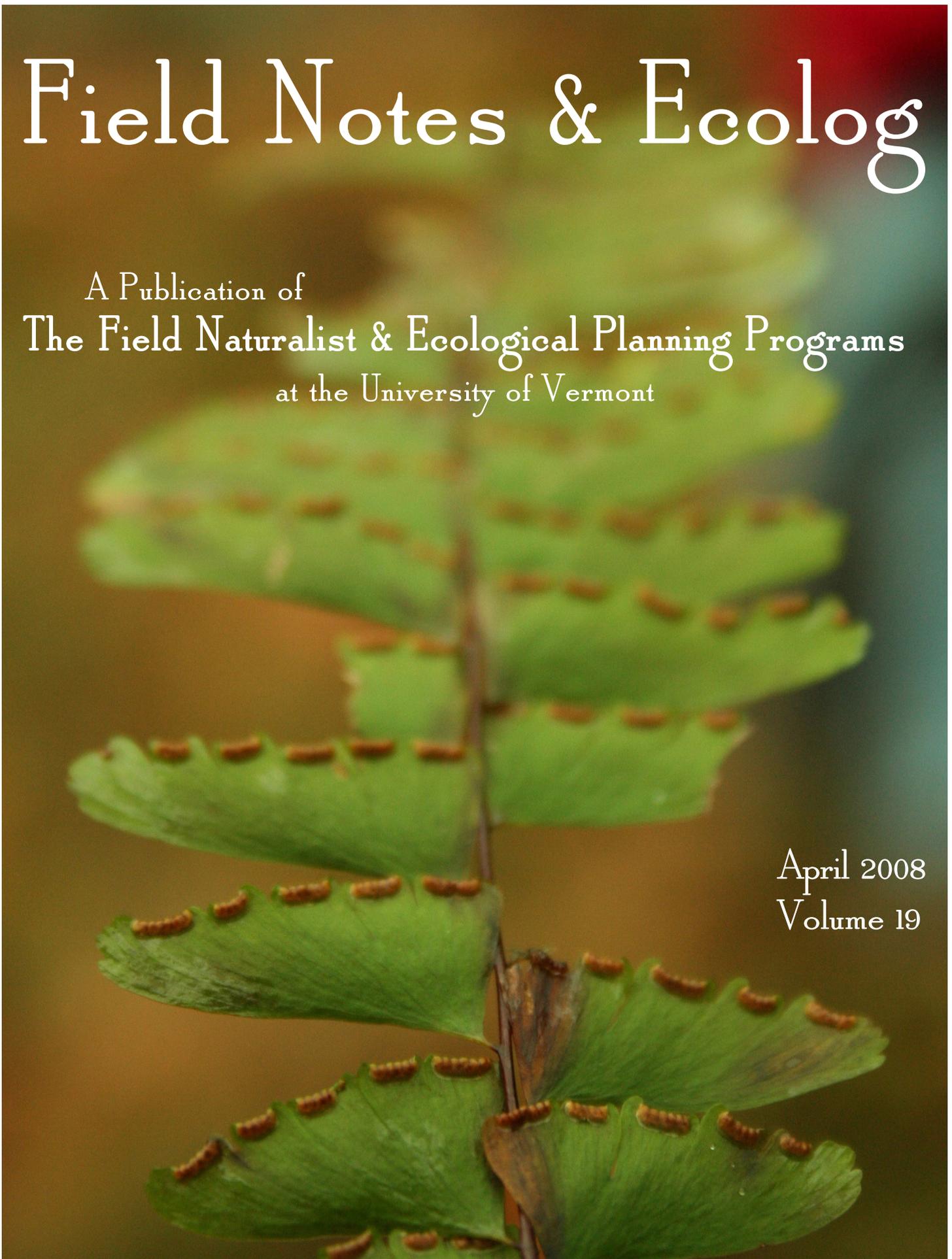


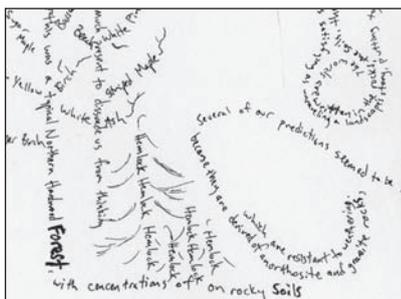
# Field Notes & Ecolog

A Publication of  
The Field Naturalist & Ecological Planning Programs  
at the University of Vermont

April 2008  
Volume 19



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**F**ield Notes and Ecolog, an annual publication, encourages the exchange of news and ideas among past and present students of the Field Naturalist (FN), and Ecological Planning (EP) programs, and friends, while presenting the programs to audiences beyond the University of Vermont campus.

Editors' Note:

For naturalists, one of the highlights of every year is the return of vibrant life to a recently cold and dormant land. Though they are familiar old friends, these first lilies, thrushes, woodland seeps and warm spring winds present themselves as if they are coming to life for the first time. This yearly process of re-discovery became our inspiration and theme for this spring's newsletter. Through its pages, we invite you to explore the discoveries we have made through the past year – and perhaps to make a few of your own about the lives of fellow alumni in the class notes, or, if you're a prospective student, possibilities for your future with us.

Thanks for reading!

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**I'm hoping that you received your invitation to join us for our celebration of the 25<sup>th</sup> anniversary of the Field Naturalist Program.** (See page 20 for more details.) If somehow you did not receive your invitation, please let me know so that we can send you one.

Imagine twenty-five years of chronically muddy, caffeinated, moxie-infused FNs dragging frogs, rocks, pupae, ferns, roadkills, and bags of soil through the halls of the Marsh Life Science building. The legacies of past Field Naturalists live on in the form of winter twig collections, bound final projects, herbarium sheets, nests, rocks, *FluffScience*

reports, clogged increment borers, a snapping turtle skeleton. Some treasures from the past remain hidden for some time, such as the freezer-burned fox I recently found in the lab next door. The dried out fox was dutifully labeled with an unsigned note – “Red fox, found in fencerow at Shelburne Farms, March 3, 1989. PLEASE DON'T DISTURB, I'LL BE RIGHT BACK TO PREPARE STUDY SKIN.”

Perhaps the collector of said fox was thinking in geologic rather than human time, and that's why the fox is still a frozen fox. That could be, for Field Naturalists then and now certainly move back and forth in temporal and spatial scales. Whatever the reason for the fox being forgotten, however, its rediscovery brought back memorable conversations (twenty years ago) with Hub Vogelmann\*, Ian Worley, Ham Davis, Tom Siccama, Art Johnson, Dan Mann, and others about the essence of the Field Naturalist Program. Remarkably, they are the same conversations I am having with prospective students today.

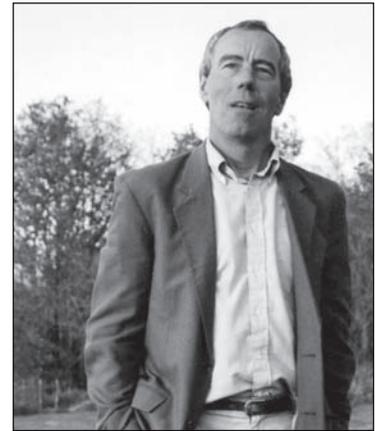
It's telling that I find myself robbing blind those “graybeards” (to steal a Tom Siccama expression) when today's prospective students ask me about the Program. It's also telling that descriptions robbed from yesteryear are every bit as meaningful and exciting to today's students and prospective employers as they apparently were to the passionate conservationists of twenty-five years ago. Hub's vision is as alive and well as it has ever been.

A graybeard FN of yesteryear surprised me recently by asking if we still use Hub's “moxie meter” in admission decisions. Of course we do! In fact, look up “FN” in any dictionary worth its salt and you'll find the following definition: “moxie personified.” The secondary definitions are equally revealing: “a deranged enthusiast of natural things and their conservation who seeks to convince normal people that icky things are actually pretty neat; one who actively seeks out bugs, dirt, rotted trees, and other worthless ne'er-do-wells of nature that sully otherwise nice landscapes.”

Definitions aside, come to the Field Naturalist 25th reunion this spring if you're longing for the company of similarly crazed souls. You won't be disappointed.

\* Hub recounted the developmental history of the program in the 2003 (Vol. 13) issue of Field Notes. Send me a note if you would like a copy of this back issue.

*Jeffrey Hughes is the director of the Field Naturalist graduate program, and an associate professor in the Plant Biology Department and the Rubenstein School of the Environment and Natural Resources.*



# Discovery

Deane Wang

The age of discovery, once the exciting and hopeful outcome of exploration and learning, is now in the 21<sup>st</sup> Century, tainted with the feedback from our misguided dreams of wealth and the good life. We are “discovering” oil at a slower rate than we are using it. We are discovering that carbon emissions and global climate disruption in the last five years are proceeding faster than we estimated just a few years ago. We have discovered a new “dead sea” -- the hypoxic Gulf of Mexico -- to add to the global list of 169 hypoxic estuaries. In the arctic, we now find an ozone hole and an ice-free Northwest Passage from the US East Coast to Asia. The list goes on.

We cannot turn back from our modern “discoveries” of humans as a globally scaled force, but a brighter side of the same process might provide for us some direction. New discovery is critical to the future existence of humans as a species, and to the existence of the many hundreds of thousands of species that share the planet with us. But how should this penchant for discovery be focused to save the planet? The budding sciences of ecological planning and sustainability bring together existing knowledge from all appropriate disciplines to generate new ideas and technologies needed to sustain life on Earth in some reasonable condition. Implementation of those ideas and technologies, as well as the discovery of new knowledge, will define the future.



“Told You So” © E.D. Mirack 1976, 2005

Perhaps the most important discovery of all will be a self-discovery -- of who we are and what we envision for the future. These revelations can point the way out of our current dilemmas, toward a future balanced between economy and ecology.

Over the past nine years, the Ecological Planning program has been training those who will lead the charge toward this balance. As our world and the EP Program continue to evolve, past and current students and faculty all share the task of discovery and action that will lead our global culture toward sustainability.

We can start small, community by community, by engaging communities in understanding where they live and what they care about. Once engaged, we can draw open the curtains of the 21<sup>st</sup> Century and begin planning our way into the future.

*Deane Wang is the director of the Ecological Planning program and a professor in the Rubenstein School of the Environment and Natural Resources.*



*Authors' note:*

*With so much doom and gloom news about climate change, we felt it was time to recognize and celebrate those pieces, patterns, and processes that will not only withstand, but also thrive in, the upcoming world without winter.*

**Most likely to become famous:** The Circumboreal Cacti Natural Community  
It doesn't exist yet, but just you wait.

**Most improved:** Hemlock Woolly Adelgid  
Just a few years ago, this tiny insect couldn't move north into Vermont, New Hampshire, and Maine because it couldn't take the cold. Today, it is pushing new frontiers. Go little dude, go!

**Most likely to succeed:** Old Fields  
(We know, it's not really that funny.)

**Most likely to get a laugh:** Cows  
Will their fart jokes ever get old? Each flatulent event releases methane, which is 20 times more powerful at warming the climate than carbon dioxide. Fart! We can't even say it without snickering.

**Most likely to conquer the world:** Red Maple  
Is there anything this tree can't do? It grows in swamps; it grows on hillsides. It ranges from Florida to Newfoundland, Texas to Minnesota. Deer eat the buds and the red maple still keeps growing. Humans cut down one red maple tree, and multiple stump sprouts grow back in its place. We doubt a little climate change will intimidate this tree. In fact, we will be flabbergasted if red maple does not go on to dominate every natural community.

**Best dressed:** Red Maple  
This tree is so special, it won two awards. After all, if red maple is going to take over the world, at least it will grace us with brilliant red autumn colors!

**Most optimistic:** Human Beings  
We recognize we may be biased in awarding this one to ourselves, but we challenge anyone to disagree.

*(Don't worry, the Field Naturalists and Ecological Planners haven't traded in their snowshoes for slippers. We're still working on reducing our carbon footprint.)*

# Meet the class of 2009: Y9



Mia



Ashley



Quincy

## *Mia Akaogi*

Growing up in rural Vermont on my parents' organic farm, I developed an appreciation of the environment at an early age. At Cornell University, I pursued a degree in Natural Resources with a focus on applied ecology. In addition to coursework in ecology, I obtained both field and laboratory research skills through employment in the Horticulture Department and the Cornell Biological Field Station. Although my undergraduate experiences were invaluable, I found that after four years I wanted to see what opportunities were available outside of academia.

After graduation, I joined AmeriCorps, deciding that this would be a great way to explore potential career options while at the same time gaining experience from working with environmental professionals. I moved to Knoxville, Tennessee and became a part of the CAC AmeriCorps Water Quality Team, where I implemented the Adopt-A-Watershed program in middle and high schools. I also worked alongside members of local government, environmental agencies, and the public on many watershed improvement projects. This experi-

ence inspired me to pursue graduate study in the Ecological Planning Program, where I hope to pair scientific knowledge with the tools needed to work effectively with different interest groups to implement environmental practices at the local level.

## *Ashley Bies*

I grew up "back to the land" -- homeschooled, without electricity or running water or any interest in formal education. By the age of 16, too many stories of ecological degradation and extinction had driven my love of nature to a tipping point and spurred a lifelong commitment to nature conservation. From that point, I have pursued conservation biology with a passion, using wildlife ecology as a conservation tool for landscape scale problems. My first brush with formal education took me to Marlboro College, a decidedly informal school of 320 students located 10 miles from a town with a small population. This "metropolis" overwhelmed me for my whole first year, but trail work in the forest that encircled campus saved me, and earned me the nickname of "Bies(t)". Through an undergraduate thesis, I became convinced that

landscape connectivity was the best approach to take as a field conservationist, and this was reinforced through two years of post-college fieldwork in Hawai'i, Nevada, and California.

This summer, I will be in Belize this summer, developing jaguar prey censusing techniques and applying them to concerns of "empty forest syndrome" and "rancher persecution." I will be collaborating with the Wildlife Conservation Society's Jaguar Conservation Program (JCP), and hope that this summer's work will propel me into a Ph.D. program working with the JCP's connectivity project.

## *Quincy Campbell*

My world can be metaphorically summed up in two words: baking bread. Those who know me well understand the great joy and satisfaction that I take in creating a delicious loaf. However, more than the product, I enjoy the laborious journey and experiment of baking.

My childhood recipe for life was very simple: play, be happy, and hate desks. I was fortunate to have parents and mentors who more or less agreed with this philosophy. At the age



The Y-9s (l-r): Philip, Mia, Alliare, Isaac, Ashley, Lisa, David, and Quincy



Alliare

of 8, my mother brought my brother and me to live in Stehekin, a remote town in the Cascades of Washington State. There, trees replaced TV, skiing supplanted carpooling, and black bears dwarfed the invasive grey squirrels of suburbia. This pivotal time in my childhood created the model of observation, interest, and respect for all things natural that has guided much of my life.

However, as an adult, these childhood ingredients were no longer satiating, so at the University of Oregon, my recipe was altered: play, be happy, and love the outdoors. I earned a B.S. in Environmental Studies with an emphasis in Biology in 2004. During summers, I indulged my passion for remote places by baking bread in Stehekin, building trails in Wyoming, and backpacking alone in whatever wilderness I could access.

Spending more time as a trail worker and environmental educator after graduation helped me realize the essential connection that physical labor makes between people and the environment. So, at a stage in my life when I'm searching for the right ingredients for my future life in conservation, I find myself as a student once again. As a Field Naturalist, my recipe has

been enriched: play, be happy, love the outdoors, and understand to link and share all of them. For me, these things are the staff of life.

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### *Alliare Diamond*

Growing up at the edges of woods and fields in New Hampshire and Vermont, I spent many days exploring these landscapes and looking for 'secret places,' such as the deep-green, soft bed of moss with the bleached squirrel skeleton and peelings of paper birch bark. At Wellesley College, my secret place was Environmental Ethics with a Biology minor. After some far-flung field work and exploration, I decided to combine interests in science and writing with my general love of learning, and I became a licensed teacher in Vermont.

Teaching is a stimulating collaboration, and the three years I spent teaching high school science were filled with uniquely creative endeavors with students and colleagues. One of my favorites was a stop-motion animated sequence showing evolutionary mechanisms. Seeking more personal experience with science, I spent a year working with RNA in a molecular

biology lab, and then came to the Field Naturalist Program because of its rigorous and holistic approach to landscapes and science. In my masters project this summer, I will develop a site-selection protocol that will help landowners assess their land for non-timber forest products with a focus on species that can be used for artisanal purposes such as dyeing and basketry. I hope this tool will give landowners a new lens for viewing their forests, and will help them find their own secret places. When I'm not naturalizing, I might be making woodblock prints, training for cross-country ski marathons, working in my garden, or reading in front of the woodstove.

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### *Lisa Dunaway*

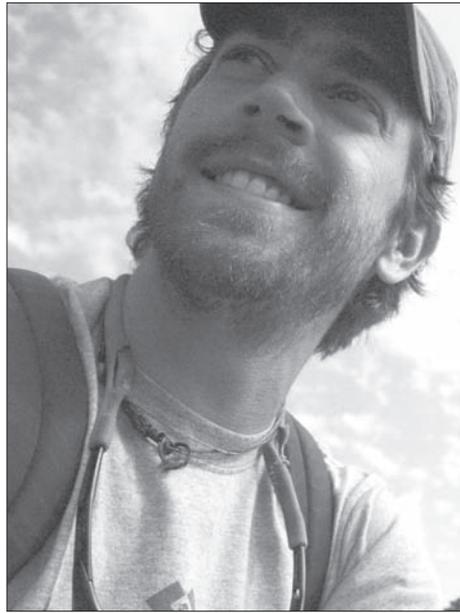
Growing up outside Oxford, Ohio, I was always painting, drawing, climbing trees, or tending my flower beds. At Ball State University, I found a profession that combined my love of art and nature with my aptitude for math and science: landscape architecture. I enjoyed my studies in visual communication, engineering, public speaking, and the deep commitment to sustainability of the

## Meet the class of 2009: Y9

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Lisa



Philip



David

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College of Architecture and Planning. My first internship, with Beckwith Chapman Associates, sprouted my love for planting design, and the following summer an internship with Novak Environmental in Tucson, Arizona furthered my interest in native plant preservation.

After graduating with a Bachelor of Landscape Architecture and a minor in Business Management, I went to work in New Jersey. While there, I practiced landscape architecture, graphic design, web design, and marketing. Later I moved to Indianapolis and pursued registration as a landscape architect while continuing to develop my skills in engineering and master planning, and learning about green building, alternative transportation planning, and urban design. Tired of the all talk/no action reality of corporate America, I decided to join the Ecological Planning Program at UVM to learn first-hand the science behind the environmental movement. I also plan to study Ecological Design in UVM's Gund Institute, as it ties in well with my professional experience. For my masters research project, I'll be in Rhode Island to design and build a

native plant demonstration garden in the town of Narragansett.

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### *Philip Halteman*

I love rivers. There are, of course, several dimensions of rivers that I enjoy, but I think what really gets me going is the dynamic tension that exists between land and water, and the forces those worlds exert upon each other. My fascination began when a complete stranger I met backpacking at the age of 13 explained to me exactly how the heavy rain in which we found ourselves would affect the flow of the river. Eventually, the search for new areas in which this tension plays itself out led me to Colorado College and then a series of field research jobs in the Central Rockies and the Intermountain West. There, I found a similar dynamic tension in the forces that environments exert on plants. Moving to Washington state rekindled my love of rivers and riparian ecology, and I began to put that love into practice through work in education and community engagement.

I came to the Field Naturalist Program to learn how to use the forces of land, water and people for restora-

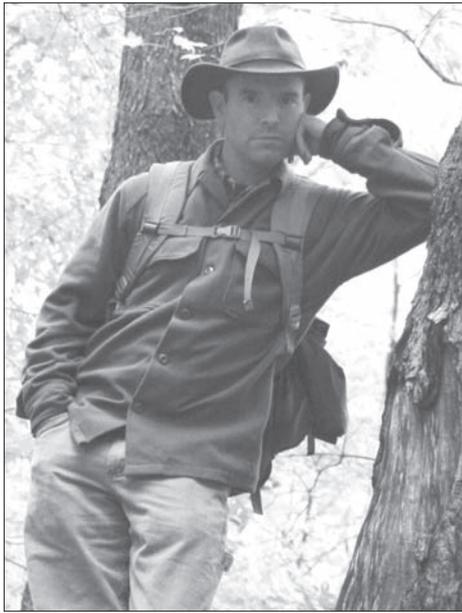
tion and conservation. I am looking forward to a summer spent along rivers around Vermont, evaluating riparian buffer monitoring protocols and working with local communities to develop monitoring programs as they learn to care for the dynamics that connect rivers and people.

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### *David Jaffe*

The summer of 1989 changed my life. I was a student on a 23-day Colorado Outward Bound Course. On day 22, sitting at the lower reaches of a river, I allowed my eyes to follow this flowing water toward its source. Snow-covered mountains and thick coniferous forests lay before me. And in a tumbling flow of thoughts, I realized that the wilderness I had been living in for the previous three weeks had become my home. I felt obliged to do whatever I could to protect such wild places so that others may have similar experiences.

The reality is that wild places are becoming fewer and smaller. "Integrated landscapes" and "multifunctional designs" may be the buzzwords of today, but how can we accommodate economic needs



Isaac



Isaac and David

and still conserve wild lands for connectivity and spiritual survival? My time at Evergreen College, and the years thereafter, did not answer those questions for me, so I came to the Field Naturalist Program to learn as much as I can about the natural world and how its various components interact.

As the end of my first year with the program approaches, I have learned a tremendous amount about the pieces that are part of the patterns, which are controlled by diverse processes. I have learned, as clichéd as it sounds, there is much to learn. This expansion of horizons is indeed the gift of education. The challenge, as well as the beauty, is how to apply our expanding knowledge.

After college, I spent several years back in Madison, as part of a non-profit that especially develops organic farms and small-scale, sustainable forestry co-ops. A summer working as a natural history guide at a remote, fly-in lodge in interior Alaska confirmed for me that being outside is where it's at. For the next four years, I worked as the Ranger at the University of Wisconsin-Madison Arboretum, a 1,200 acre center for restoration ecology and environmental education founded by Aldo Leopold and others in the 1930s. My goal is to contribute--through field work and education--to our species' understanding of how to live without unnecessarily encroaching on the niches of other species. I am thrilled to be in the Field Naturalist Program.

***Isaac Nadeau***

I grew up on a busy street atop a filled-in wetland at the base of a drumlin in Madison, Wisconsin. After a year washing dishes and poking around in the Cascades in Washington, I moved to Arizona to attend Prescott College. With excellent teachers and motivated peers, my interests in both natural history and creative writing took shape, and I graduated with a major in each.



Sketch by Bernd Heinrich



Philip and Ashley

# Training my ears in space

Allaire Diamond

**Each day, in the early-morning darkness of Bernd Heinrich's Maine cabin,** I pull on socks and check my pockets for the pens I put there last night. Halting drags of breath from my fellow Winter Ecology classmates send pangs of guilt through me; I hope they are still dreaming and not now transported to that miserable land of wanting-to-sleep by my routines. I exhale in the shadowy quiet outside. Depending on the day, the snow crunches, slides, mushes, or melts underfoot as David and I make our way up the hill to a dark shape at its crest, a blind of spruce and fir boughs our class constructed between two balsam fir trees on the first day of our week together. A few meters away lie the remains of a deer that died soon after eating a fern and partially emptying its bowels. Scat and bits of fern lie under the snow where the deer's prostrate carcass is frozen; a tiny fern frond is clamped between the deer's teeth. No marks show how the buck died, though coyotes and ravens have been at its meat ever since. We pull aside the two spruce 'door' boughs and install ourselves on a makeshift bench inside the blind, and then replace the boughs to cover the entrance. Ensnared in our coniferous hideout, the clumsy transition to a waking state seems to melt away as our breathing slows and movements cease. I arrange today's notebook page on my lap, tracing its holes for orientation. It is completely dark, and I am completely still.

Ten minutes into our vigil, sounds begin. My view from the blind is obscured, so I try to quiet my incessant desire to *see* and instead focus on hearing. Without my eyes to constantly deliver spatial information to my brain, my ears take up the work, locating distant raven 'quorks' and nearby swooshing wingbeats to specific locations in the spherical region outside the blind. My ears have surprising difficulty with this task. As sounds enter my consciousness, my hand draws my pen to make marks on the paper, corresponding with the location, distance, and direction of any sounds. But having never trained this sense before, it's hard to tell whether a calling raven is flying toward, away from, or across the carcass, whether it's 30 or 100 feet up in the air, whether it's sitting in a tree that is directly behind me or 20 degrees to my left or right. What takes no training is the excitement that comes from being, at least for a moment, at the epicenter of a raven's world. No one dragged the carcass here, and the ravens surely are not wasting their time and energy coming to check out a weird-looking pile of fir and spruce boughs. They come here because of a set of circumstances in the natural world, completely removed from human desires or actions. I'm a lucky witness to raven desires; they *want* to be here, and I get to listen to their gathering.

***The finest hour I have seen  
Is the one that comes between  
The edge of night  
And the break of day  
When the darkness rolls away.***

-Kate Wolf

As the morning vigils build on one another, my senses sharpen and I'm soon able to take a chaotic looking set of squiggles on my page and assign each one a transcribed sound, and even make poor imitations of these sounds for my classmates. I recognize patterns in sets of vocalizations, can place them at specific branches around the carcass, and describe interactions between birds. Not having attended too many loud concerts, I can hear the tiny sounds of pine grosbeaks foraging overhead, or ravens calling many miles away. A naturalist has many tools, but the best ones are within. In honing my ears to recognize patterns and assign spatial information, I sharpened a new tool and expanded my own definition of observation to include this sense. Often, I treat my ears as though they are not part of my brain, exposing them to stimuli directly at odds with the work I am trying to accomplish. The constant prattle of earnest NPR commentators often forms a mindless soundtrack to my days. Why not include my ears in my work instead of trying to dismiss them?

Our week in the woods clarified and distilled the daily sensory routine, helping me to focus on birdsong and the swishing of wings. Without the distractions or excesses that let us butter over our true natures, we fell into more animalistic routines driven by the reptilian brain rather than by the prefrontal cortex: chopping wood, dragging and caching our food like squirrels, huddling around the stove for warmth, retreating into sleeping bags soon after dark. Every sense gets dusted off during a week like this: gourmet palates rejoice at beans and rice, eyes adjust to the gathering twilight and turn on lights long after the switches are flipped in cities, nostrils savor the smell of spring on a warm breeze over the snow, skin expands at the warmth of a sauna, and ears escape from the cacophony of manufactured sounds they process and filter in the workaday world.

Since training my ears to the language of ravens, I am more receptive to sounds in my own head. One night I rose to draw a map of the annoying broken-record thoughts bouncing around the spherical space of my skull. My mornings in the blind had sharpened my ears to space, and I found myself locating precisely each reverberating thought and mapping these onto my journal page. My ears are increasing my knowledge of the landscape of my own brain, a place that, like the carcass upon the hill was to the ravens, I'll get up and visit, day after day.

**“Forty degrees and a 90% chance of rain on Friday . . .”** In my work as a teaching naturalist, this weather forecast—a hypothermia-inducing full-on rain—gives me a sinking feeling. One such October morning, we are watching Chris Fastie core a hemlock. He’s telling us how hard it is to hit the pith. Shivering doesn’t help your chances. We don’t know this yet, but none of us will “hit the pith,” even after 8 hours in pursuit of this goal.

To our credit, we dallied as long as we could at the bakery. The superb baked goods of Bristol deserve undivided attention and repeat sampling even in good weather. We pored over maps for the aptly named “*Waterworks* Property”, asking insightful questions about everything from bedrock to the origin of the universe. The weather responded by raining harder. Chris finally calls our bluff: “Let’s go.” Now we’re out testing the stuff our raingear is made of. In these conditions, the highest rating earned by anyone’s raingear is “barely adequate.” Other ratings aren’t fit to be printed.

We finish with the hemlock stand and hike up a knoll, stopping along the way to do the salmon life cycle dance to warm up (use your imagination). Looking up at a chestnut oak, we discuss how logging has homogenized Vermont natural communities, making them harder to detect amidst the background noise of generalist species. The top of the hill finds us standing in the puzzle for the day. Downed trees molder in the duff. Chunks of wood show up in every soil pit. Crooked survivors—white ash, sugar maples, and black cherry—are scattered among many young recruits. We core several trees, but our cores lack the critical pith. Some inspired soul cores an old bent beech tree and that core reveals a striking release increased the width of this tree’s rings for ten years after 1951. Town records confirm that a localized, but dramatic nor’easter blew through this part of the valley on Thanksgiving Day, 1950. The storm tore the roofs off dairy barns, flattened woodlots, and explained the growth patterning of the old beech.

Reading the landscape with Field Naturalists, Ecological Planners and other professionals carries with it the sense of the chase, the excitement of an unsolved mystery. The thrill of finding the stories written in the land and unraveling them would keep most people inspired. But over the 20 years I’ve been teaching, I’ve come to appreciate many other things about the practice of this art. Most of all, I enjoy the people I meet. Through the years that I’ve known Chris (Team A), our day at the Waterworks reflects other field experiences. As we approach the Field Naturalist Program’s

25<sup>th</sup> year, I think of coring spruce with him in Alaska in the 90’s. I remember how he sent me a can of Campbell’s Black Bear Soup/Dip, with a (falsified) letter from the Department of the Interior promoting their harvest of bears to fund National Parks. I can see him welcoming a group of FNs into his home in Arizona. I recall reading his seminal paper on succession before we hiked Giant Mountain last fall. Now he is raising a son here in Vermont. But Chris is only one of the earliest examples of memories of the great people--*all of you*--that I have met.

If you come to the reunion, and I encourage you to do so, ask me about a memory of you! It might be about trying to light lycopodium spores after reading that they were used as flash powder during the early days of photography. It might be about sleeping in a field station with 10-inch centipedes in Cabo Rojo, Puerto Rico, or canoeing in Phosphorescence Bay. It might be about dressing up as Hemlock Holmes or reciting very bad “clan” poems at the foot of Giant Mountain. Or finding Star Crunch at the Eden General Store or looking for armored mud balls, or nearly being arrested for singing outside the ranger station in Organ Pipe Cactus National Monument. It might be about throwing a football across a talus slope, eating a whole Pilot cracker in under a minute without taking a drink of water, seeing a whale breach or a stag eating an apple near the cellar hole of an abandoned farm. It might be about reading landscapes, but maybe not.

In reading the landscape, I feel a stirring of deep time. I love learning how other people, like Susan Grimaldi, a Choctaw Indian shaman, read landscapes in different ways. Drumming for us as we become as one with the lake, Susan teaches people how to merge with nature as a way of more fully understanding our relationship to it. How could I not believe this old wisdom? At a recent slide program, FN Isaac Nadeau traced the lineage of his niece back through the evolutionary branching of the tree of life, through the roots, down into the primordial pool from which the original spark of life leapt. In the woods with the FNEPs, I can feel that close kinship with life spun out in all her various, beautiful forms.

P.S. As we walk out of the woods at the Waterworks, the sun breaks out. It is a nice end to the day. But neither rain, nor snow, nor sleet will keep us out of the woods next Friday. I hope the same is true for you! I really do.



# The making of a mountain

Between 1.2 billion and 540 million years ago, the entire world slide moved even further, covering Route 73 in 20 feet of mud & debris.

Late fall shows an A 4,600 foot peak 3 miles to the north

mountain tops in the High Peaks of the Adirondacks. The Grenville Mountains formed and eroded on the eastern side of what is now North America. Ten to fifteen million years ago

Semicircular glacial valleys / Back to the smooth-walled cirque with no trees and no soil; this holds no moisture and allows for the sharp edge of the trees coincided perfectly

Smaller glaciers remained in high streambeds, and continued to advance and retreat, rounding out stream-carved V-shaped ravines

White faced slide scars glistening from a matrix of silt & fine shales or siltstone a debris flows

A landslide couldn't possibly move, but much rock that for combination for H. U.S.E.

Large-scale change in an ecosystem followed by fast response and long periods of inactivity

My gaze wanders to the sunny slopes of Giant above us.

The answer, as we found out in the woods, was that these rocks did indeed slide 3 miles from the top of the mountain.

Patting my nose, I see the slopes eroding away in the forest. The answer, as we found out in the woods, was that these rocks did indeed slide 3 miles from the top of the mountain.

The sharp edge of the trees coincided perfectly

I dropped onto an old, now dry streambed with aspens growing

deciduous

The aspens and birches, 25 to 30 years old

Heirlooms waited patiently to grow as the decline of their faster-growing colleagues.

Finer particles were made turns with ripples of red that would have channeled it, while large rocks & pebbles remained closer to the path of flow.

The Hemlocks grow thickly to form an impenetrable barrier. fallen dead, almost to the ground, some trees, standing or young-looking forest already

Shrapnel vegetation to smash through the average only 2-3

Trunks tilting crazily, branches on the ground

Some trees, standing or young-looking forest already

to the edge

seemed to be constant with patterns of standing

(A conglomeration of boulders) remained closer to the path of flow.

at vastly different rates. This fissure is largely scoured clean

For a naturalist, there are few things more interesting than the way the trees and the ground are so different in the way they are put together.

exploring the processes that formed actually the same. After indicating that the processes that formed each pattern were connected, if not the same.

exploring the processes that formed actually the same. After indicating that the processes that formed each pattern were connected, if not the same.

On the flanks of Giant Mountain today, huge boulders are scattered in mossy long reminders of a more violent time when massive forces could move them.

Our first break was next to a huge erratic covered with various mosses, lichens, and polyphyllous poking itself out from the summit.

Several of our predictions seemed to be inaccurate - we expected to see nutrient poor soils

which are resistant to weathering and frost

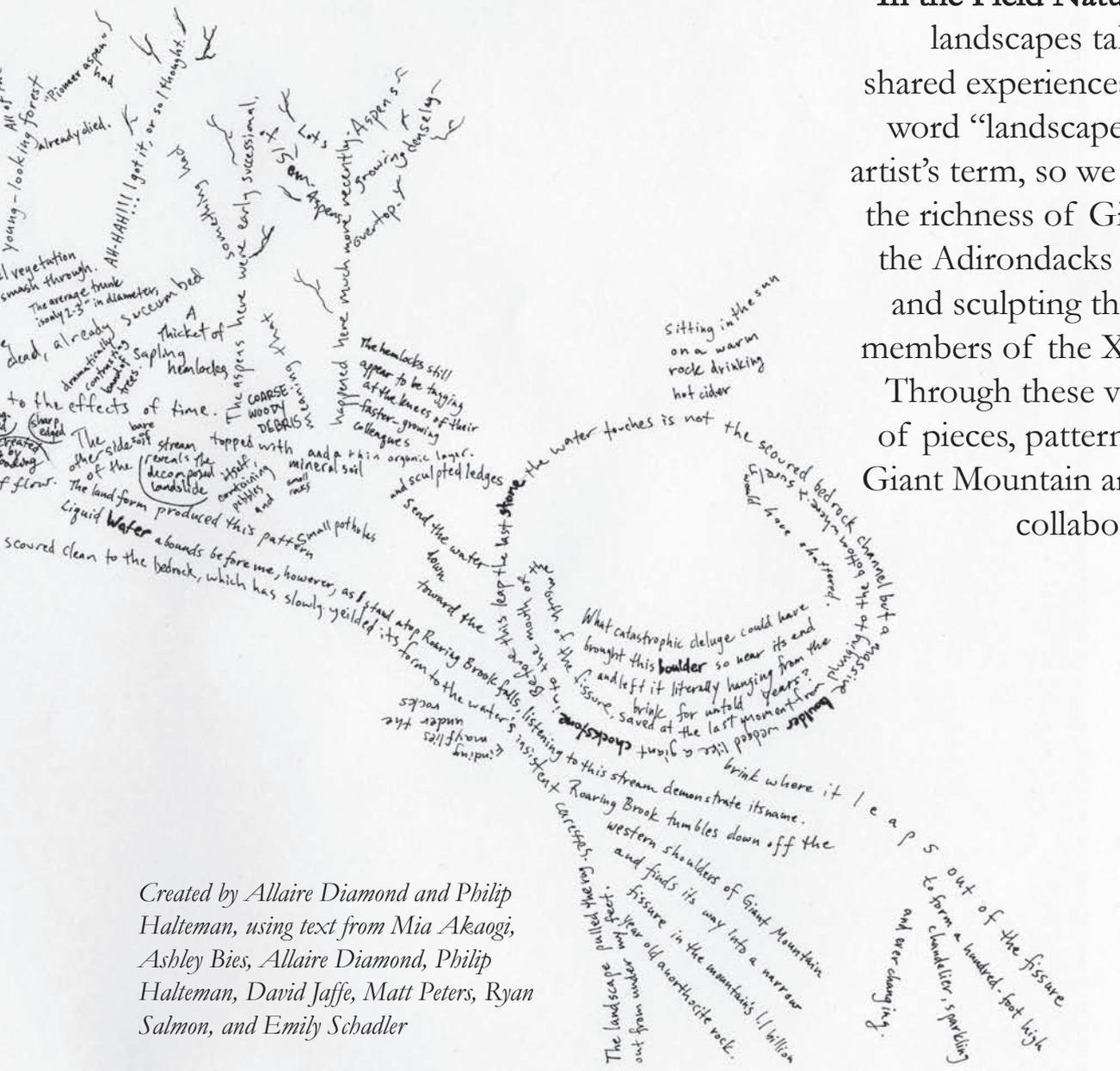
with concentrations of

2. American Yellow Pine  
3. Sugar Maple  
4. Yellow Birch  
5. Paper Birch  
6. Red Maple  
7. Not much resistant to dissolve us from scratch  
8. Striped Maple  
9. Hemlock  
10. Hemlock  
11. Hemlock  
12. Hemlock  
13. Hemlock  
14. Hemlock  
15. Hemlock  
16. Hemlock  
17. Hemlock  
18. Hemlock  
19. Hemlock  
20. Hemlock

What landscapes teach me is to sharpen my ecological creativity - to broaden my gaze, or sometimes, to focus much closer than I could have imagined.

Even with careful observation, exquisitely documented history, and the best field research techniques, I still find one of the most enchanting gifts of wild places to be their tendency to mix things up just when we think we have it all sorted out.

million years ago, an upwelling over a "hot spot" lifted the Adirondacks, and they are still rising two to three millimeters a year. Things are different in the Adirondacks. The pieces to the puzzle were there right in front of us:



Created by Allaire Diamond and Philip Halteman, using text from Mia Akaogi, Ashley Bies, Allaire Diamond, Philip Halteman, David Jaffe, Matt Peters, Ryan Salmon, and Emily Schadler

**In the Field Naturalist Practicum,** landscapes take form through shared experiences and ideas. The word "landscape" is originally an artist's term, so we decided to build the richness of Giant Mountain in the Adirondacks through shaping and sculpting the words of eight members of the X8 and Y9 teams. Through these vivid descriptions of pieces, patterns and processes, Giant Mountain and its history are collaboratively revealed.

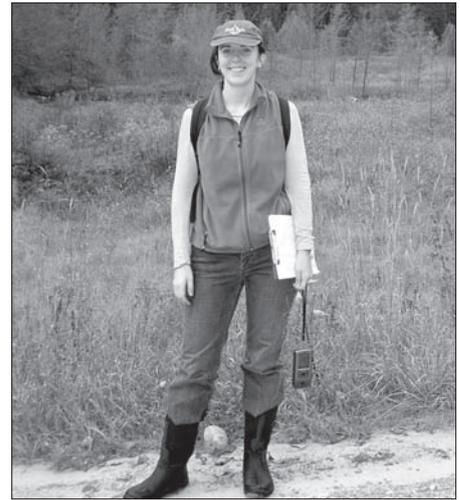
## The X8 team



James



Jesse



Erin

### **James Barnes**

Eight bright UVM students, field guides in hand, work hard at identifying the plants and natural communities of Rock Point with Alicia Daniel. They're prepping for summer projects with partner agencies like The Nature Conservancy and the town of Shelburne, and of course, their future careers in conservation. No, I haven't just described the Field Naturalist and Ecological Planning Programs. I'm talking about my summer project.

These weren't graduate students, they were undergraduates. And I was their leader. Imagine an amalgamation of a conservation corps and internship, heavy service-learning, and a dash of Field Naturalist process for good luck. I even got to name it: The Land Stewardship Program (LANDS).

LANDS was conceived through a growing recognition that land stewardship will be an increasing responsibility of the future. What does this mean for the future? Who is going to help organizations steward their land *in perpetuity*?

My solution, with the help of The Student Conservation Association (SCA), was to get future stewards started during their time as undergraduates. I recruited a crew of upper-level natural resource students, who were first trained in applied land stewardship: boundary monitoring, GIS mapping,

and resource inventory. I then turned them loose on service-learning projects with groups like Jericho Underhill Land Trust and the town of Williston. The end products were monitoring reports and landscape inventories, and a final community presentation.

I've been hard at work since the summer evaluating the program and planning LANDS 2.0, seeing if I can squeeze two master's projects for the price of one. I attended the 2007 Land Trust Alliance Rally (LTA) and presented LANDS to land trusts nationally. Hopefully LTA & SCA will further partner with the LANDS model so it can be expanded in the future. In the meantime, I'm recruiting students for a second phase in Vermont this summer.

### **Jesse Fleisher**

American towns are changing. The declining level of direct experience that many people have with their local landscape has profound implications for the future of land stewardship and the maintenance of healthy communities throughout our nation. In Williston, VT, many new questions about how to develop or conserve local landscapes have recently emerged. But, as each year passes, fewer residents seem knowledgeable about their community's natural and cultural heritage. This is cause for concern because

citizens who are disengaged with their local landscape may be less inclined to think about or participate in discussions about the importance of long-term community resource stewardship. Meanwhile, in cases where citizens are actively involved in community planning processes, there may arise tensions that stem in part from the lack of a commonly shared body of knowledge about their local landscape.

Over the last year, I researched the elements that define Williston as a place, and facilitated a series of activities designed to help residents explore their town's heritage by highlighting local knowledge and positive examples of local community stewardship efforts. I also collaborated with Williston teachers and Shelburne Farms staff to incorporate Williston's unique story into a place-based curriculum in Williston's schools. Finally, I worked with motivated Williston stakeholders to implement a "vision-to-action" forum that uses this newly shared knowledge and experience to inform a discussion about the future of community development and landscape stewardship, and to provide a solid foundation for concrete action plans.

My project was a collaboration with the PLACE (Place-Based Landscape Analysis & Community Education) Program, a project partnership between Shelburne Farms



Sara



(l-r): Ryan, Sara, Matt, and James

and the University of Vermont, and the Williston School District, Conservation Commission, and Historical Society. More information about PLACE Program activities in Williston may be found at: [www.uvm.edu/place/towns/williston/index.php](http://www.uvm.edu/place/towns/williston/index.php)

### *Erin Haney*

Last year, Matt Peters and I took on a partner masters' project, a first for the Ecological Planning program. We conducted an inventory of the vernal pools and wetlands in the Vermont towns of Corinth and eastern Washington, a 50,000-acre project area. Working for the Orange County Headwaters (OCH) and the Corinth Conservation Commission, Matt inventoried and assessed the condition of vernal pools and I surveyed the wetlands.

We spent June creating GIS data layers of potential wetlands, highlighting Vermont Significant Inventory Wetlands. This necessitated contacting over a hundred landowners and requested permission to visit their lands. Some landowners talked about every seep and spring, others talked more about the history of use on the land, all of which helped lead us to particular locations that might now be wetlands.

I inventoried, surveyed and assessed 89 wetland complexes that were situated either along a remote headwater

stream or in a long, narrow or wide basin surrounded by northern hardwood forest. At all sites there were signs of wildlife, especially moose and beaver and occasionally cultural signs of past land use such as stonewalls, old town roads, dug wells, and cut tree stumps.

This June, after all the documents are turned in and we've defended our work, I will visit Corinth and eastern Washington to lead wetland walks for all of the engaged and excited landowners who have learned more about their wetlands as a result of the connections we established.

### *Sara Mulford*

I spent this past summer in Corvallis, Oregon, working with the Institute for Applied Ecology (IAE) on the Benton County Habitat Conservation Plan (HCP). For the first half of that time, I explored prairie openings on county- and city-owned conservation areas, and mapped the vegetation cover on those sites.

After shadowing botanists from IAE to learn to identify the local native and non-native vegetation and understand their working definitions of "quality prairie," I struck out on my own to visit each site. My job was to convert the field data I collected into polygon files in ArcMap and deliver maps and quality rankings for each site.

For the second half of the project, I analyzed the reserve networks using GIS for each of seven target species in the Benton County HCP. Botanists at IAE had identified the numbers and locations of the subpopulations of the seven target species (five rare plant species and two butterfly species) in Benton County. Using this information in ArcMap, I recommended ways to optimize the use of the conservation areas to increase connectivity and population size for each species network. This involved combining public lands layers, vegetation layers, and species-specific buffer distances around each subpopulation.

By combining both the network analysis and the habitat quality mapping, I made recommendations for future prairie restoration and introductions of the seven target species in the conservation network in Benton County. My final document will be used as a tool to supplement grant proposals to fund prairie protection, as well as restoration and management efforts for conservation practitioners who have limited staff time and operating budgets.

## The X8 team

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Ryan



Emily

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### *Ryan Salmon*

One of the biggest challenges confronting environmental professionals today is how to cope with complexity. Great volumes of information about environmental problems emerge daily, and decisions have to be made in a fast paced world with many parts. As Field Naturalists and Ecological Planners, part of our role is to keep up with this pace so that we can organize this information and make it applicable to decision makers confronting real-world problems.

My project focused on organizing information about one of the most complex environmental problems that we face today—climate change. I worked with the Burlington-based Alliance for Climate Action, which partners with other organizations both within and outside Vermont to implement voluntary greenhouse gas reductions programs. To help them in their efforts, I developed a greenhouse gas accounting and management framework for climate action programs. It is intended to help users understand the major considerations involved in choosing greenhouse gas accounting and management strategies. I learned a great deal about how frustrating and ultimately rewarding it can be to try to make sense of a very complicated issue for decision makers.

As we tackle climate change and the other environmental problems we face here in the 21<sup>st</sup> century we will need new ways to think about them. As Albert Einstein put it, “The significant problems we have cannot be solved at the same level of thinking with which we created them.” Developing a new level of thinking is, perhaps, the next challenge for environmental professionals.

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### *Matt Peters*

If there was ever a project that helped a Minnesotan flatlander get to know rural Vermont, this was it; within the first week “on the job” I’d already been trimming overgrown, manure packed sheep hooves and chasing stray cows through the woods. And from my perspective, that was just for fun. Fellow EP, Erin Haney and I spent the summer roaming the rutted dirt roads and second growth hardwood forests of Corinth and eastern Washington, Vermont in search of every last vernal pool and wetland.

We took on the inventory and conservation priority assessment project for the Orange County Headwaters Project and the Corinth Conservation Commission, surveying roughly 50,000 acres. Since vernal pools don’t last forever, I hit the

ground running in May, using remote sensing and landowner outreach to identify over 120 potential locations for vernal pools. After gaining landowner permission, I headed for the woods, spending long days deep in the hills and valleys, meeting many of the region’s wilder inhabitants: moose, bears (tracks, at least), snakes, amphibians, and Wayne, the Giant Pumpkin Mogul of East Orange!

After a summer tromping the woods, meeting landowners, and poaching the occasional swimming hole, it was back to the office to enter data and make sense of the vernal pools I had found. Consulting with the Natural Heritage Program, I developed a strategy to provide our sponsors with site rankings based on ecological value. With locations and descriptive data in hand, Erin and I convened a public meeting at the Corinth Town Hall. Our snowy January meeting went without a hitch, as 65 excited townspeople scarfed up the dessert potluck fare along with our presentations and bid us come back in the spring to visit their lands again. The reception we received showed just how far positive community interactions can go toward getting the public interested in ecology and conservation.

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Matt



Bob

**Emily Schadler**

As energy costs are rising, fossil fuel supply is peaking, and climate change is underway, people are returning to the forest for fuel, particularly in the Northeast. But as the demand for fuel wood grows, the pressure that this increasing demand places on our forests could adversely impact forest health. The challenge is to develop a system for procuring and utilizing fuel wood that meets our fuel wood needs while supporting the health of our forests, rather than degrading them.

This challenge drew me into my master's project, working with Vermont Family Forests and UVM's Green Forestry Education Initiative. I started by conducting a feasibility study of a model for fuel wood that these organizations had developed, the Vermont Eco-Wood Energy Project. Eco-Wood Energy is based on four strategies: sustainable production, efficient use, local sourcing, and fair access.

My project was rich with conversations, as I talked with local foresters, loggers, sawmill owners, woodchip producers, landowners, and biomass energy advocates. In the fall, I conducted a series of workshops for students and teachers about Eco-Wood Energy, and wrote an educators' guide to help teachers at other schools engage their students in thinking about fuel wood issues. Through these ex-

periences, I quickly came to realize that something as seemingly simple as supplying fuel wood to a school gets very complicated very quickly. Issues with community engagement, infrastructure, seasonality, fossil fuel input, harvesting techniques, and financing all play a role in the decision about how wood chips come out of a forest and into a combustion chamber.

While the conversation about Eco-Wood Energy is still unfolding, it has already started to pave the way for sustainable, efficient, local, and fair fuel woods in Vermont. Ultimately, the success of our transition from fossil fuels to wood fuels depends on our ability to work together through innovative projects like Eco-Wood Energy to ensure that this transition is beneficial to our forests and the communities around them.

**Bob Zaino**

The author Wendell Berry says there are three questions to ask whenever people and the land come together:

*What is here?  
What will nature permit us to do here?  
What will nature help us to do here?*

I don't know if the Chewonki Foundation—a non-profit environmental education organization located in Wiscasset, Maine—had these ques-

tions in mind when they asked me to help update their twenty-year-old land management plan, but Berry's questions were certainly in the forefront of my mind. They guided me in helping the Foundation improve its stewardship of four-hundred forest and field acres on a narrow coastal peninsula called Chewonki Neck.

Answering "what is here" was a Field Naturalist's dream. I tracked fishers along stream banks, identified every vascular plant I came across, and tromped through the woods with a compass, prism, and tree scale stick to conduct a forest inventory. Along the way, I identified natural community types, and constructed a story of the entire landscape.

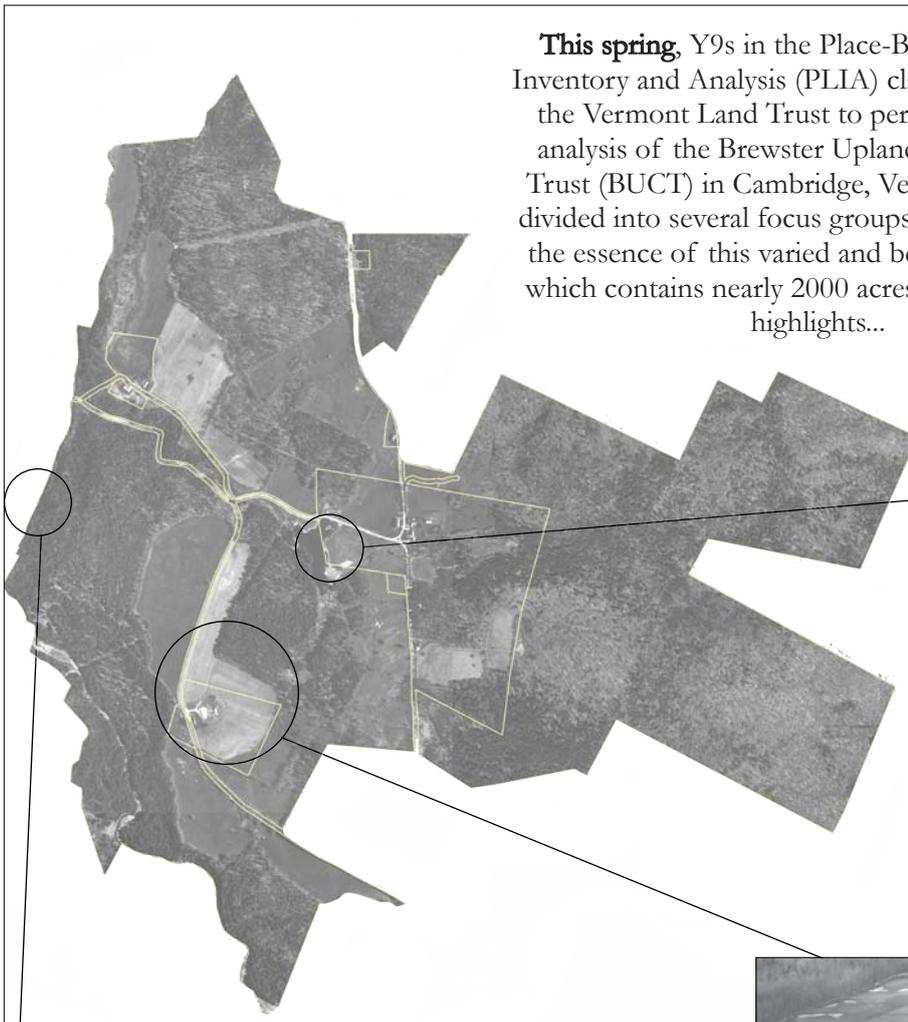
At the same time, I began to explore the next question. What would nature permit—what was the potential of this land? There was no single answer. One old farm field of deep loamy soils, today grown in with white pine, might someday host an oak – northern hardwood forest. Or, it might be converted to sustainable agricultural land, and again feed the residents of Chewonki Neck.

I looked at the Chewonki Foundation's goals and asked Wendell Berry's third question: Would nature help them? Could the Foundation, for example, develop a sugarbush and produce maple syrup? Could they expand their development footprint? Probably so, as long as they avoid the many small wetlands that greatly increase habitat diversity.

After carefully considering these questions, I prepared a report on the natural history of Chewonki Neck, written so that it can be used by staff educators and land use planners. The report addresses land management considerations and offers suggestions that I ultimately hope will help the Chewonki Foundation achieve its goal of improving stewardship of the land.

# On the ground in Cambridge, VT

**This spring**, Y9s in the Place-Based Landscape Inventory and Analysis (PLIA) class partnered with the Vermont Land Trust to perform a site level analysis of the Brewster Uplands Conservation Trust (BUCT) in Cambridge, Vermont. The class divided into several focus groups to better capture the essence of this varied and beautiful property, which contains nearly 2000 acres. Here are some highlights...



Agriculture is one of the significant active land use on the BUCT property. Using historical references, interviews and soil sampling, the **Agricultural Soils** group is coring into a complicated and transforming history of land use on the property.

The **Hydrology** group is complementing wetland delineations from Arrowwood Environmental, a private consulting firm, by mapping ephemeral streams, seeps, springs, and vernal pools. We also examined areas where hydrology is having a significant impact on recreational trails. It is impressive how much hydrologic activity there can be on a relatively small parcel of land!



Interviews with Cambridge residents, as well as local published resources, have helped the **Cultural History** group reconstruct the history of the BUCT. Now a quiet, lightly used property, the site was once a bustling agricultural area that supported as many as ten families at once in the late 19th century.



The Brewster River forms the BUCT's western boundary



The **Recreation** group has assessed the accuracy of previously mapped trail networks on the property. We interviewed community members to better understand the conflicts and synergies of recreation in recent years. Community members and stakeholders have expressed their interest in our developing a list of best management practices for future trail work and have asked that we explore the potential for BUCT trails to connect to larger trail networks.

PLIA co-instructor Matt Kolan (U5) assesses fisher tracks in February



The BUCT occupies a strategic position at the fringe of a large block of interior forest land, and lies adjacent to a narrow bottleneck of a proposed priority corridor crossing busy Route 15 in the Lamoille Valley. The **Ecoregional Conservation** group also found that the Green Mountain wildlife corridor, which adjoins the BUCT, has been identified as potentially important habitat for priority species such as marten.



The **Land Use** group is creating a current land use map. This information will complement the work of the **Natural Community** group, which is mapping both current and potential natural communities on the site.

The **Education** group is creating a pamphlet about the history and ecology of Brewster Falls for a wide audience. They have also partnered with a teacher from Cambridge Elementary School, and hosted 30 sixth graders for a geology field trip in late April!

A list of mammal, amphibian and bird species on the site with attention to activity level and habitat type was the focus of the **Wildlife** group. One interesting bit of information we've found is the wide diversity of species in the forest adjoining the farmlands, which are likely coming from the heavily forested ridge connecting to large, interior forest patches.

## Celebrate 25 years in the field!

In the early 1980's, the A. W. Mellon Foundation recognized a need for innovative graduate programs that would train environmental professionals to think in integrated, multidisciplinary ways. Hub Vogelmann and UVM proposed the Field Naturalist Program as an answer to this challenge. Twenty-five years after the A team arrived on campus, the program still retains its reputation for moxie and passion, and has partnered with the Ecological Planning Program to offer a more diversified experience and learn from other perspectives.

The time has come to celebrate all these years spent in the field reading the landscape and making personal discoveries that highlight the "pieces, patterns and processes" framework for looking at landscapes. This reunion is an opportunity to honor that framework through the students (pieces), the FN program (pattern), and the tradition of naturalizing (process).

Please join us! At press time, the RSVP date is already past, but contact us as soon as possible if for some reason you have not received an invitation or would like to attend the event.

**Saturday, May 31, 2008**

Pieces, Patterns, and Processes Picnic

12:00 - 4:30

Official Welcome 1:00

**Large pavilion, Oakledge Park, Burlington**

Enjoy a lunch of local delicacies while reuniting with old friends on the shores of Lake Champlain.

**Sunday, June 1, 2008**

Field Walks, Discussions, and Workshops

10:00 - 3:00

**Education Barn, Shelburne Farms, Shelburne**

Choose from a range of offerings, and share your passions with like-minded colleagues.

Bag lunch included

For details, updates, and directions please visit the Field Naturalist Reunion website:

<http://www.uvm.edu/~fntrlst/?Page=reunion.html>

or contact Kristen Sharpless

[ksharpless@uvm.edu](mailto:ksharpless@uvm.edu) or [fntrlst@uvm.edu](mailto:fntrlst@uvm.edu)

## Class Notes

**A** - **Anne Heise** is a Professor of Life Sciences at Washtenaw Community College. **Carol Savonen** is a Science and Garden Writer at Oregon State University. She is also gardening, traveling, and getting ready to shift into meaningful retirement. **Chris Fastie** is a Research Scholar in Biology at Middlebury College. **John Kasmer** is the Chair of the Biology Department at Northern Illinois University. **Koren Bosworth** is in Alaska running Bosworth Botanical Consulting. **B** - **David Publicover** is Senior Staff Scientist at the Appalachian Mountain Club. **Nancy Bazilchuk** lives with her husband, Rick Strimbeck (C Team) and two children in Norway where she works as a Free-lance Science Writer. **Rose Paul** is the Director of Science and Stewardship at TNC Vermont. **Howard (Sandy) Whidden** is at the Department of Biological Sciences, East Stroudsburg University. **Tamara Nauman** is a Botanist with the National Park Service in Dinosaur National Monument. **C** - **Rick Strimbeck** is married to Nancy Bazilchuk (B Team) and is an Associate Professor in plant physiology at the Norwegian University of Science and Technology. **D** - **Marty Peale** works at the Santa Fe School for the Arts & Sciences, NM. **E** - **Frank Lowenstein** is Director of TNC's Forest Health Program. **Jill Bubier** is the Marjorie Fisher Associate Professor of Environmental Studies at Mount Holyoke College. **Alicia Daniel** continues to be an important part of the FN Program, teaching the first years' field practicum and has been instrumental in planning the 25th year reunion. **F** - **Erik Lilleskov** is an Adjunct Professor/Research Ecologist at the USFS Northern Research Station in Michigan. **Michael Batcher** is a Consultant providing services to public agencies and nonprofit conservation organizations in New York. **Michael Shephard** is working for the Forest Service in Alaska. **Polly Harris** is a Wetland Scientist for Woodlot Alternatives, an environmental consulting firm, and raising a family. **G** - **Elizabeth Farnsworth** is a Research Conservation Biologist, scientific illustrator, and faculty member. **Judy Preston** is an Ecologist and founder of the Tidewater Institute. **Patrick McCarthy** is the TNC Director of Conservation Programs in New Mexico. **H** - **Adair Mali** is living in Monteverde Costa Rica this academic year and plans to return to the U.S. in June with twins Skye and Sam who have just turned 9. **Laurie Sanders** hosts Field Notes, a TV and radio broadcast. **Susan Spackman Panjabi** is a Botanist for the Colorado Heritage Program. **I** - **Dave Campbell** is the Aquatic Ecosystems Branch Chief for the US Fish and Wildlife Service in Albuquerque, NM and the director of the San Juan River Basin Recovery Implementation Program. **John Sanderson** is a biohydrologist. **Marcy Mahr** is the Conservation and Stewardship Associate for the Flathead Land Trust in Kalispell, MT and along with her husband Kip owns Raven

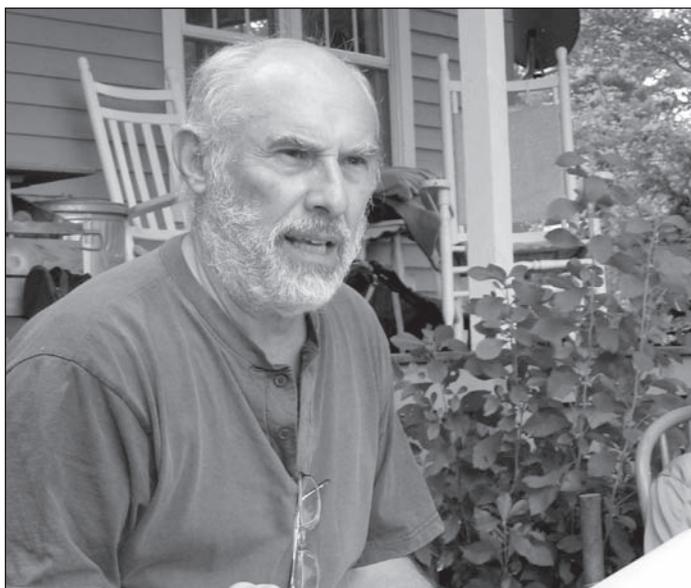
# Notes from the BIG field

Ridge Farm CSA where they grow organic fruits and vegetables for families throughout the Flathead Valley. **Peter Neitlich** is a Lichen Ecologist for the NPS. **J** - **Brad Meiklejohn** is the Alaska Representative of the Conservation Fund. **Jeff Meyers** is Associate Director for the Lake Champlain Maritime Museum. **Jessica Rykken** is a Postdoctoral Fellow catching and cataloging insects on the Boston Harbor Islands. **K** - **Doug Bechtel** is the TNC Director of Conservation Science in New Hampshire. **Hans Estrin** is a Science Teacher at the Putney School. **Lyn Baldwin** is an Assistant Professor at Thompson River University in British Columbia. **Walter Poleman** is a Senior Lecturer at the Rubenstein School of Environment and Natural Resources, UVM. **L** - **Judith Rubin** is the Stewardship Director for the Northwest Watershed Institute, a non-profit she co-founded with her husband, Peter Bahls. They live in Port Townsend, WA with their two daughters, Cecilia and Hannah. **Mary Plummer** is a lecturer at the University of London. **Michael Loso**, married to Karen, an ICU nurse, is an Assistant Professor of Geology and Earth Science at Alaska Pacific University. **Mike Stevens** is the CEO and co-founder of Pioneer Mountain Group. **Mike Tetreault** is the State Director for Maine TNC. **M** - **John McPhedran** a Biologist and Invasive Species Program Coordinator for the Maine DEP. **N** - **John Floberg** is the Vice President of Stewardship for the Cascade Land Conservancy. **Mark Ward** is a self-employed Ecological Consultant in midcoast Maine. **Susan Hindinger (Young)** is a stay-at-home mom with two young daughters and does not have a lot of time to do much field work these days. She does the accounting for her husband's engineering business and makes wedding cakes on the side. **O** - **John Robison** is the Public Lands Director for the Idaho Conservation League, Idaho's largest statewide conservation organization. **Julian Meisler** lives in Santa Rosa, CA with his wife Trisha and their two children, and is the Restoration Program Director for the Laguna de Santa Rosa Foundation. **P** - **Darien E. McElwain** is an Ecologist with Hardwood Mountain Consulting. **Michelle Leilani Hill** is a Chiropractor and Acupuncturist with her own practice in Hawaii. **Q1** - **Jenny Tollefson** is a Contract Ecologist for a regional land trust and for the U.S. Forest Service's Fire Sciences Laboratory, as well as raising two kids, Will and Iris. **Lexi Shear**, mom to a 19-month-old girl named Linnaea, is teaching chemistry and biology part time at Montpelier High School and has just finished a book for the Green Mountain Club entitled "A Field Guide of the Long Trail." **Brian Carlson** is an Easement and Stewardship Manager for The Nature Conservancy in Michigan's 'UP' and is raising a family: Anya born in May '07, and Esther whom they just adopted from Haiti. **Elissa Arnheim** is back in school for a new career in medical imaging. **Heather Fitzgerald** is teaching and enjoying being a

new mom. **Jillian Liner (Butler)** is the Director of Bird Conservation for Audubon NY based at the Cornell Lab of Ornithology in Ithaca, NY and is pregnant with her first child. **R2** - **Charlotte Clews Lawther** is a seasonal Park Ranger at Acadia National Park, Consulting Ecologist, educator, and yoga instructor. **Marijke Hecht** is the Executive Director of Nine Mile Run Watershed Association in PA. **Willard Morgan** is married to **Jenn Barton** (S Team) and is the Head of School, Maine Coast Semester, Chewonki. **Tom Lautzenheiser** is sharing life with **Claire Dacey** (S Team) on the slopes of Mt. Tom, MA and working with **Jeff Collins**, (N Team) at Massachusetts Audubon. **S3** - **Jens Hilke** is a Conservation Planning Biologist with the VT Fish & Wildlife. **Edward Faison** is a Forest Ecologist with Highstead, Inc., and a Research Fellow at Harvard University. **Jon Kart** lives with his family in Richmond, VT and works for the Fish & Wildlife Department doing landscape level conservation planning. **T4** - **Kristen Puryear** is a Community Ecologist for the Maine Natural Areas Program, the Natural Heritage Program for the Department of Conservation. **Peter Ellis** is a Forest Ecologist for the Society for the Protection of New Hampshire Forests. **U5** - **William Abbott** is the Conservation Director for the Land Trust for Santa Barbara County which focuses on both agricultural land and wildlands. **Jim Eikenberry** is a Soil Conservationist with NRCS. **Jennie Cramer** is the Director of Ecological Education at the Institute for Applied Ecology. **Matt Kolan** is a Lecturer at the Rubenstein School of Environment and Natural Resources, UVM. **Sally Andersen** is a Consulting Ecologist and Project Coordinator working with the Forest Service, Chena Flats Greenbelt Project/Interior Alaska Land Trust. **V6** - **Amanda Devine** is the Stewardship Coordinator for the Royal River Conservation Trust in Yarmouth, ME. **Charley Eiseman** is participating in various consulting projects, teaching animal tracking, and working on a book, "Invertebrate Tracks & Sign." **Chris Detwiller** is Conservation Project Manager at the Peninsula Open Space Trust in Palo Alto, CA. **Jesse Mohr** is a Lecturer at the Rubenstein School of Environment and Natural Resources, UVM. **W7** - **Kristen Sharpless** is coordinating school programs at Audubon Vermont in Huntington, VT. **Monica Erhart** is the Stewardship Coordinator for the Upper Valley Land Trust in New Hampshire, gardens, and plays music when she can. **Kate Westdijk** is Coordinator of Community-Based Learning in the Rubenstein School, and is currently working on the "other side" of the FN/EP program, primarily through helping out with the sponsored project matching process. **Corrie Miller** is the Associate Director for the Smokey House Center in Danby, VT. **Sarah Bursky** is with The Trustees of Reservations in northeastern Massachusetts. **X8 & Y9**: Well, they're still in progress.

# *The fundamental stuff of creation*

Toby Fulwiler



**I've come to turning wooden bowls from two different but complementary directions.** First, for some thirty-five years I've made my living as a writer and teacher of writing. I learned as a writer, and passed along to my students, that attention to the process of composing made the product that much better. The process of writing something meaningful is messy, unpredictable, full of false starts and dead ends, often frustrating, and demands a great deal of patience and serious revision. Sometimes you control your idea, other times, the language controls it and pushes you to a place you've never been before. At the same time, if you persevere, rough out your idea one way then another, and trust the shape that emerges, your writing will make good sense, others will understand you, and you'll feel good about your craft.

The same lessons about a messy process apply to something useful and pleasing from wood: like the idea that triggers a piece of writing, you discover wood somewhere in the forest, chainsaw then band-saw to circular form, and chisel one way, then another until the shape pleases you. As in writing, sometimes you control the cutting, while other times the wood—the grain, pattern, shape, knots, texture—demands a direction you never saw coming. In writing and turning both, what

keeps you going are the discoveries, delights, and twists, and sometimes mistakes that make each finished product unique. (I was here, I made this, I'm alive, and all's right with the world!)

The other direction that fuels this bowl-turning passion comes from where and how I live on ninety acres of mixed hardwood in Fairfield, Vermont. I manage a woodlot for wildlife habitat, timber harvest, maple syrup production, and fuel wood. The forest, along with our vegetable and flower gardens, keeps our small family in touch with life's natural and fundamental processes. Then last year, to my surprise and delight, our forest provided yet another precious resource: sugar maple, black cherry, white ash, paper and yellow birch, apple and elm—raw material for the creative life. If you have a working lathe, sharp chisels, and a bit of imagination, the forest provides the fundamental stuff for imaginative expression. In some small but meaningful way, fashioning smooth and interesting shapes from the wood grown in good Vermont soil connects me to a long line of pioneers, naturalists, and artisans who lived on and learned from their native land. (Yes, I'm still here, I work the land, I'm alive, and at least for now, all's right with the world!)

Fairfield, Vermont, March 20, 2008

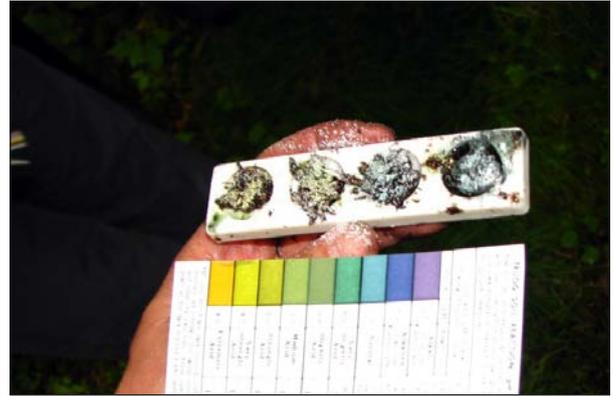


Photo by Toby Fulwiler

# Tools of the trade

## Layers of the Land

This soil auger hit a patch of oxidized soil about a foot deep in a wetland on the Brewster Uplands Conservation Trust property in Cambridge, VT



## Visible Spectrum

Held by the venerable Liz Thompson, results of four different soil samples from Bliss Cedar Swamp exhibit a wide range in pH (~4-8)

## A Bird In The Hand...

A migrating kinglet caught for a bird survey in Narragansett, RI waits to be released by its captor



## In Deep

Quincy Campbell goes fishing for invertebrates at the East Woods Natural Area in Burlington



## Hard Core

During the fall Field Practicum class, Philip Halteman and Isaac Nadeau look on as Plant and Soil Science graduate student Hisashi Kominami attempts to pludge a bog corer into the peat mat at Belvidere Bog

## Scull for Science!

Field Botany students prepare to paddle up the LaMoille River to get a closer look at the dynamic landscape



# Master's Project Call for Proposals

Do you need technical assistance with a high priority field research project? Once again, we seek to match Field Naturalist and Ecological Planners from the class of 2009 with Master's projects sponsored by environmental organizations on the cutting edge of conservation science.

We are looking to link FNs and EPs with projects that challenge them to use their intensive training to its fullest. The role of the student is more substantive than that of an intern because the expectations are much higher. Our graduate students are professionals who are expected to demonstrate their unique skill sets while working with sponsoring organizations. FNs and EPs work closely with their communities and sponsors throughout the process to ensure that the product directly addresses the sponsor's needs.

In return for the services provided, we ask sponsors to contribute \$5,000 to our Sponsored Master's Research Project Fund. This contribution is used in its entirety to help defray tuition expenses of the student.

We plan to match students with projects by January 2009 so that students can work with sponsors during the spring (2009) semester to plan for the summer field season. Data analysis and report writing continue into the fall semester, with products delivered to sponsors between December 2009 and May 2010. If you are interested in having an FN or EP work with your organization, please contact:

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