills and innovative strategies that are in evidence. For example, many conservationists demonstrate an acceptance of potential win-win collaborations even if overall goals are not identical. Understanding partner organizations' goals and objectives and knowing how best to refer interested landowners and communities seems to encourage deeper collaboration. Some of the leadership qualities that emerged through the interviews include:

- An ability to perceive the big picture and to take a long view
- A willingness to collaborate and the courage to compromise with generosity
- Knowledge of complex ecological and social processes
- The capacity to inspire and to take action
- A sophisticated ability to evolve and to try new strategies

Both issue-driven and place-based conservationists encounter the need to gain skills and knowledge that enables greater effectiveness. Statewide and national groups have been developing their capacity for community engagement. Community-based conservationists have

sought out ecological process knowledge from state agency personnel, university researchers, and scientists at non-profit organizations.

Recommendations

Leaders

While the leadership capacity within Vermont's conservation community is substantial, so are the challenges that this community is confronting. To maximize conservation successes, there may be opportunities to build on past experience and current strengths to create a vibrant future.

Learn from the past: As new concepts and strategies are accepted into the conservation toolbox, there are opportunities to reflect on lessons from earlier conservation projects. In particular, it may be useful to look back at confrontational or politicized projects to assess how greater attention to diverse perspectives and values might have eased the process and increased community buy-in.

External influences: In the past, funding entities and state government have shaped the structure and function of Vermont's conservation community by designing specific mechanisms for allocating conservation funds. These systems influence what conservation groups can achieve and therefore can play a strategic role in creating the conservation 'work force' in the state. Funders and state officials have the potential to predict future needs and challenges and to build frameworks for conservationists to work within.

Community dialogue and reflection: Conservationists operate in a context of multiple pressures and constraints. As a result there may be few regular opportunities for reflection about current practices and goals or 'big picture' discussions with peers both within and beyond state borders. The creation of structured settings that facilitate and encourage dialogue and idea sharing about innovative models and opportunities for synergy may help accelerate the pace of responsive change and the building of social capital within the conservation community.

Networks

There may be opportunities to increase the sustainability of Vermont's conservation movement through formal or informal networks that facilitate more integrated planning and collective activity.

From niches to networks: Despite a diversity of visions for the Vermont landscape, conservationists can enhance their effectiveness through collective action. This may require further development of communication skills to allow for deeper collaboration. Potential benefits include dovetailing priorities, reducing competition, and amplifying participation in the policy realm.

Visioning: By making use of visioning or planning tools (e.g., scenario planning), communities, planners, and conservationists can identify and work towards desired future outcomes. Potential benefits include early recognition of opportunities and prevention of unintended consequences. By taking a long-term, big picture, collective view of priority threats and opportunities, individual projects would gain a richer context and the potential contribution of 'orphan' (e.g., very small, urban/suburban) parcels would be better understood.

Measuring impact: Conservation work can benefit from expanded mechanisms for looking at large-scale landscape quality and connectivity in relation to desired visions for the region.

Examples include ecological and community indicators and impact assessments of conservation projects. There may be opportunities to enhance collaboration on ecological monitoring with the scientific community or on quantification of ecosystem services with environmental economists.

Emerging Conservationists

One of the strengths of Vermont's conservation community is the long tenure and experience level of many of its leaders. However, there is always a need to foster the development of new leadership, both through passing on acquired knowledge and skills and supporting individuals with creative ideas and approaches.

Mentoring: One element of creating new leadership is promoting the growth and smooth functioning of community-based organizations. Through informal mentoring relationships or more structured 'how-to' guides, individual conservationists can gain access to the pool of expertise that exists in the state. Newly forming groups could benefit from the formation of formal 'umbrella' administrative structures that assist with hurdles such as establishing nonprofit status, obtaining insurance, and other issues of basic functioning.

Build the next generation of leaders: In order to translate the commitment and values of individual conservationists into sustainable programs, new leaders need the opportunity to gain maturity and fluency with complex strategies. Through participation in formal leadership training and working within well-functioning organizations, passionate conservation advocates can become effective strategists and collaborators.

Conservation organizations are faced with the question of whether to grow in scope or to increase the number of partners in their collaborations. Even as the science behind conservation drives organizations to look beyond individual species and even ecosystems, the breadth of landscape scale conservation expands to encompass social and economic issues and their interface with natural resources. The focus of each organization directs the scale at which they work although not necessarily the number of partners they may have. A locally-based watershed group may focus within their specific boundaries and have as many collaborators as a more regionally based organization. Their issue, not their size, drives the range of partnerships. As the complex nature of even the most local issue unravels, partnerships take on new forms. Viewed as traditionally competitive groups, farmland conservation groups now pair with town planners and developers to influence the form and location of built development. Although still emerging, the level of communication and collaboration between formerly polar-opposite sectors is increasing. The increase in the number of communication forums and incentive programs is furthering such collaboration efforts. Successful leadership in organizations fosters the emergence of new collaborations. An organizations willingness to accept potential win-win collaborations, even if the overall goals are not identical (e.g. Vermont's Housing and Conservation Board), stems from leadership's ability to recognize their organization's role in the conservation of the greater landscape.

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Appendix I: Interviewees and Organizational Mission Statements

Nancy Bell

The Conservation Fund
1331 Town Hill Road
Shrewsbury, VT 05738

www.conservationfund.org

The Conservation Fund forges partnerships to protect America's legacy of land and water resources. Through land acquisition, sustainable programs, and leadership training, the Fund and its partners demonstrate effective conservation solutions emphasizing the integration of economic and environmental goals.

Kathleen Fitzgerald, Executive Director

Northeast Wilderness Trust
P.O. Box 406
Montpelier, VT 05601-0406

www.newildernesstrust.org

Working to restore and preserve forever-wild landscapes for wildlife and people.

Evan Goldsmith, Associate Director

Vermont Forum on Sprawl
110 Main Street,
Burlington, Vermont 05401

To encourage economic vitality in community centers and preserve Vermont's unique working landscape and quality of life.

Elizabeth Humstone, Director U.S. Initiatives

(former Executive Director, Vermont Forum on Sprawl)

Institute for Sustainable Communities

535 Stonecutters Way
Montpelier, VT 05602

www.iscvt.org

To help communities around the world address environmental, economic and social challenges to build a better future shaped and shared by all.

Marty Illick, Executive Director

Lewis Creek Watershed Association
442 Lewis Creek Rd
Charlotte, VT

www.lewiscreek.org

The mission of Lewis Creek Association is to protect, maintain and restore ecological health while promoting social values that support sustainable community development in the Lewis Creek watershed region and Vermont. Through education and action, LCA will:

- *Restore water quality, stream stability, and native wildlife habitat*
- *Protect and restore important and diverse natural areas*
- *Conserve productive and scenic lands that contribute to rural character and economy*
- *Support growth compatible with important natural systems and working landscapes*
- *Strengthen and support local conservation initiatives and opportunities*

- *Model active participation and respect for differences*

Robert Klein, State Director

John Roe, Director of Conservation Programs

The Nature Conservancy of Vermont

27 State Street

Montpelier, VT 05602-2934

www.nature.org

To preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

Gil Livingston, Vice President of Land Conservation

Vermont Land Trust

8 Bailey Avenue

Montpelier, VT 05602

www.vlt.org

To conserve land for the future of Vermont

Ben Machin, Co-coordinator

Orange County Headwaters Project

PO Box 500

Corinth, VT 05039

To provide information, contacts and leverage to all the landowners in the project area who are interested in conserving their land. By working together as a group, and combining this strong grassroots commitment to conservation with the experience, knowledge and leadership of respected partner organization, landowners can conserve their lands more cost-effectively and create large contiguous areas with long-term ecological, forestry, wildlife and recreational value.

Elizabeth Thompson

Conservation Biologist

c/o Department of Botany

University of Vermont

Burlington, VT 05401

Appendix II: 2003-2004 Conservation Lecture Series

Conservation at the Landscape Scale: Emerging Models and Strategies

<http://www.uvm.edu/conservationlectures/>

Dr. Reed Noss

University of Southern Florida
The Wildlands Project

The Science of Conservation Planning

Dr. Adrian Phillips

IUCN
Gland, Switzerland

**Turning Ideas on their Head: The New Paradigm
for Protected Areas**

Ms. Nancy Bell

The Conservation Fund
1331 Town Hill Road
Shrewsbury, VT 05738
www.conservationfund.org

**Development and Implementation of Emerging
Conservation Models and Strategies**

Ms. Brenda Barrett

National Park Service
Washington, DC

**Heritage Areas: Places on the Land, Places in the
Heart**

Dr. Jeffrey McNeely

The World Conservation Union
Rue Mauverney 28
CH-1196 Gland, Switzerland

**Protected Areas in 2023: Scenarios for an IUCN-
Uncertain Future**

Ms. Elizabeth Thompson

Chittenden County Uplands Project
University of Vermont
Burlington VT 05405

**Where Theory & Practice Meet: Chittenden
County Uplands Project**

Ms. Kathleen Fitzgerald

Northeast Wilderness Trust
P.O. Box 406
Montpelier, VT 05601-0406
www.newildernesstrust.org

Northeast Wilderness Trust

Mr. Donald Murphy

National Park Service
Washington, DC

**The Role of Parks in Landscape Scale
Conservation**

Dr. Gustavo A.B. da Fonesca

Center for Applied Biodiversity Science
Conservation International
1919 M Street NW, Suite 600
Washington, DC 20036

**Expanding the Scale of Conservation
in Hotspots and High Biodiversity
Wilderness Areas**

Appendix III: Recommendations for future studies:

- Interviews with communities surrounding Champion Lands to determine long-term effects (loss of social capital)

- Case study of Chittendan County Uplands Project or the Orange County Headwaters Project

- Interview town planners to determine needs & effects of land trusts.

- Interview communities &/or individuals utilizing land trusts to evaluate level of satisfaction, identify areas of success and potential improvement