volume 5

eco Log

Spring 2004

A newsletter from the Ecological Planning students in The Rubenstein School of Environment and Natural Resources at The University of Vermont

Welcome!

The Ecolog is the publication of the Ecological Planning curriculum in The Rubenstein School of Environment and Natural Resources Graduate Program. The Ecolog is published once per year in the spring.

The interdisciplinary study of how to apply ecology to planning processes directed at the conservation of nature finds one of its homes in the Ecological Planning curriculum in the Natural Resources Masters Program at UVM. Closely connected to Ecological Design, Ecological Economics, and other more recent interdisciplinary endeavors, ecological planning shares the desire to use knowledge to build a more sustainable world balancing people and nature.

The Ecological Planning curriculum at the University of

Vermont's Rubenstein School of Environment and Natural Resources is a concentration within the Natural Resource Planning program. Ecological Planning is an intense two-year learning experience that emphasizes teamwork, interdisciplinary thinking, and personal growth.

With most of its roots in hard field science, the Ecological Planning curriculum prepares students to assess landscapes through an ecologically-colored "pieces-patterns-processes" handlens – developing vegetation, soils, and natural community assessment skills. Students concurrently develop speaking, writing, and problem solving skills.

The curriculum's roots also reach into the social sciences. Students take courses in land conservation, integration, and natural resource planning, allowing students to create conservation solutions that address the complicated human side of many environmental problems.

To learn more, visit http://www.uvm.edu/envnr/ep.

Inside this issue

Editors
Brooke Wilkerson
Kendra Schmeideskamp

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Deane Wang

Artwork
Charlotte Clews
Claire Dacey

Layout Design
Becky Wang

Notes from Afield

Elissa Arnheim (EP1) is now working for the North Olympic Land Trust, which operates throughout Clallam County, Washington and includes a wild range of natural communities and demographics (from bona fide temperate rainforest to a native prickly pear cactus *Opuntia fragilis*).

Brian Carlson (EP1) moved to Marquette, Michigan with his wife, Rima, on the shores of Lake Superior last May. After spending the summer remodeling their new home, he has begun working on a multi-year project for the The Nature Conservancy. This first season he will prepare the baseline documentation for a 150,000 acre conservation easement and is looking forward to the challenges that will arise because of the shear scale of this easement.

Jon Kart (EP3) is coordinating Vermont's Comprehensive Wildlife Conservation Strategy (CWCS) for the Vermont Fish & Wildlife Dept. The CWCS is an effort to identify and conserve Vermont's species of greatest conservation need.

Kerstin Lange (EP3) is having fun promoting her new professional (ad)venture, Landscape Analysis, which helps landowners understand their land from a natural history perspective. See www.LandscapeAnalysis.com

Tom Lautzenheiser (EP2) is the Ecological Extension Service Naturalist and GIS Analyst for the Massachusetts Audubon Society. Fortuitously, Tom's station at the Arcadia Wildlife Sanctuary, nestled at the bend of the Oxbow on the Connecticut River, not only is on the route of many thousands of migrating birds, but also satisfies his penchant for living and working near places called Mt. Tom.

Jillian Liner (EP1) continues to work for Audubon New York as their Important Bird Areas Program Coordinator. This past year, the Audubon New York science staff moved into the new Cornell Lab of Ornithology building. If you ever find yourself passing through upstate New York, be sure to look Jillian up and she'll give you the grand tour.

Tess O'Sullivan (EP2) continues as the Science and Conservation Program Manager for Lava Lake Land & Livestock based in Hailey, Idaho. She is working on the restoration and conservation of native ecosystems at a landscape scale in Central Idaho while at the same time maintaining a sustainable business. Working towards achieving all of the lofty goals of the Conservation Plan is her greatest challenge. She loves having the mountains outside her door and feels like Idaho is becoming her home.

Josh Rapp (EP3) is currently in India researching epiphyte diversity along with the occasional hawk, hornbill, or viper he finds high in the canopy of Karnataka. After this adventure, Josh is off to a Ph.D. Program where he will hone his skills as a scholar, probably studying a tropical canopy in some exotic location.


Photo © Jen Cramer

JIM EIKENBERRY

From the Sahel of Northern Cameroon to the lush temperate forests of the Southern Appalachian mountains, Jim Eikenberry has been exploring, learning, and searching for a landscape to call home. He grew up in an upstate New York rural setting, and proudly shares with others that he took his first solo hike at the ripe age of three, much to his mother's dismay. Since wandering away from the sandbox and into the woods, those many years ago, Jim has been in love with the natural world and seeking to explore and understand its mysteries.

While working last winter as a Biological Science Technician, with the National Park Service Lake Mead Exotic Plant Management Team, Jim experienced the beauty of the American Southwest for the first time. He also saw the many alterations that humans have imposed on the desert. Working in desert wetlands, degraded by the development of Las Vegas, awoke Jim to the critical need for wetland and riparian areas conservation.

After Jim left the Las Vegas Valley, he returned to his favorite landscape, the mountains of Western North Carolina, in search of a way to fulfill his environmental mission. Being hired as the Newfound Creek Watershed Resource Coordinator, for the Buncombe County Soil and Water Conservation District, provided Jim with the opportunity he was looking for. In just six months, Jim turned around a struggling watershed protection program. By working closely with key local landowners and sharing the importance of wetland and riparian areas conservation he initiated twenty-five new water quality protection projects, preventing over 1,800 tons of soil loss, per year.

Compelled to find new and healthier ways for humans to live within the natural world and fueled by his wetland and riparian areas conservation mission, Jim's search for guidance led him to the Ecological Planning Program at UVM. This challenging and exiting interdisciplinary masters degree program is allowing Jim to increase his scientific, sociopolitical, and communication skills, challenge his assumptions, and embrace the realization that he can change the world.

Wetlands, Woodlands, Weekend Warriors

BY JIM EIKENBERRY

What happens when you mix Ecological Planners, Field Naturalists, Historic Preservationists, and the Army Reserve? The result is an exciting integrative project in interdisciplinary thinking, applied to the management of an Army Reserve training installation. As a first year Ecological Planner, Jim Eikenberry, is coordinating a three-year project directed by Dr. Jeffrey Hughes, Director of the Field Naturalist Program, which is with the 94th Regional Supply Command (RSC) of the Army Reserve. The 94th RSC has contracted UVM to conduct ecological, cultural, and historical assessments, and create a management plan for Fort Greene in Narragansett, Rhode Island. The inventory and assessment will be the foundation for Fort Greene's comprehensive natural resource management plan.

Fort Greene is an inactive and unoccupied Army Reserve training facility that is being reactivated for training and administrative purposes. It occupies 104-acres of minimally developed land near the Narragansett Bay of the Atlantic Ocean, an area increasingly surrounded by the commercial and residential development of Narragansett. The landscape of the installation is composed predominantly of forested wetlands, wet meadows, and upland sites. Common plants include red maple (*Acer rubrum*), swamp white oak (*Quercus bicolor*), and sensitive fern (*Onoclea sensibilis*), while common animals include white-eyed vireos (*Vireo griseus*), white-tailed deer (*Odocoileus virginianus*), and gray fox (*Urocyon cinereoargenteus*). In addition, the potential exists for finding threatened and endangered species. Fort Greene is an island of protected habitat, harboring species fleeing the increasing development of Narragansett. This situation is not unique to Fort Greene; encroachment by development is happening around most of the 425 installations managed by the Department of Defense.

Currently, most military installations are required to have an Integrated Natural Resource Management Plan (INRMP). An INRMP requires provisions for the conservation and restoration of natural resources, while ensuring military preparedness.

While the INRMP format mentions comprehensiveness and integration, these plans lack a section that actually illustrates and explains what this means. Instead, INRMPs are more likely to be a collection of topics and lists about the same place but disconnected from each other.

The 94th RSC could have contracted with any number of

environmental consultants for this project, but they chose the Ecological Planning and Field Naturalist programs because they were looking for more than a standard inventory and INRMP. Along with providing the Army Reserve with a comprehensive and integrated ecological inventory, assessment, and management plan, we will also provide them with a natural history of the Fort Greene landscape. The natural history format will explain the interconnections between the layers of the installation's landscape and serve as a medium through which the inventory, assessment, and management plan, can be accessed and better understood.

Increased public scrutiny of military lands management is causing the military to re-evaluate their planning and management efforts and how they share these efforts with the public. The limitations of the INRMP format deter a comprehensive and integrated understanding of installation landscapes, for both military land managers and the public. The recipe for successfully conserving threatened, endangered, and common species, and effectively communicating this conservation, includes both an INRMP and a natural history analysis. We hope that this new approach will both inspire greater implementation and understanding of Fort Greene's INRMP, and create a new standard for INRMPs at all 65 installations of the 94th Regional Supply Command and beyond.

Learning How to Observe Life in a Marsh

BY JANE MOSCOWITCH

Piling on my fifth layer to keep warm on a blustery Friday in October, I waddled over to the canoes where the Field Naturalist and Ecological Planning students were finishing loading up hot chocolate, trash bags, binoculars, 5-gallon buckets and other essentials. Our leader, Regan Brooks, a second-year Field Naturalist student, asked us to launch our canoes and paddle towards a beaver lodge. We would reconvene there to discuss whether or not we thought the lodge was active and to finalize a plan for exploring Little Otter Creek Marsh.

We hadn't been in the canoes for more than a minute when a great blue heron with a wingspan of almost six feet took off from alongside the creek. This bird is easily recognized by its white head, yellow eyes, and the black stripes that run from each eye to its slender black plumes. It is not uncommon to see great blue herons in riparian habitat where they feed on small fish, amphibians and shellfish.

Approaching the beaver lodge, made of mud, stones and tree branches, our four canoes surrounded the lodge as if to keep the beavers from escaping. From the multiple mud slides down the lodge into the water, we were able to determine immediately that beavers were still it. We continued to look around the lodge for other signs of activity, observing freshly cut twigs in the backwaters behind the lodge and a mud slide heading up into the riparian zone. After a few minutes, Regan pulled us together again and asked that for the next half an hour we make as many observations as we could about the marsh as we continued to paddle quietly upstream.

Paddling up a creek with the wind blowing on your face and the Adirondacks a stone's throw away, you are immediately struck by the life in the marsh. Charles Johnson in *The Nature of Vermont* describes a marsh as a special place where the river becomes sluggish, the water is shallow and shows the rich, muddy bottom, and the plants reach out into the channel. These sensitive places, constantly changing because of seasonal fluctuations of the water table, are always battling between terrestrial and aquatic. The inhabitants, both plants and animals, of these dynamic ecosystems depend on these very tensions for their reproduction and survival.

As I scanned the shoreline, my attention shifted towards a number of lodges back from the open water in the cattails. These lodges, smaller than those built by beavers

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JANE MOSCOWITCH

Growing up outside of New York City, Jane used to make every excuse in the book to prove she wasn't like every other suburban kid. She struggled to fit in and failed, but unlike so many others who never find what makes them happy, Jane did when she came to the University of Vermont eight years ago. Majoring in Environmental Studies while at UVM, she spent all of her free time exploring Vermont. As a junior, she left for six months and traveled in an old rusty red van with no shocks from Anchorage to Wrangell-St. Elias National Park & Preserve in McCarthy, Alaska. It was there, studying the natural and cultural history of the Park, where she first began to think about the implications of large-scale land conservation.

Back in Vermont for her senior year, Jane worked closely with The Nature Conservancy on her undergraduate thesis on the Williams Woods Natural Area in Charlotte, Vermont. After graduation, Jane was hired by The Nature Conservancy, where she worked for 3 years. She has been involved in projects as varied as on-the-ground preserve management to writing conservation plans. Towards the end of her time with TNC, she began to work on large-scale planning efforts such as the Vermont Biodiversity Project, the St. Lawrence/Champlain Valley Ecoregional Plan, and reserve design for the Green Mountain National Forest and the Camel's Hump landscape. "These projects," according to Jane, "were exciting not only because of the impact they were having on biodiversity conservation, but because they gave me a chance to work with partners and educate the general public." Jane's interest in large planning initiatives and her desire to learn more about the natural world led her to Ecological Planning.

Now, working with the Appalachian Mountain Club (AMC) on her master's project, she has the opportunity to think about a landscape in New England that has remained wild over the last two centuries, while still providing an economic base for the communities that live there. Working in northern Maine, Jane will conduct an ecological assessment of the 37,000-acre parcel owned by the AMC in order to write a management plan that addresses issues ranging from biodiveristy to sustainable forestry.

and made mostly of mud and cattails, are home to muskrats. Muskrats, no doubt, play a large role in shaping Little Otter Creek Marsh. This time of year they are building and reinforcing lodges for winter occupancy and collecting food for winter use, which they store in feeding huts built near the main lodge. The number of huts at Little Otter Creek seemed to be in unusually high concentration; we often saw 10 or more lodges clustered together. With this many lodges, the muskrat population is probably quite high, which has a noticeable impact on the vegetation they favor by keeping it in a state of constant flux. By looking at aerial photography from the past 50 years, we were able to see a shifting mosaic in aquatic plant colonies such as cattails, lilies, sedges, and grasses. The largest shift over time was in the cattail populations, the muskrat's favorite food. Large areas would be overeaten by muskrats, and as a result, cattails would dieback for a number of years. I speculate that this is a cyclical relationship where high muskrat populations lead to low cattail populations, which in turn lowers the population of muskrats, resulting in an increase in cattails.

Paddling over to observe the muskrat lodges, I noticed Sally looking up at the sky through her binoculars. A red-tailed hawk soared above us, dancing in the wind. This was an unusual sighting since hawks and owls are not common around marshes. Hawks and owls typically do not like dense, low vegetation or water. Later on in the day, we saw another raptor that is most at home near the water, the osprey. Ospreys are fish-eaters and inhabitants of rivers, marshes, and lakes. Their powerful long, narrow, slightly crooked wings can lift them out of the water after they plunge in after a fish. Like the red-tailed hawk, the osprey is able to hover motionless in the air, only moving his tail feathers slightly. This osprey seemed to stay still above us forever, as if to make sure we were not stealing his food.

Our last exciting observation of the day was a kingfisher. The kingfisher's black and white chubby body, large head, short neck and tail, erect crest, and long strong beak help to identify it. Kingfishers perch above the banks of freshwater streams and dive for small fish, crustaceans, amphibians, reptiles, and aquatic insects, then return to their perches to eat. We watched the kingfisher in flight for a minute and hoped it would dive for a fish, but instead it flew off down the creek.

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Spending the day at Little Otter Creek allowed me to view the life within a marsh first hand, from the busy work of beavers to the patient stalking of a falcon. This dynamic community is rich in animal life, with the vegetation providing ample food and habitat for many species. Vermont is fortunate in possessing some of the finest marshes in New England, where birders, hunters, and other observers of nature can make new discoveries all the time.

Paddling Little Otter Creek

Ecological Monitoring in Maine

BY BROOKE WILKERSON

We drove deep into the woods of Rocky Lake, an Ecological Reserve near Machias, Maine. The overgrown, rutted logging road narrowed until tree branches scraped both sides of our truck, finally dead-ending in a large mud puddle. It was pouring rain, so Andy and I took our time perusing maps, aerial photos, and descriptions of the area from ecologists and foresters. Soon, it became apparent that the rain had no intention of slacking, so we pulled on our rain gear, slathered ourselves in bug dope, and left the warm, dry cab for the wet and buggy woods of Maine.

It didn't sound like a particularly promising start to the field season, but for me, the first day of field work brought with it not just the complexity of planning for practical field work (how do we get to that site two miles from any road?), but also the complexity of what these woods represent and how they can be used scientifically. Maine's Ecological Reserves are not being researched because they are beautiful, rare, or otherwise auspicious. Quite the contrary, these woods are like most of the rest of Maine. At Rocky Lake, one of seventeen Reserves spread throughout the state, dense stands of spruce and fir grade into relatively sparse areas of paper birch and aspen. Occasional granite knolls are covered in blueberry and sheep laurel. All of Maine's Ecological Reserves have been cut at least once, but these 78,000 acres have now been set aside by an act of legislation to serve as "ecological baselines" for the state.

In this case, the idea of an ecological baseline – "snapshots" of data taken through time – is powerful. With a baseline, Maine can finally have a scientific understanding of how its forests are changing over time. And with a baseline, Ecological Reserves ("unmanaged" forests) can be compared with industrial timberlands to understand how intensively managing a forest affects its ecological function, structure, and diversity. But in order to be an effective baseline for the state, Ecological Reserves need be monitored as accurately and efficiently as possible. This includes honing research questions to address specific concerns about Maine's forests and collecting data that can produce statistically significant results. That's where I come in.

I spent the summer working with the Maine Natural Areas Program (MNAP), the organization responsible for developing and implementing the monitoring protocol, slogging through the sometimes wet and always buggy woods setting

Brooke's path through life has always meandered. Beginning with a childhood in suburban Alabama, she also sampled life in Connecticut, Ohio, Virginia, Colorado, and, most recently, Maine. In the midst of this meandering, she completed a degree in English and geology from Oberlin College, worked on organic farms and with Amish populations, studied acid mine drainage, wrote educational publications for an environmental education foundation, worked as an EMT on an ambulance service, researched international energy policy, and, briefly, drove a bulldozer for a small logging operation. Her abiding interest in the outdoors, in how the many parts of the world interact, led her to the Ecological Planning program.

The Ecological Planning program has finally given Brooke an opportunity to sink her teeth into natural history as well as gain insights into the human relationship (political, economic, personal, spiritual) between self and wildness. Along the way, she's discovered a passion for keying out sedges, a predilection for rich northern hardwood forests, and a penchant for attracting black flies and biting insects of all sorts. After graduating, she plans on returning to Maine to work as an ecologist.

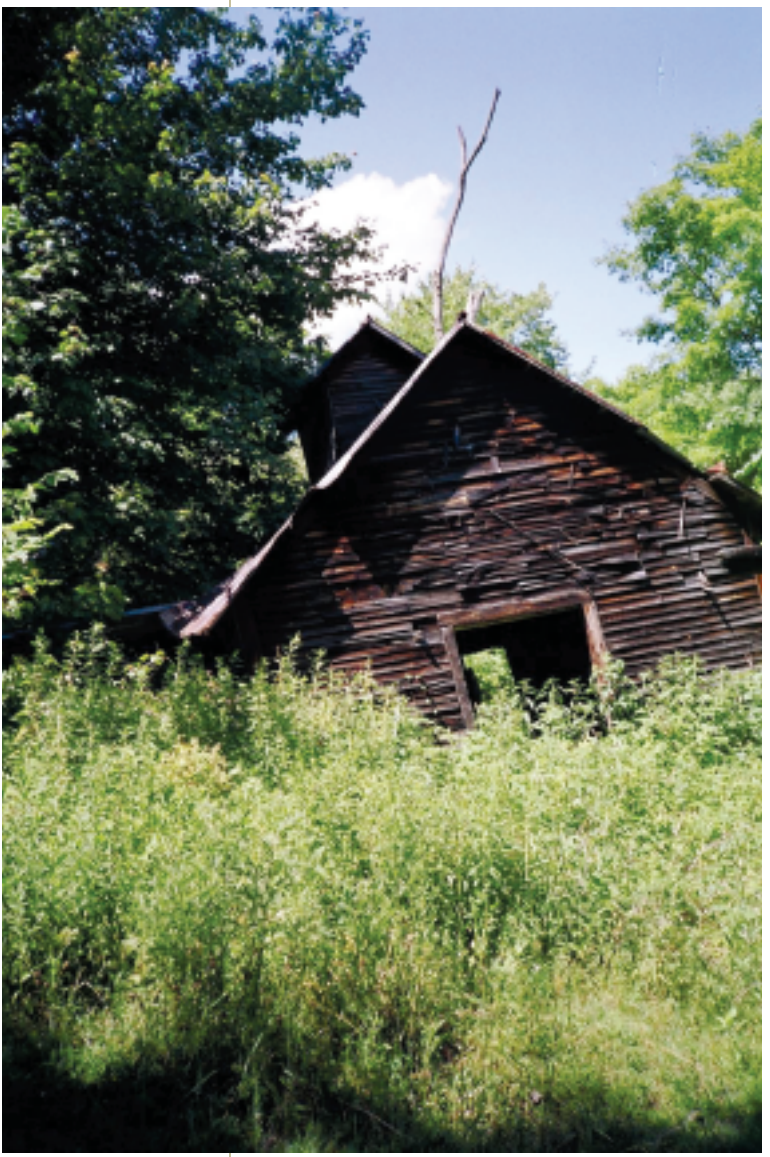
Photo © Jen Cramer

BROOKE WILKERSON

up permanent plots for collecting ecological data. In each plot, information on all plant species, soils, deadwood, lichens and just about everything in between was collected. If all goes as planned, these plots will be revisited once every ten years, and this information will be collected again.

Back at UVM, I statistically analyzed the data over the fall and winter and, based on my analysis, made recommendations to MNAP for ways they could improve their Ecological Reserve monitoring plan. What makes a good monitoring plan is not easy to discern. Most ecological research takes place over one to five field seasons, not the tens to hundreds (and beyond!) years over which ecological change takes place. Through a strong monitoring program, MNAP has the chance to guide the future management of Maine's forests and contribute to our understanding of long-term change.

Measuring tree height in a permanent plot in the Deboulli Ecological Reserve.



Land abandonment in Westford.

Ecological Assessment in Vermont

BY KENDRA SCHMEIDESKAMP

"You afraid of moose? There are moose up there." No, I wasn't afraid of moose, I assured the older gentleman on the other end of the phone, a farmer in Westford, VT. I had to strain to understand his high, slightly wheezy yet staccato voice, with its thick Vermont accent. The man continued, "You afraid of bears? Because they're up there, too. Kenny B. shot a bear up there a few years ago." Okay, I'm a bit afraid of bears, but I didn't admit that to the farmer. I thanked him for giving me permission to go on his land to do field work, then, because I was so happy, thanked him again before hanging up. Being allowed access to the farmer's land was important to me: my study area, 18,647 acres in Westford, Essex, Underhill, and Jericho, Vermont, was all privately owned. The farmer with whom I had just spoken owned the largest parcel in the study area, 644 acres, which supposedly had some interesting natural communities.

The goal for my field season was to map the natural communities in the study area, as part of a Natural Community Assessment I was putting together for The Nature Conservancy. Each day, I would cover as much land as I could, visiting areas that looked unique on aerial and infrared maps and recording the natural communities I found there. Other Ecological Planners and Field Naturalists have done similar types of assessments as part of their Master's Projects. Like Marijke Hecht (Field Naturalist, '02) and Brian Carlson (Ecological Planner, '02), my study area had been delineated by the Nature Conservancy as part of their ecoregional planning initiative. If I did my job well, my natural community assessment, coupled with an assessment of development trends that I was also preparing, would help the Conservancy decide where within the study area to concentrate their conservation effort.

Knowing the natural communities present on the farmer's land was important because it would fill in a piece of the snapshot I was creating of the study area. But it was also fascinating because the farmer's land was a place to glimpse what the area might have looked like 100 years ago. The first time I visited the property, a herd of cows was filing across the narrow dirt road that separated pastures from the old clapboard farmhouse and diary barn. Upland from the pastures, forest stretched to the top of Jack Lot Hill. Sugarbushes, both active and abandoned, were nestled in areas where the soil was rich. Judging from the number of blinds and deer stands I stumbled across in the

Photo © Jen Cramer

KENDRA SCHMIEDESKAMP

As a child, Kendra spent a lot of time roaming a piece of vacant land overlooking the Huron River in Michigan. In this "wildland" behind a cemetery, she and her friends built forts and collected the bounty of the land, from the un-natural (ghastly bouquets of plastic flowers), to the natural (grass thatch, to line the floor of the fort). Ten years later, as an undergraduate at the University of Michigan, Kendra went back into the woods of her childhood, this time to study their ecology. She was also interested in environmental policy. "It was like detective work, taking an issue and figuring out what was happening and why. I was torn between ecology and policy while I was at Michigan. I ultimately decided to focus more on policy because I didn't know of many scientists back then who actively advocated for conservation. I didn't think I could be satisfied studying something I loved that was disappearing around me. I wanted to learn enough about policy so I could influence it one day."

After graduation, Kendra moved to Oregon, where she worked for a forest advocacy organization for several years. Here she learned the David-and-Goliath dynamics of working for a small non-profit. One day Goliath would be the intractable media, the next day, the Forest Service. "I learned that small voices sometimes become shrill. I wanted to find a different way to influence conservation, one that would be positive and draw on the connection that people have to nature, like the connection I had to the woods in Michigan." Kendra left the non-profit and worked for a season with The Nature Conservancy before moving with her husband, two dogs, and horse to Vermont to begin her Ecological Planning experience. She is currently working on a Natural Community Assessment for 18,647 acres in Westford and Essex, Vermont for The Nature Conservancy.

woods, it was easy to imagine that a bear and a hunter had met in the forest. In the lowlands to the southeast, a wetland was ringed by forests of hemlock that were wonderfully cool and easy to walk through. A 1927 topographical map of the area showed the wetland and the farmhouse, along with a school across the road that was no longer there. These are the types of land use that were common throughout the study area 125 years ago. According to an old DeBeers fire insurance map, there were at least ten farms within the study area in 1877. The parcels were large and, from evidence gleaned from my wanderings, were used for pastures, crops, sugarbushes, hunting, and timber.

Outside this working farm, much has changed over the last century. Parcels have been divided and re-divided: There are now a total of 579 parcels in the study area, with an average size of about 30 acres. The two working farms that remain are surrounded by residential parcels. A few people own interior parcels from which they harvest timber, but these are less than 100 acres. Town roads that used to penetrate parts of the interior of the area are now abandoned or used as recreation trails. On the other hand, the roads that form the perimeter of the area now carry much more traffic. One middle-aged landowner told me of sitting on a hillside on his family's property as a child and only seeing a few cars going by on Route 15 each hour. Now you have to be careful crossing the road. In the last thirty years, new private lanes and driveways have sprung from these main roads like rootlets.

The area has changed ecologically as well. First, there were changes caused by diminishing land-clearing for agriculture. Aerial photos taken in 1962 depict large areas of lower elevation pastures that are now covered with young hardwood or hemlock-hardwood forest. Beavers, which would have been absent from the area 125 years ago, now flourish in the young forests, creating a diversity of plant communities as they move from one pond to another. The next change to take place was in the early 1970s, when residential development sharply increased in both Westford and Essex. The ecological changes caused by suburbanization are harder to see. For instance, while it is likely that populations of wider ranging mammals have declined in the region due to habitat loss and fragmented land use patterns, it's hard to tease out just how much development in Westford or Essex has contributed to this trend.

My study area exemplifies much of Vermont—recovering from past agricultural use, but under threat from suburbanization. The challenges to conservation in the area are huge: fragmented private ownership, a network of roads that are increasingly becoming barriers to wildlife dispersal, and multiple jurisdictions at the town level. However, with development pressure only increasing, this might be a good time to apply effort in the area, despite the challenges.

Ecological Planners and Field Naturalists at Ricker Mountain.

Finding Our Way to the Wilderness

BY DEANE WANG
ASSOCIATE DEAN AND FACULTY
ADVISOR TO ECOLOGICAL PLANNING

Conservation in the US really began with the identification and set asides of large tracts of what were to become National Parks. In later years, the core mission of organizations like The Nature Conservancy had been to purchase and protect addition tracts of land, to keep them forever wild. While fee ownership still remains a viable conservation strategy, the conservation of nature has been transformed into a call to save biodiversity. Much of this change is due to the visionary work of people like E. O. Wilson. The seemingly inevitable human population increase pushing land prices skyward, coupled with the recognition by conservation biologists and others of the landscape scale of the problem, has forced the development of new concepts about and approaches to the conservation of nature.

To be successful at the landscape scale, conservation must take place as a partnership among public agencies, private interests, and non-profit organizations. Public participation and community-level support must be considered in the context of the natural environment, managed forest and agricultural land, and the built environment. The connectivity of all land to the wilderness, however defined, is the critical consideration, and no single authority has control over this network of habitat. Heritage corridors, working landscapes, and conservation networks, for a few examples, are all new ideas about the broadened agenda of conservation. (see http://www.uvm.edu/conservationlectures for a sample of the dialog).

To participate in and implement these new paradigms of conservation, the University of Vermont is pursuing the development of a Conservation Leadership program. Further linking programs across the disciplines of field naturalist, ecological planning, historic preservation, sustainable forestry and agriculture, the Conservation Leadership program seeks to provide students with a more comprehensive view of the landscape and the teams of different professionals that strive to make sense of the management of this complex terrain. Law, policy, management, ecology, natural history, geology — and the myriad of related fields — find a nexus in this new approach to conservation of nature in all its forms.

The Ecological Planning curriculum has evolved to embrace this convergence of fields, and I believe is stronger for it. We hope students will be excited in joining us as we work to understand conservation more broadly.

Ecological Planning

THE RUBENSTEIN SCHOOL
OF ENVIRONMENT AND NATURAL RESOURCES

The University of Vermont
George D. Aiken Center
Burlington, Vermont 05405-0088