

VNRC

# Vermont

## Environmental Report

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# Toward a Resilient State



Fall  
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Through research, education, collaboration and advocacy VNRC protects and enhances Vermont's natural environments, vibrant communities, productive working landscapes, rural character and unique sense of place, and prepares the state for future challenges and opportunities.

VNRC is the Vermont affiliate of the National Wildlife Federation.

**VNRC membership includes a subscription to the *Bulletin* and the *Vermont Environmental Report* magazine. Join VNRC in protecting Vermont with your membership of \$35.**

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# Vermont Environmental Report

Published by the Vermont Natural Resources Council, Inc.

Fall 2013

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Cover photo: John Geery

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# WANT RESILIENCE? LET'S GET INNOVATIVE

BY BRIAN SHUPE, EXECUTIVE DIRECTOR



*Resilience is important work, provided it is not just a catch-phrase used to describe business as usual that does little to make Vermont better equipped to withstand contemporary crises.*

More than once I've heard someone say that "resilience is the new sustainability," or something to that effect. While I understand the sentiment, I still can't help but cringe.

Resilience, in the wake of Tropical Storm Irene, has become an important goal for Vermont as well as a rallying cry for those working to prepare the state for inevitable future storms — economic, social, ecological, as well as meteorological. Resilience is important work, provided it is not just a catch-phrase used to describe business as usual that does little to make Vermont better equipped to withstand contemporary crises (or less able to sustain that resilience over time).

In this issue of the *Vermont Environmental Report*, several Vermonters from different backgrounds describe what resilience means from their perspective. Combined, they address various topics that relate to VNRC's work, including managing our water, creating clean and reliable energy, maintaining local, downtown-based economies, and protecting our working lands for future generations. These Vermonters represent some — but certainly not all — of the important work that many of our neighbors are doing under the resilience umbrella.

## Adaptation and Mitigation

At the heart of all of these narratives are two underlying concepts: adaptation and mitigation.

The world is getting warmer, and the implications for Vermont are clear: a greater frequency of extreme weather events. That means more flooding, ice storms, drought and changes to the flora and fauna that have long defined the state. Those changes are in motion. Developing smart strategies to adapt to them is critical.

At the same time, resilience cannot only be about adaptation. Things can get even worse if we don't mitigate our contributions to climate change by cutting down our greenhouse gas emissions. To focus solely on adapting to an increasingly warm world without taking steps to reverse that trend will ensure that our efforts at

resilience are inadequate to address the severity of the challenges we'll face. Adaptation and mitigation are the two pillars of resilience, and focusing on both is the challenge of our times.

## Innovation and Collaboration

Achieving resilience will also require the attention of all levels of government, as well as businesses, institutions, individuals — and environmental advocates such as VNRC. Since we launched our 50th anniversary celebration last September at Shelburne Farms, our staff and board have been working to make VNRC itself more resilient to changing times, and even more primed for the challenges of the next 50 years.

Last September our keynote speaker, Van Jones, described the three phases that the environmental movement has passed through since it was born more than a century ago: conservation, regulation and — the current phase — innovation. At VNRC, we believe this last phase — innovation — will require more collaboration and stronger partnerships.

In recent years we have successfully completed a merger with Smart Growth Vermont that added considerable value and capacity to our Sustainable Communities program. Last year we helped reinvigorate the Association of Vermont Conservation Commissions to better support the work of local conservation commissions and, this year, we have entered into a strategic partnership with the Vermont Conservation Voters (formally the Vermont League of Conservation Voters (see page 19).

Collaboration by itself is not innovation. But these efforts, along with other successful relationships such as the Vermont Energy and Climate Action Network that VNRC's Energy Program coordinates, and VNRC's Forest Roundtable and soon-to-be-launched Water Caucus, will all create fertile ground for innovation. These recently-forged alliances along with VNRC's many other traditional partnerships with other NGOs, regional planning commissions, state agencies, and communities, will add capacity, increase effectiveness and build meaningful resilience for Vermont.





# THE UNRESILIENT VERMONT: *Challenging the Notion of Resilience*

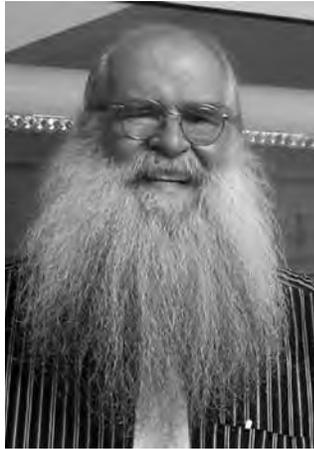
BY GREGORY SANFORD

Vermonters have a proud heritage of courage, community, and cooperation in the face of adversity. I was, however, asked to write about Vermonters' resilience. In brief: Vermonters, and their state, have rarely been resilient nor should they necessarily aspire to be.

To be resilient means "returning to the original position," while resilience is the capability of a stressed body to recover its original size and shape after deformation; it is the capability of "withstanding shock without permanent deformation or rupture."

Past experience provides few examples of Vermont resuming its original "position" following profound environmental impacts. After Vermont's most celebrated natural disaster, the 1927 flood, we were responsive, not resilient. We abandoned the tradition of paying for our infrastructure on a pay-as-you-go basis and adopted bonding to facilitate flood recovery and the construction of hard-surfaced roads. By 1931 we adopted a state income tax and a state highway system. Following the flood we funded road, not railroad, re-construction, changing Vermont's transportation framework. Though no governor had served more than two years since 1841, in 1928 we began, informally, to allow governors four years. Initially we did so to allow continuity in recovery efforts. And the list of examples where Vermont changed, and did not rebound to its original form, goes on.

We continue to learn from experience and adjust our actions to mitigate future problems. Stream management is a case



*There is too much false comfort in resilience, in the thought that whatever we do, we can simply undo.*

in point. Through the 1990s stream "management" included straightening streams, excavating streambed gravel, and armoring stream banks with riprap. After five significant floods during the 1990s we realized those practices were exacerbating risks and responded, in 1999, by adopting new management practices. We now think of river corridors, better understand wetland and flood zone dynamics, and other approaches to allow rivers to be dynamic and deformable.

Recovery pressures following Irene briefly challenged the new approaches but they remain in place and will be further refined. Though it is too soon to fully understand Irene's impacts it did alter discussions about state programs, notably mental health because of the destruction of the Waterbury state hospital; town planning from Waterbury to Wilmington; and about our flood zone, wetlands, zoning, road construction, and other policies. We were not resilient; we responded.

If we are not resilient, surely nature is? After all by the mid-19th Century Vermont was 80 percent clear cut and today we are close to 80 percent forested. The assumption that "nature" managed to return to its original form doesn't bear close scrutiny. The work of Charles Cogbill and others suggests that Vermont's pre-settlement forests differed in tree species and distribution than our current forests. Beech was common and pine rare; now beech accounts for only 15% of the forests while pine is more dominant.

Vermonters' responsiveness to repeated floods caused by denuded hillsides also shaped the new forests. By the 1920s state government alone was planting a million saplings a year, initially Scotch pine and Norway spruce.

Exotic pests and diseases, often associated with human commerce, further altered our forests. Chestnut blight, "Dutch" elm disease, the hemlock wooly adelgid, emerald ash borer, and Asian long-horned beetle all have played, are playing, or may play, roles in the nature of our forests. Now climate change further threatens our northern hardwood forests and the species that inhabit them.

As our forests changed so did the ecological systems they supported. In addition, our agricultural practices and a bounty program that targeted key predators such as wolves and panthers further altered the composition of Vermont wildlife.

There is too much false comfort in resilience, in the thought that whatever we do, we can simply undo. It is false to think we can clear cut Vermont and "the" forest will come back. Similarly, it is false to think that as long as we are "resilient," our rivers will always bounce back to their original condition after big floods, like Irene.

We are increasingly aware of our myriad impacts on the world around us. One example of this awareness is found in Title 10 of the Vermont Statutes Annotated where the now-repealed section on bounties for "noxious animals" is followed by its replacement: the state's endangered species act.

We are not resilient. We cannot resume our original shape. We cannot assume nature will be resilient, regardless of our actions. We must learn from our experiences and mitigate, as best we can, the consequences of our actions.

*Gregory Sanford is the former Vermont state archivist.*

# SUSTAINABLE COMMUNITIES UPDATE

The Sustainable Communities Program continues to focus on a range of land use, community development, transportation and related issues, often working closely with other programs.

For example, in collaboration with VNRC's Energy Program, this spring we released the *Resilient Communities Scorecard*, a series of checklists that communities can use to assess their overall resilience by looking at interrelated categories including land use, transportation, and energy. Once users have completed the checklist and tallied their scores, the Scorecard points users towards resources that can be used to implement findings, allowing communities to take a targeted approach to the big task of improving resilience. [LINK](#)

Also in the name of resilience, VNRC has been working with ANR and other non-profit organizations, including land trusts, to prioritize land conservation efforts that will support flood resilience, ensuring the best use of limited public and private funds. VNRC is also providing technical assistance to the Institute for Sustainable Communities for the Resilient Vermont project, which has been helping stakeholders to identify, prioritize, and implement solutions that bolster Vermont's resilience. As part of this, VNRC helped write materials for and facilitate a two-day "Solutions

Summit" where participants discussed the details of solutions for building Vermont's resilience.

In the legislature this year, lawmakers revised the Downtown, Village Center, and Vermont Neighborhood designation programs. A key goal of the revisions was to encourage more housing around downtowns and villages, with a special emphasis on ensuring that people can walk and bike from neighborhoods to their downtowns and villages. VNRC worked with other stakeholders to achieve a result that supports housing development while also addressing natural resources in these areas through a process of planning and evaluation. Now, VNRC is preparing for a second phase of "designation reform": improving the Growth Centers program while finding ways to discourage development in outlying, rural areas — including strategies to keep Vermont's farms and forests strong.

Outside of Montpelier, VNRC has participated in two U.S. HUD-funded regional sustainability planning projects: the ECOS project in Chittenden County and the East Central Vermont Sustainability Consortium. As part of the ECOS project, VNRC is excited to be supporting a multi-town natural resources inventory project in the Chittenden Uplands. In the coming months, VNRC will be

helping communities translate this information into town plan and, where appropriate, regulatory language that supports community goals for natural resource conservation and management.

VNRC is also working with the town of Brandon to identify options for protecting a key wildlife corridor. The area was identified as part of the Staying Connected project and helps assure wildlife including fisher,

bear, and moose can move between big forest blocks in the region. VNRC has been working with several partners, including the Vermont Fish & Wildlife Department and the Nature Conservancy, to help municipalities in key "linkage" areas take steps locally to help them manage these corridors for animals.

Contact Sustainable Communities Program Director Kate McCarthy at [kmccarthy@vnrc.org](mailto:kmccarthy@vnrc.org). 



# FOREST AND WILDLIFE UPDATE

The forest and wildlife program remains broadly focused on reducing the amount of forest and habitat fragmentation occurring in the state through a range of initiatives.

We continue to develop strategies to support Vermont's forests through the Staying Connected Project and the VNRC-created Forest Roundtable. With funding from the Vermont Fish and Wildlife Department and Jessie B. Cox Charitable Trust, we are working on outreach and technical assistance to local and regional planning commissions and developing a statewide action plan for forestland wildlife and conservation with funding from the Northeastern States Research Cooperative.

VNRC also recently wrapped up a three-year Forest Service Northeastern Area State and Private Forestry-funded project known as "Reducing Forest Fragmentation through Land Use Planning in the Winooski Watershed." As part of this work, we created two multi-town steering committees to advance conservation in two regions: the Mad River Valley (encompassing the towns of Fayston, Warren and Waitsfield), and in the Chittenden County Uplands area (encompassing the towns of Jericho, Williston, Richmond, Hinesburg, Huntington, and Williston).

In addition to coordinating

with town governments on conservation planning, VNRC conducted three training sessions for real estate professionals and engineers to learn how they can plan with natural resources in mind, and we just finished writing a municipal planning implementation guide to assist with forest and wildlife conservation.

The guide, *Community Strategies for Vermont's Forests and Wildlife: A Guide for Local Action*, includes 18 topic papers and case studies covering regulatory and non-regulatory approaches to reducing forest fragmentation and maintaining intact blocks of forestland. It explains land use policies and

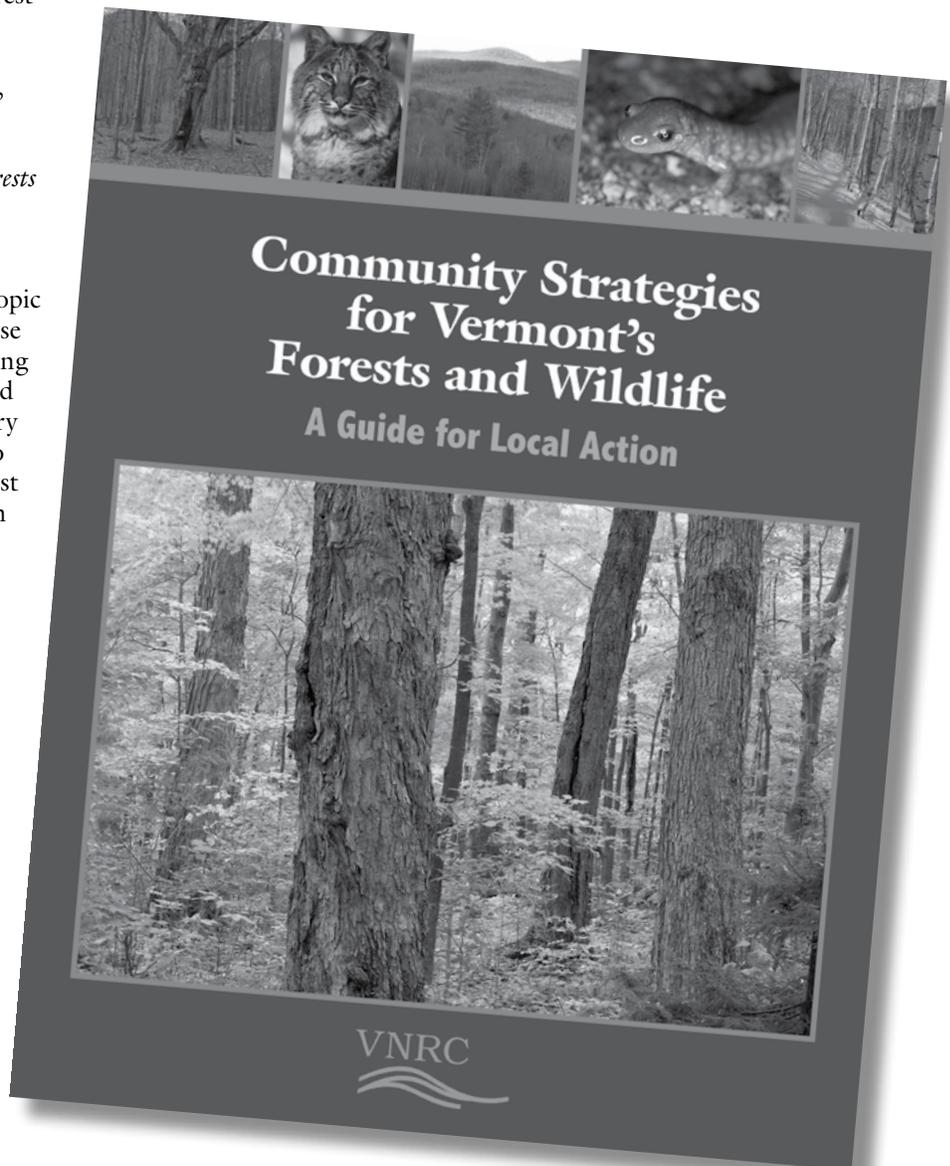
provides sample language for town plans and zoning and subdivision regulations that can be incorporated in local zoning, town plans, and subdivision regulations. It also outlines ways towns can promote intact forestland and wildlife travel corridors without laws or regulations.

The audience for this guide is local planning commissions, conservation commissions, selectboards, regional planners, landowners, and local conservation organizations. Topic papers are written to help communities decide what tools are best for

both their landscapes and their community values. To download a copy, please go to <http://vnrc.org/programs/forests-wildlife/guide/>.

VNRC is also putting the finishing touches on another publication that will analyze subdivision trends research in Vermont, including subdivision and zoning analysis in 15 communities as part of a Northeastern States Research Cooperative funded project.

For more information, contact Forest and Wildlife Program Director Jamey Fidel at [jfidel@vnrc.org](mailto:jfidel@vnrc.org) 



# ENERGY AND CLIMATE ACTION

The energy and climate action program is humming!

Our work as the coordinator of the Vermont Energy and Climate Action Network is keeping us busy. We continue to support and start town energy committees, and recently partnered with a UVM Ph.D student to survey this grassroots network to better understand their needs and how we might support them. We are also knee deep in organizing our annual “Community Energy and Climate Action Conference” for energy committees (and other energy-interested Vermonters). We hope to see you in Fairlee December 7!

We are also working closely with energy committee leaders from the Waterbury LEAP town energy committee, and

others to better understand and showcase successful approaches to advance community-owned solar projects. A big piece of this work is in compiling model contracts and a guide to help communities.

We have been partnering with Efficiency Vermont to advance the “Vermont Home Energy Challenge,” a statewide campaign to motivate more Vermonters to retrofit their homes and reduce the energy needed to heat and cool them. This includes organizing a “Button Up Vermont Day of Action” on October 5, which was the first-ever, single-day statewide initiative to tackle weatherization.

On the legislative front, we have been regrouping after last session’s disappointing failure to pass significant

energy efficiency legislation and are working closely with diverse partners to gear up for policy solutions on that issue and others in 2014. Among those other important issues is fixing the state’s net metering program, which has stopped or slowed residential and community scale solar and renewable projects in several Vermont regions because some utilities are now at their required cap.

We are also monitoring legislative discussions related to the siting of electric energy generation facilities, including large wind projects, as lawmakers dive into the recommendations of the “Energy Generation Siting Policy Commission.” Our goal is to help advance necessary improvements to the siting and permitting process to ensure Vermont minimizes or avoids impacts to natural resources and communities and simultaneously continues to ambitiously develop renewable energy projects.

Our efforts to proactively stop any plan to transport

dirty, dangerous tar sands across Vermont continue, and we are pleased with a recent decision from the Act 250 District Coordinator reaffirming that, if a tar sands project proposal moves forward, Act 250 will apply to ensure that Vermont’s resources and communities are protected.

We are also actively involved in the Public Service Department’s “total energy study” process, which is aimed at identifying the potential policy and technology pathways to achieve Vermont’s goal of meeting 90 percent of the state’s 2050 energy needs through renewable supplies. This is a comprehensive effort, and we will work with PSD partners and others to shape this analysis, outcome and potential ensuing policy, program or regulatory responses. Please stay tuned and get involved in any of these efforts.

For more information email Energy and Climate Action Program Director Johanna Miller at [jmiller@vnrc.org](mailto:jmiller@vnrc.org) 



*Solar array at Cold Hollow Cider Mill, Waterbury.*

Alan Pierce

# WATER UPDATE



Proposed shoreland protections, consideration of a groundwater extraction tax, and the development of a new publication on river science designed for lay people are among the water program's many priorities.

This past winter, the Agency of Natural Resources issued a wide-ranging water quality report, known as the "Act 138 Report." Lawmakers this past winter chose to pursue an element of that report, and started to move a lake shoreland protection bill. VNRC supported the effort, and the legislation passed the House but not the Senate. Now, hearings on the bill are under way, we expect it will be taken up it next year.

Some lawmakers continue to consider a tax on bulk water extraction for bottled water sale. VNRC has testified that such a tax would be premature and wouldn't necessarily support the goals of protecting our water. VNRC will be issuing a report on this topic

later this fall.

We are also working with the Connecticut River Watershed Council and others to follow the relicensing of dams, and we are engaged in discussions on agricultural discharges into Lake Champlain. In addition, we are awaiting a long overdue draft "anti-degradation" rule to be issued by ANR. We have submitted comments on road and bridge standards urging they be protective of water quality. We are also serving on the newly formed Water Quality Advisory Committee to advise ANR on proposed changes to the Water Quality Standards or Vermont wetland rules. VNRC also recently spoke as part of a panel at the New England Interstate Water Pollution Control Commission (NEIWPCC) meeting. They explored how Vermont is going to respond to changes to water supplies prompted by climate change.

Contact Water Program Director Kim Greenwood, [kgreenwood@vnrc.org](mailto:kgreenwood@vnrc.org).

## VNRC Releases New Pub, *Reading Vermont's Rivers*

A new 16-page publication from VNRC features articles written by river scientists, state officials, and road engineers to help laypeople understand the management of rivers. River corridors, buffers, headwaters, and different types of flooding are all explained in simple terms. The publication is ideal for town boards and commissions, state officials, and Vermonters interested in rivers.

Email Kim Greenwood at [kgreenwood@vnrc.org](mailto:kgreenwood@vnrc.org) for a copy or visit our website, [vnrc.org](http://vnrc.org) to download a copy.

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# With Building Blocks in Place, Can Vermont Construct Resilience for the Future?

**R**elative to many other places, Vermont may be pretty ready for the next thirty years. We are a fairly “resilient” state in many ways. But we need to get even more ready, more resilient, given the challenges that lie ahead.

Lee Krohn



“When the economy takes a hit, if you have a strong locally-owned business base, you are likely to fare better,” says Shannahan. “Because when you have people, families, who own businesses, they are less likely to simply close up shop and leave, like a larger corporation or chain store might. They are rooted in the community, and they tend to stay, tighten their belts and hang in there until times

Today’s world is troubled. There is competition for energy, for water, and in many places for food. There is increasing, on-the-ground-evidence that the world’s climate is changing dramatically. Global warming is upon us, and just over the last year droughts, wildfires, tornadoes, hurricanes, heatwaves, and floods across the world have wrought death and destruction.

From our vantage point at VNRC, however, we also see that many Vermonters have a depth of faith and optimism even in challenging times. We believe that Vermont can have a strong hand in charting the course for our communities for the coming decades. The overall health and well-being of Vermont’s cities, towns, businesses, forests, rivers, wetlands, and wildlife will be key in withstanding the challenges the lie ahead.

Over the past year, we’ve talked to many Vermonters about resilience in many different ways. On the street, in meetings in town halls, in the Legislature. John Shannahan, the executive director of Better Bennington Corporation, is one of those people.

He notes that diversity is critical to resilience. Diversity of businesses, of economy, diversity of ideas.

improve. That is one factor that keeps our downtown – and I expect others – resilient to economic strains.”

Shannahan also talks about the Vermont brand, in part a function of smart growth development policies that aim to promote dual goals of a working landscape and active downtowns.

“The worst thing we could do is become Anytown USA with generic big box type development,” says Shannahan. “We have people who come visit here who love the feel of downtown Bennington; they say that in their own hometowns, they don’t even know where the downtowns even are any more.”

And, he says, we’ve got to work as a team. “For Vermont communities to be resilient in the future, all of us will continue to have to break out of our silos and work together.”

*John Shannahan’s is just one view. We hope you enjoy additional perspectives from other Vermonters on resilience that appear in the following pages.*

— Jake Brown

Tim Newcomb



John Shannahan

## David Zuckerman

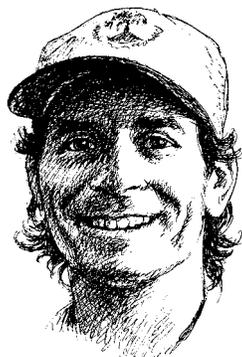
Resilience means cooperation and planning ahead, not just reacting.

As a farmer, we are contending with more pests and diseases – their patterns are changing – some are coming earlier in the season and leaving later. As examples, we are getting late blight more frequently, flea beetles are coming earlier, new pests like swede midge and spotted wing drosophila are emerging as problems for producers of broccoli and berries (respectively). Farmers are working cooperatively and are learning to adapt our practices to account for these changes.

The local food movement is a step in the right direction to making Vermont more self-sufficient, which helps resiliency. While in Vermont we are a long way from being able to feed ourselves, the local movement is helping us take steps in that direction. And as we have more diversity we are more economically resilient to these

climatic changes. Growing more volume of different types of crops will be smart for Vermont's future.

The state's Working Lands initiative is going to help. It's an opportunity to expand our agricultural infrastructure, thus making a lot of the food we are producing more cost effective to grow, process and store. That brings prices down, which will in turn increase demand and spur a supportive spiral of increased supply, efficient production, better pricing, and better profitability. The Current Use program that allows farmers to be taxed at the use value of their property not the development value is a critical component of resiliency in the sense that agriculture, for many reasons, is fundamental to a resilient state. What is particularly important is that there is no more open, productive land being produced. Through the current use program, our fields and forests are being kept available for further



local production of our basic needs.

Then there is the land use component of resiliency. Open land does offer escape valves for flooding – it may damage fields and change soil, but open land is good for flood management and

it helps minimize infrastructure damage. Forested land also slows the impact of heavy rains. Tree canopies slow the rate of moisture reaching the forest floor and the duff and roots absorb moisture and hold soil in place on our sloping hillsides.

With all of that said, farmers could and would do more to minimize water quality impacts if we could net more money per acre. If production agriculture operations were not stretched to squeeze every dollar off of every inch of soil, we could leave more land along waterways unused, creating buffers against flooding. This may require a significant effort for all Vermonters.

An idea I have been

*Sketches in this section  
by Ed Epstein,  
www.edepstein-fineart.com*

working on would be to sell Vermont milk (whether conventional or organic) as a branded state product in our markets to our south. With only 2-3% of the northeast population drinking Vermont milk for a premium of only \$0.50 to \$1.00 per gallon, we could add \$2.50 to \$5 per hundredweight to our dairy farmers milk checks. This would require a public/private (business perspective) partnership to operate a bottling plant. It would also require a state commitment to a marketing campaign for a few years in the Southern New England and other dense northeastern areas to build the brand and market demand. But it is one of the few ways in which I see we can create a profitable, and therefore resilient, future for Vermont agriculture.

*David Zuckerman is a Hinesburg farmer. He is also a state senator from Chittenden County.*

## Gary Dillon

I grew up here, and when people talked about the 1927 flood, I always heard: "There is no way that can ever happen again." With Irene it didn't, but it was darn close.

As much as it was a devastating event, I kind of feel fortunate to have gone through that, to see how we can respond. I was more than impressed with the community response. People who lived up high, came down and helped people who had been hit. We got knocked down, but not out.

In terms of being more resilient, from my perspective as a public safety official, it's important to be operational after an event like Irene as soon as possible. The public safety center is the heartbeat of the community during a disaster, and if it is not operational it has a very unsettling effect on residents. Without the public safety system operational, people can



get panicky.

In terms of resiliency, I would suggest towns do drills – I'm not suggesting it's easy, but even if you did "table tops," simulations of emergencies.

With select boards, you would lay out scenarios. You have the town manager, you have the police chief, EMS, and others. And you set up scenarios, and then you work through it: You ask

questions like, "What are the resources you are going to need?" "Who is going to get a cell phone?" "Is the municipal office open and functional?"

In terms of the risk to property, the question now is not if, but when, the next event happens, we should be better prepared. More and more, as people build, or rebuild, they should consider: should they build someplace else other than in flood areas? And if not, what are they willing to lose?

*Gary Dillon is fire chief, town of Waterbury*



## Kate Stephenson

A key piece of creating a resilient Vermont is planning for a transition away from fossil fuels- not only a hundred years from now, but immediately, in our own lifetimes. We need to create energy independence within the state through energy efficiency and the development of renewables in order to wean ourselves from a reliance on oil and gas that will continue to become scarce and more expensive. The Transition Town Network has developed over the past five years to help communities plan for these changes, with a goal of building community resilience in a way which is positive and energizing and not crisis-driven. Transition Town groups are sprouting up across Vermont, bringing people together to brainstorm, plan and think about the best ways to address these challenges.

Creating resilience means reducing the amount of energy our homes, businesses and vehicles use on a daily basis through weatherization, fuel efficiency, and improving standards for new construction to minimize energy inputs. Whether caused by natural disasters, international conflict, or economic shifts, the availability and affordability of fossil fuels will inevitably decline and we need to lay the groundwork now to help us weather those changes gracefully.

In my hometown of Montpelier and across the state, neighbors are coming

together to help neighbors weatherize their homes, install solar panels, organize carpools, grow food, and plan for future energy disruption. Through my work at Yestermorrow Design/Build School, we're helping teach people to create resilient homes and communities by asking questions like: How can I heat my house when the power goes out? Where



does my water come from? How can I process waste instead of sending it to the landfill or sewage treatment plant? Where does it make sense to live so that I rarely, if ever, have to get in my car?

Where does our food come from? How do we design, establish and strengthen networks of people within our local communities that bring together complementary skills, resources, and interests to solve the challenges at hand?

Vermont is known for its community ethic combined with a streak of independent thinking, which makes it a fertile ground for initiatives to build resilience. And while we need to think collectively and plan for our neighborhoods, towns, watersheds and statewide, we can each start at home. I think one of the best things each of us can do to make Vermont more resilient right now is to go out, knock on your neighbor's door, and introduce yourself. By strengthening our connections and networks together we can continue to build community resilience.

Resilience can mean a lot of different things to different people. What I am interested in is not the

off-grid survivalist who is completely self-sufficient, but rather how we can build community resilience. How do we establish and strengthen networks of people within our local communities that bring together complementary skills, resources, and interests to solve the challenges at hand?

You may not have all the skills to fix a bike, make sourdough bread, build a house, play a song, prune your fruit trees, install a solar panel, or raise a pig. But do you know someone who does?

Vermont is known for its community ethic combined with a streak of independent thinking, which makes it a hotbed for initiatives to build resilience. How can we build on and share the skills and resources that we already have in order to strengthen our connections with our neighbors so that when we encounter energy and food shortages, natural disasters, and other means of disruption we are as prepared as possible to demonstrate our resilience?

Another aspect of community resilience is

“re-skilling.” This concept is spreading as more and more people realize that in the age of Google, iphones, and the internet most of us don't actually know how to make things. The idea of re-skilling is to teach ourselves and each other both traditional skills that have been lost, but also new skills that will help us prepare for the transition to a world without oil. Through my work at Yestermorrow Design/Build School as well as initiatives like the Transition Town Network and the Localvore movement we have opportunities to learn and share many of these critical skills.

I think the best thing each of us can do to make Vermont more resilient is to go out, knock on your neighbor's door, and introduce yourself. By strengthening our connections and networks together we can continue to build community resilience.

*Kate Stephenson is the executive director of Yestermorrow Design/Build School.*



A. Blake Gardner

## Jon Jamieson

I think of the term resilience in a risk management framework. It means

“coming back” but I include strategies to do that in my definition. They include: Avoiding risk, reducing risk, sharing the risk, and retaining the risk.

On the issue of climate change, the insurance industry has been way out in front with much of the analysis coming from the reinsurance industry. They are positive climate change



is happening. They have dumped millions of dollars into modeling software, for instance, and now, regionally, insurance companies are pulling out of places like coastal New England, Cape Cod and Long Island. With the modeling of storms like Irene and Sandy, it's clearer that Vermont is now in the “bullseye” also. In New England generally, disaster

costs can be considerably higher than say Florida. We have far more older buildings

that are not necessarily built to hurricane code. We have big trees here that don't grow in Florida. We have ice storms. All of this makes us potentially more susceptible to regional disaster scenarios.

To increase Vermont's resiliency we should make use of the data that is available. We need to look to our infrastructure: larger culverts, assuring that cell phone towers have auxiliary power, and setting peoples' expectations differently. On the coast, if you plan to build a condo on the water, expect it to be destroyed. Up here in Vermont, if you plan to build a house near water, you

should expect to pay for flood insurance, but you should know that flood insurance is very limited in what it covers, so read the fine print. Vermont has a very good historical and cultural tradition of resilience, but depending on federal help in the future is going to be more expensive (and probably more limited). People will have to take more responsibility. From having fresh batteries and water available to having a rainy day fund in the bank. The probability that you'll need both has increased.

*Jon Jamieson is the president of Jamieson Insurance, Waitsfield, Waterbury, and Richmond.*

## Mike Kline

I believe Vermont is a leader in using science to show that rivers are a complex set of water and sediment flows that need far more room

to operate within than we have traditionally been willing to give them. We are adopting the idea of giving “room for the river.” I think this is a key strategy as we look to become more resilient.

The science is leading Vermont to define “river corridors” as the minimum valley bottom room a river needs to attain and maintain a dynamic equilibrium condition. These corridors accommodate the dimensions, meander pattern, and slope of a channel that can store and transport water, sediment, and debris produced in the watershed above without unnaturally building up or eroding the landscape. While many corridors are already



occupied with infrastructure and inhabitable structures, Vermont, unlike other places, still has thousands of miles of open corridors where the energy, sediments, and debris of floods may be

safely dissipated within channels and floodplains in dynamic equilibrium with one another.

In this paradigm, the words “sustainable” and “resilient” are particularly

apropos, because, rather than relying on human-engineered structures that cost great sums to build and maintain, we begin to utilize the forms and processes maintained by the river itself to reduce the hazards of flooding, store fine sediments and nutrients that would otherwise pollute Lake Champlain or even Long Island Sound, and create the complex habitats found in meandering river-floodplain systems.

For those of us following

the science of rivers, Tropical Storm Irene and the human actions that took place afterward were a huge wake-up call. Vermont must recognize several realities that have come out of this disaster. First, there are villages, roads, and other critical infrastructure right next to rivers. Perhaps many of these investments were made in places that have turned out to be not so wise. But they are there, and we must recognize that particular river reaches have to be managed more proactively to protect our homes and public infrastructure. In these places, we must use our knowledge of natural river engineering to create naturalized channels (i.e., think rocky gorge) that can remain static by transporting sediment and debris while dissipating flood energy to the greatest extent possible.

Also going forward, we must acknowledge that rivers move, meander, and create a tremendous amount of power, sediment, and debris during floods — floods that will become more frequent because

of climate change. Therefore, it is essential that we work with landowners and communities to do buyouts and easements and create incentives for land use regulation that makes room for the river.

We must find ways to help communities pull back from and protect critical river corridors and floodplains upstream and downstream of our villages so that the rivers can spill out and release their flood energy and materials in these less-developed areas. Only if we remain at the leading edge of the science, creating a new paradigm for the 21st century where the river is considered in terms of its corridor and floodplains, will we be resilient from flooding, with safe and sustainable communities, cleaner water, and rich and diverse riparian habitats.

More room for the rivers may be the lowest-cost form of flood resiliency we can achieve.

*Mike Kline is rivers program manager at the Vermont Department of Environmental Conservation.*



## Hal Cohen

The low-income community, in many ways, is already pretty resilient, in some ways more resilient than the general community. But some ways, it is less so.

First, low-income people are very resilient because on a day-to-day basis, they struggle to survive. Take food, for instance. Many in this community learn and adapt as they contend with the challenge of getting enough



food on a weekly and even daily basis. They learn what days there is food available at different places: the food shelf, the soup kitchen, the community action agency. In housing, they are resilient in a way. They are constantly juggling money and are constantly making hard choices: pay part of the rent this month and get some food; pay all the rent and eat less. The low-income community is also resilient in that they find ways to help each other. They ride share, they share childcare.

When families become homeless, they sometimes sleep on couches of friends.

When disaster strikes, however, many times low income people can be pushed into more dire poverty. There were cases after Irene where people in poverty were knocked into more dire poverty by the storm.

How can Vermont, in terms of the low-income community, become more resilient? One way is to help them be able to adopt newer technologies. Low-income families may own gas-guzzling cars because they can't afford a newer, fuel efficient car. They are the last ones to have solar panels or solar hot water. The state of Vermont, as a

matter of policy, has decided that low income Vermonters should have the opportunity to weatherize their homes. We need to think about that sort of help in other areas, other technologies. For the low-income community, we need to expand our commitment to things like financial literacy. Many low-income people do not have a relationship with a bank, or an insurance agency, for example.

When we are talking about resiliency, let's be sure to include the low-income community.

*Hal Cohen is executive director of Central Vermont Community Action Council*

## Kevin Geiger

Resilience is the ability to weather what life throws at you, and in my work, much of that is actually the weather. I help towns plan for a variety of emergencies, but my current focus on flooding. The mindset and systems you need to be able to handle flooding has a lot of use in other kinds of emergencies, though, too. If families, communities, or the state can sit down, be civil, evaluate risks rationally, avoid denial, and make plans on how to address them, then we will have kept our freedom and exercised our unity.

Resilient systems, be they towns, states, or even our own lives, need slack. They can't be running on the edge



all the time, like we do with nearly everything right now. And they can't be just market-based. The market is quite anti-resilient in fact. Vermont is already much more resilient than many places, but we can do more. We need to remain thrifty. We need to not count on oil so much; we don't have any, it won't get cheaper, and it will get scarce. We need to keep our local assets strong, especially the small businesspeople that make or repair things. We need all the farmland and farmers we can get, and a healthy forest. We are blessed with the treasure of enough water, and we need to stay out of its way when we get extra. Perhaps foremost, we need to maintain our intangible sense of community, and town meetings are a good way to do that, but so

are our schools, volunteer organizations, and clubs. And to keep those going, we need time to do them and some more young folk. We are one of the oldest and least diverse states, and we need to change that. The past is not the future, nor even the present. We depended on the old climate for good skiing, gentle rain and mild summers. Our new climate is hotter and drier, punctuated by bigger storms, and it will get worse. Our forests will change before our eyes, and we will scratch our heads in the garden as we move from zone 4 to 5 to 6. For people in the west or coast, I fear the new climate is about to ruin their lives. And then they will

look at Vermont. Just like the hip new neighborhood that becomes such a great place to live the residents can't afford to stay, we have to reevaluate the proper role of the market or we may find out that Vermont was resilient but we weren't. We need to ask each other, and answer, how do we, the people of Vermont, go forward together here, in Vermont? With the grace, humor, and perseverance I've seen in Vermonters, I think we have a good start, but we'd better pick up the pace.

*Kevin Geiger is senior planner at the Two Rivers-Ottawaquechee Regional Commission in Woodstock.*



## Susan Clark

Community resilience comes in many forms, but surely a resilient community has to be vibrant in all three areas associated with sustainability. It must be environmentally healthy, economically viable, and socially equitable; and all of these can be strengthened if you engage in your local democracy.

It's no secret that civically engaged communities are more resilient in times of emergency. That's why a top recommendation in many U.S. cities' emergency preparedness plans is that people get to know their neighbors. Social capital saves lives.

Look at it this way: when a community's physical infrastructure is swept away as it was with Tropical Storm Irene, it reveals the existence of another layer of community: its civic infrastructure. Storms have a way of revealing the downside of deferred maintenance on physical infrastructure like bridges and levies. Likewise, disasters also teach us quickly the costs of ignoring investments in civic infrastructure — things like local leadership and neighborly communication.

In Vermont during Irene, civic infrastructure took the form of an outpouring of volunteerism and goodwill, which was in turn readily mobilized by willing, skilled citizen leaders. Not surprisingly, with our strong local democratic traditions, Vermont communities turned out to be darned good in a crisis. Resilient.



Community democratic structures that are inclusive, deliberative, and empowered are a critical way to build trust and social capital. And in turn, those constructive personal relationships reinforce a functioning democracy. It's an upward, virtuous spiral.

With a future that is more and more focused on local food, local energy, and local economies, surely we will need to continue to hone our skills in local decision making and community

building. Increasingly, communities understand that the best investment against crisis is to strengthen citizen leadership. Reliance on "experts," a leftover from the industrial revolution, is giving way to decentralized, bottom-up strategies that reward innovation and information sharing. Governments and citizens who collaborate, working less like a hierarchy and more like a wiki, create more responsive and resilient communities.

In recent decades, "citizenship" has too often meant just being a consumer of policy, or a spectator of political showmanship. But when we're treated as collaborative problem solvers, we show the value of local engagement.

The slow food movement urges us to take the time to recognize our connection and responsibility for the food we eat. We need a parallel "slow democracy" movement — locally grown, place-based, citizen-powered. Like slow food, slow democracy is more sustainable and, ironically, often more efficient than its

"fast" national equivalent.

What does slow democracy look like? It means thinking of government as a "we," not a "they." It means encouraging the planning commission to launch a more inclusive, creative visioning process, even though if you do they'll probably make you chair it. It means taking a walk in the town forest with a neighbor, to find out what's growing and who's nesting there. It means supporting local historical, ecological, or social organizations that speak to your interests — writing a check is nice, but showing up is better. It means stopping to chat with a neighbor, to hear an alternative point of view. And maybe, it means running for local office — because it's your turn.

Not all "storms" come in the form of winds and high water. When it comes

to resilience, consider Vermonters' reactions to other crises — slowly, painfully, but authentically struggling to create solutions to the knottiest issues like Act 250 and civil unions. Our local, face-to-face, deliberative democratic traditions are an invaluable inheritance. One of the most effective investments to make our selves resilient in the face of storms — be they social, political, or meteorological — is to maintain and strengthen our local democracy.

*Susan Clark is the coauthor of Slow Democracy: Rediscovering Community, Bringing Decision Making Back Home (with Woden Teachout, Chelsea Green, 2012). She served as VNRC's Communication and Education Director from 1984-1992.*

## Sandy Wilmot

As a forest health specialist, my use of the term "resilience"

pertains to the forest itself. The definition of forest resiliency most aligned with my thinking is the ability of a forest to withstand external pressures and return, over time, to its pre-disturbance state (United Nations Forest Council). Forests that have a diversity of species, complex forest structure and are ecologically productive are well positioned to resist or recover from disturbances. This definition works well to describe small disturbances such as wind that fells small

patches of trees that are then replaced by seedlings and saplings already growing on the forest floor. Even large and intense forest damages such as swaths of tornado-felled trees have historically regrown to similar forests given longer time scales. But building forests resilient to a changing climate is

a daunting challenge. Vermont forests won't be returning to their original state given the magnitude of increasing temperatures, precipitation changes, intensified disturbance events, and therefore new growing conditions. Building adaptable forests is the best strategy for



*continued on page 14*



building climate resilience.

The simple, yet not so simple, solution is to manage forests in the most conservative way possible. Expect increases in pests and disturbances that already affect forest health. Expect increases in invasive plant problems. Expect erosion from heavy downpours. Expect less than optimal seed beds for

regeneration. Expect a shift in species, especially those that in Vermont are at the southern edge of their range (e.g. balsam fir). Where harvesting in the past has led to positive results, don't expect the same success in the future. Every possible step needs to be taken to reduce stressors and prevent additional disturbances.

Community planning can be a strength in maintaining forest land, which is so critical to moderating air and water temperatures, protecting water quality and slowing floodwaters. Thinking ahead and protecting critical areas can be the most valuable contribution a community can make in protecting its

citizens from climate change effects. Starting a dialogue that recognizes climate change and the broad array of impacts should be a prompt course of action.

*Sandy Wilmot is a forest health specialist with the Vermont Department of Forests, Parks & Recreation*

## Julie Campoli

Define resilience as the ability to spring back from whatever life throws your way. We don't yet know what challenges we'll face from a warming planet, but we'll need to be flexible and improvise to solve new and difficult problems.

My recent work has focused on the relationship between travel and urban form so I'm particularly concerned about how our transportation system will weather the challenges ahead. Can Vermonters retain their mobility in the 21st century? From my perspective, it will depend on how we shape our cities and towns. And the quality of those places will depend on the transportation investments we make in the next decades. If we continue to pursue current low-density sprawl practices and spend our money on roads and parking rather than transit, we will not develop the flexibility an uncertain future requires.

We live in a global economy and with nations like China, India and Brazil consuming ever larger amounts of the world's dwindling supply of oil, it's hard to imagine

that gasoline will remain an affordable commodity in the future. If we would like to have alternative transportation options tomorrow, we need to make significant land use changes today.

We need to look critically at our preference for a "rural lifestyle" and honestly appraise its costs. Despite our small population, we drive about seven billion miles each year. Vermonters like to support

local economies, yet we spend about \$1 billion each year on gas, with the bulk of that money sent out of state. We are renowned for our environmental ethic, yet we drive more miles per capita than the average American, which results in an above average percentage of carbon emissions from travel. It's time to face up to the fact that a low-density lifestyle is not as environmentally friendly as an urban one.

Until the 1960s, Vermont had a land use pattern and transportation system that was not overly dependent on cars and fossil fuels. We had densely populated cities, towns and villages, many served by streetcars and buses. A web of railway lines and bus routes connected rural communities throughout the state. Even

small villages offered retail and other services. Vermonters used cars but a much larger percentage of the population could get by without them because the built environment made walking and transit possible. The state was both more rural (no sprawl in the countryside) and more urban (dense, walkable downtowns).

We can use this historic model to create a 21st century Vermont-style urbanism. Limiting development and infrastructure investments to areas defined by walking distances, mixing uses, increasing density, creating pedestrian friendly environments, and following the other tenets of smart growth will help us reduce our dependence on fossil fuels by putting the urban back in Vermont. And we need to do it much more effectively than we have in the past — with stringent growth boundaries and meaningful incentives for locating services in compact downtowns.

Since the middle of the last century, our land use policies and development decisions have been made with the assumption that fossil fuels pose no threat to our future and that gasoline will continue to be cheap and plentiful — that we can afford to spread out and drive everywhere.

We can build more resilient communities by asking a

simple question every time we consider a development proposal, transportation project or zoning change — does it make sense if gas costs \$6, or \$8 a gallon? Does it work if people can't get there in a car? That's the mindset that created our historic and beloved downtowns — a pedestrians-first approach that should form the basis of future development.

*Julie Campoli is the author of Made for Walking, and Visualizing Density, and is principal of Terra Firma Urban Design.*



# ISC, VNRC, Others Draft Road Map to Resilience

VNRC, along with several other organizations, is working with the Institute for Sustainable Communities to develop an action plan to increase resilience in Vermont.

The Montpelier-based Institute for Sustainable Communities (ISC) is well known for its work abroad. Founded by former governor Madeleine Kunin, the organization has worked on more than 91 projects in 25 countries in support of sustainable community development, and is known for bringing together diverse groups to work on difficult problems and build capacity to solve those problems. When Tropical Storm Irene struck Vermont in August of 2011, ISC turned its attention closer to home.

“Tropical Storm Irene was a call to action — especially because people realized that it

wouldn’t be the last storm of its kind,” said ISC President George Hamilton. “It raised many complex questions about how we, as a state, could be more prepared and less vulnerable when future storms hit. We did a lot well during Irene, but what could we do better? What are the most strategic ways for the state, local governments, non-profits, businesses, and individuals to strengthen our resilience?”

To start to answer these and other questions, ISC has led a stakeholder-driven process that will yield a shared vision of resilience in Vermont. The result will be an action plan: the “Resilience Roadmap,” full of practical, prioritized steps for achieving that resilience. VNRC has been serving as both a participant in and advisor to the process.

ISC held its first statewide meeting in October 2012,

and then pulled together three working groups (Capacity for Emergency Management, Resilient Landscapes and Communities, and Infrastructure and the Built Environment) that produced a list of recommendations for becoming more resilient. This past spring, stakeholders discussed and prioritized these recommendations. ISC staff then researched and analyzed each prioritized recommendation, at the same time conducting six local focus groups across the state to get further input. A final version of the Roadmap itself will be released in October.

VNRC’s Sustainable Communities Program Director Kate McCarthy co-facilitated the Resilient Landscapes and Communities Focus group, and facilitated sessions at the larger meetings. “Resilience is a massive topic,

but this Roadmap that is under development will give Vermont a place to start,” she says. “The wide variety of solutions will also be a reminder that we all have a role to play in a resilient Vermont,” she said.

“It goes without saying that there is no silver bullet,” says Debra Perry, Senior Program Officer for Climate and Environmental Programs at ISC and director of the project. “The Roadmap will be a combination of short-term and long-term goals, quick fixes and heavier lifts, small investments and large investments, and public and private actions — reflecting the reality that true resilience is multi-pronged. The Roadmap will make it clear how policy makers and citizens alike can advance resilience efforts.”

To learn more, visit the Resilient Vermont website: [resilientvt.org](http://resilientvt.org). 



VNRC’s Kate McCarthy, far left, and Nathaly Agosto Filión (with laptop) of the Institute for Sustainable Communities, lead a discussion on resiliency in Vermont. Photo courtesy Lindsey Chamberlin, Institute for Sustainable Communities.



## Vermont Yankee to Close: Reaction from VNRC

VNRC is pleased that Entergy plans to close Vermont Yankee in 2014.

This is good news for Vermont and its energy future. The Vermont Yankee nuclear power plant represents a 20th century energy system. Vermont and the nation should be moving toward a 21st century energy economy, one that includes new, good-paying jobs like those provided by Vermont Yankee but in cleaner, renewable energy technologies of the future.

For the past several years VNRC has been litigating at the Public Service Board raising concerns over Vermont Yankee's environmental impacts, including the leaking of tritium into groundwater, and the effects of the plant's discharge of heated water into the Connecticut River. We believe the closure of the plant will benefit fish species and improve the health of the Connecticut River.

We must now turn our attention to decommissioning of the Vermont Yankee site to be sure its done properly, that Vermont taxpayers don't foot the bill and that Entergy restores the land so that future generations can use and enjoy it.

*Brian Shupe, VNRC Executive Director*

## VY, Biomass Cases Still Active

VNRC has been deeply involved in two high-profile cases before the Public Service Board (PSB) that have broad energy and natural resources implications.

The legal landscape surrounding the case involving the Vermont Yankee nuclear power plant shifted dramatically when Entergy, the owner of the plant, announced in late August that it plans to close it in 2014. (See statement from VNRC executive director Brian Shupe at right.)

VNRC — representing ourselves and the Connecticut River Watershed Council

(CRWC) — had been articulating serious concern in the PSB proceeding about the plant's continued discharge of hot water into the Connecticut River and its effect on fish species and the aquatic ecosystem.

It is unclear at this time how the legal proceedings will change in light of the announcement, but VNRC plans to remain engaged.

In a separate case, we are nearing the completion of our participation as a party, together with the National Wildlife Federation, in the PSB's review of a proposed woody biomass electricity generating facility in North Springfield. We filed multiple briefs supporting adequate forest procurement and harvesting policies,

higher efficiency levels for the project, and a full consideration of the carbon/greenhouse gas impacts. The technical hearings are mostly

over, and briefs have been submitted to a hearing officer. We expect to see a proposed decision soon.

## Bob Klein, Ben Hewitt Among Highlights of VNRC Annual Meeting

At our annual meeting September 19, VNRC recognized Bob Klein of East Montpelier with the Arthur Gibb Award for Individual Leadership.

Klein is stepping down as state director of the Vermont Chapter of The Nature Conservancy (TNC) after over 30 years of service.

Gus Seelig, the director of the Vermont Housing and Conservation Board and past recipient of the Arthur Gibb Award, said Klein's work will leave a lasting mark on Vermont. "Bob's legacy as

Vermont's first director of the Conservancy's Vermont Chapter will be found for generations to come at TNC's Vermont preserves — in places like Black Mountain, Bald Mountain, and Long Pond. His leadership provides all Vermonters with an elegant example of how we can work together in promoting the values that Art Gibb embodied," Seelig said.

The Arthur Gibb award has been given since 2006 to a Vermont resident who embodies qualities similar to those of the late Arthur "Art"

Gibb, and who has made a lasting contribution to their community, region or state in advancing smart growth policies.

VNRC's annual meeting also featured guest speaker Ben Hewitt, author of several books including *The Town that Food Saved*. VNRC also thanked Ann Ingerson of Craftsbury for her contributions of expertise in a Public Service Board case relating to a proposed biomass facility in North Springfield.



*Bob Klein*

## VNRC Welcomes Several New Employees

Three new employees have joined VNRC over the last several months.

**Mari Zagarins** (pronounced ZAGarins) is VNRC's new outreach and Membership and Outreach Coordinator, **Nancy Davila-Groveman**, is our Finance and Operations Manager and **Emma Zavez** has been hired as Conservation Planner.

Mari and Nancy replace Nina Otter and James Sharp, respectively, both of whom are pursuing new career opportunities. Emma has been hired to a new, one-year position.



### Mari Zagarins

Mari comes to VNRC from the Green Mountain Club, where she was the Director of Membership and Volunteer Services. At GMC, she was instrumental in significantly increasing the Club's membership to over 10,000, the largest number of members in the club's history.

She has an M.A. in education from the University of Massachusetts and a B.A. in mathematics from Mt. Holyoke College. She has worked for the Pacific Crest Trail Association, the Montana Conservation Corps, and was a mathematics teacher at Keene High School in New Hampshire.

She can be reached at [mzagarins@vnrc.org](mailto:mzagarins@vnrc.org)



### Nancy Davila-Groveman

Nancy is responsible for the day-to-day operations of VNRC as well as managing the organization's finances. She has a B.A. from Marian College in Wisconsin and a MA in Fine Arts in Writing from Vermont College.

She has a breadth of experience and her previous employers have included New York City's Department of Environmental Protection, the Vermont Department of Public Service, and The Johnson Company in Montpelier.

In her spare time she likes to hike in Groton State Forest, canoe on Vermont's rivers, lakes and ponds, and cross country ski. You can reach her at [ndavila@vnrc.org](mailto:ndavila@vnrc.org)



### Emma Zavez

Emma, who is a native of Randolph, has a B.A. in History with a Minor in Environmental Studies from Earlham College and a Master's Degree in Environmental Law and Policy from the Vermont Law School. She brings with her a strong background in community organizing, land use planning, and social and environmental justice work.

Emma comes to VNRC from the Two Rivers-Ottawaquechee Regional Commission, where she focused on forest stewardship, energy planning, and emergency management.

You can contact her at [ezavez@vnrc.org](mailto:ezavez@vnrc.org)

**Vermont Conservation Voters**  
Seeks  
**Political Director**  
*Details at [vnrc.org](http://vnrc.org)*

## An Omission, and Correction

In VNRC's last edition of the *Vermont Environmental Report* a list of past Executive Directors was included, together with accompanying photographs. Don Hooper was inadvertently left off of that list. Until he was elected to the Legislature in 1984, Don was Associate Director then Executive Director at VNRC from 1979 through '84. We apologize for

omitting Don's name from our roster of illustrious former Executive Directors.

That oversight is surprising in that few of VNRC's past employees have played — and continue to play — such a significant supporting role in VNRC's day-to-day operations. Don has served as Northeast Regional Representative of the National Wildlife Federation since

1998, during which time he has served as an ex officio member of VNRC's board. In that capacity he has shared invaluable national perspective and institutional memory. He also continues to be a strong VNRC supporter, and he and his family's business — the Vermont Creamery — were key sponsors of VNRC's 50th anniversary celebration in Shelburne.



# NEWS & NOTES

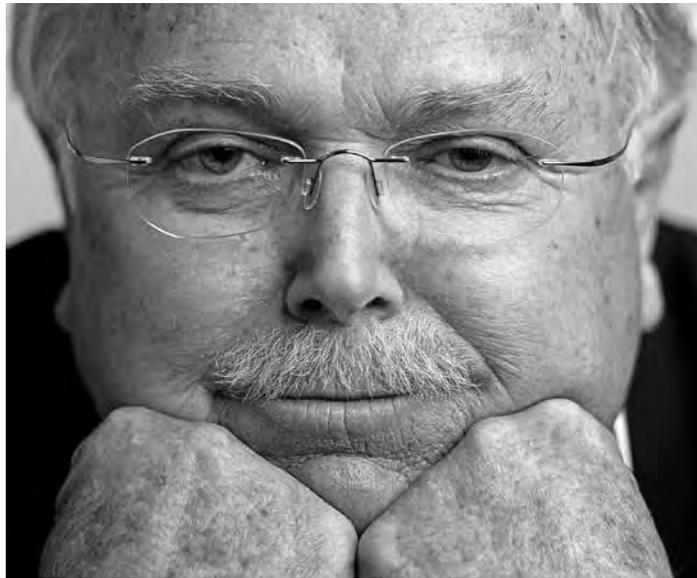


## VNRC Founding Board Member Paul Heald 1936-2013

Paul F. Heald, a founding board member of the Vermont Natural Resources Council, died this summer at the age of 76. He is believed to have been the last living founding Board member of VNRC. (See the list of founding board members below.)

Paul attended VNRC's 50th anniversary celebration last September and was recognized for his early and critical service to VNRC.

Paul was born in Lewiston, Maine, on Nov. 16, 1936, the son of Charlene (Folsom)



*VNRC founding board member Paul Heald in 2007. Portrait by Todd R. Lockwood.*

Tebbits and Joseph John Harrington. His father died in 1937 and his mother remarried Almon F. Heald, who later adopted him. Paul graduated from Burlington High School in 1955 and from the University of Vermont in 1976 with a double major in Asian studies and philosophy. Later he

earned a Masters in historic preservation at UVM. He founded Foulsham Farms Real Estate in 1961.

Paul had an active life with many interests, including the arts, conservation, and all things international. He was also a founding board member of the Vermont Chapter of the National Audubon

Society, and on the boards of the Vermont Symphony Orchestra, the Burlington Civic Trust, Preservation Burlington, and the Vermont Tibetan Resettlement Program. In addition to his extensive travels through Europe and Asia, at his beloved farmhouse Paul hosted numerous international students, refugees, and a wide assortment of people who quickly became devoted friends. Paul had a lifelong interest in horticulture, raising hundreds of varieties of plants in his greenhouse.

Paul leaves his brother, Joseph J. Heald and wife, Pam; nephews, James Heald and wife, Deb, and Joseph J. Heald Jr. and wife, Jill, all of Milton; his niece, Lisa Heald of Burlington; as well as many cousins. He also leaves his close friends of the Friday Night Leunig's group, and a multitude of friends both local and around the world.

*(Material from obituary published in The Burlington Free Press, June 26, 2013)*

### VNRC's Founding Board Members

- Richard Brett
- Lucy Bugbee
- George Davis
- Marion Hardy
- Paul Heald
- Perry Merrill
- Robert Nash
- Samuel Ogden
- Belmont Pitkin
- Robert Proctor
- Frederick Sargent
- Marion Smith

### A Few Thoughts on Paul Heald

Paul was insatiably social, gregarious, and outgoing. Going out to dinner, concerts, and the like, in the company of friends, were mainstays of his life. These qualities dovetailed perfectly with his career in real estate.

He managed his house at 1200 Dorset St. as a rooming establishment, charging \$15 per week for those lucky enough. All others were designated as "gardeners" or inmates subject to Paul's beck and call every Saturday morning.

The care, tending, and well being of plants in the greenhouse and outside, in season, were the focus of these weekly work sessions.

A great variety of types passed through the doors of 1200: all young and well educated en route to careers and adventures

elsewhere, including many physicians in training, interspersed with the occasional airline pilot, piano tuner, poet, or boatbuilder.

He was variously referred to by the inmates of 1200 as Paulsy Burlap, the big Kahuna, cerebral paulsy, and occasionally as Paul.

Paul was selflessly and tirelessly dedicated to a number of deserving causes including historic preservation in Burlington and surrounding Chittenden County, the Wilbur collection of rare books at UVM, and the Tibetan refugee resettlement project.

He will be missed greatly by all.

— Steve Page, Williston

*(Steve Page was a close friend of Paul Heald)*

# The Mollie Beattie Internship: A Request

In 1997, the Vermont Natural Resources Council established an annual internship to honor the late Mollie Beattie — who fell victim to brain cancer in 1996 — for her outstanding passion and commitment to Vermont’s environment, people and communities.

We are hoping to raise an additional \$40,000 to ensure that Mollie’s legacy continues to inspire young professionals looking to follow in her footsteps.

Mollie’s contributions to Vermont spanned many years. She was on VNRC’s Board of Directors from 1981-1984, serving as both chair and vice-chair. From 1985 to 1990 she served first as the Commissioner of the Vermont Department of Forests, Parks & Recreation, and later as Deputy Secretary of the Agency of Natural Resources. As a consulting forester, her knowledge of and commitment to ecological stewardship touched scores of landowners and thousands of acres of Vermont woodland. Throughout all her work, Mollie understood the need to actively engage citizens in conservation efforts.

Her commitment to the state’s natural resources was matched by her commitment to Vermonters. As a founding member of the Vermont Housing and Conservation Board (VHCB), Mollie was instrumental in bridging the divide between conservation and affordable housing supporters to help build VHCB’s legacy as the greatest public investment in smart growth in Vermont’s history.

Recognizing her talents, in 1993 President Bill Clinton picked Mollie to serve as the Director of the U.S. Fish & Wildlife Service — the first woman to fill that role in the department’s



*“Vermont will always remain the keeper of an alternative American Dream: a dream of a place where bigger is not better; where community is more important than personal riches and partisan politics; where the distinction between village and countryside remains; where people can live close to the land; and where they can see the stars at night, clean snow and a hawk on the wing; and where none of these values are submitted to the myopia of short term economics.”*

— Mollie Beattie

history. Vermont’s loss was the nation’s gain, and her exemplary service was recognized in 1996 with the establishment of the Mollie Beattie National Wildlife Refuge in Alaska.

Since establishing the Mollie Beattie internship 16 years ago, interns have helped VNRC tremendously and most have gone on to pursue careers in the environmental movement. Past interns include a conservation biologist, a clean water activist, and the owner of a successful multimedia production company specializing in environmental advocacy.

The internship was founded with \$15,000 in initial donations. While VNRC has maintained the paid internship through the support of annual contributions from our members, those initial donations — however generous — will not sustain the internship in the coming years.

For more information, please contact Stephanie Mueller, VNRC Director of Development, [smueller@vnrc.org](mailto:smueller@vnrc.org). 

## VNRC Enters New Partnerships with AVCC, VCV

During the last year, VNRC has entered into two new strategic partnerships.

VNRC has become more closely affiliated with both the Vermont Conservation Voters (formerly the Vermont League of Conservation Voters) and the Association of Vermont Conservation Commissions, or AVCC.

According to Brian Shupe, VNRC’s executive director, “the affiliations allow the groups to more closely benefit

from each others’ strengths. It also gains efficiencies for the three organizations by sharing administrative capacity.”

In both cases, the organizations remain as separate entities. With AVCC, the reconstituted board of directors is named in part by VNRC. In regard to VCV, the organization will be housed in VNRC’s Montpelier offices and VNRC will provide administrative and policy support to both organizations.

VCV, considered by many

to be the political arm of Vermont’s environmental community, helps elect pro-environment candidates to public office and holds lawmakers accountable on conservation-oriented votes. VCV is the state chapter of the National League of Conservation Voters. Shupe noted that leagues in several other states are affiliated with a traditional environmental group, similar to VNRC and that such affiliations are occurring more frequently in

recent years.

For its part, AVCC has supported the growth and success of local conservation commissions, acting as a clearinghouse for information, publishing a newsletter, maintaining an on-line listerv, and holding an annual meeting for the better part of two decades. In recent years, AVCC has also administered a grant program for local conservation projects. 

# Tovar Cerulli: Author, Vegan-Turned-Hunter, and VNRC Member



Tovar Cerulli

**T**ovar Cerulli, author of *The Mindful Carnivore: A Vegetarian's Hunt for Sustenance*, has worked as a logger, carpenter, and freelance writer. He is currently working on a PhD in communication at UMass-Amherst, researching different cultural views of wildlife and nature. He lives in Marshfield with his wife Catherine, their Labrador retriever, and an eclectic mix of cookbooks.

**You have undergone something of a personal transformation in terms of you how see your relationship with food, and its source. Could you briefly describe that transformation?**

At twenty, moved by the compassionate words of Buddhist teacher Thich Nhat Hanh and concerned about both animal welfare and the ecological impacts of meat, I became a vegetarian. Soon I went vegan. A decade later, having moved back to Vermont, I realized that all food has its costs. I also discovered that my body required some animal-based foods for optimal health. Searching for ethical, ecologically responsible ways to eat, I began to contemplate the unthinkable: hunting. Two years later, I took up a deer rifle.

**What were the challenges involved in that shift for you?**

One challenge was making my peace with the impacts of agriculture. It was hard to accept that even vegetarian foods are linked to habitat destruction, to grain combines that mince rabbits, and to the shooting of deer to protect crops. Even in our own garden, we faced ravenous insects and woodchucks, and sometimes found fragments of bone in the composted manure we used as fertilizer. Another major challenge was the confrontation with death. In my fourth hunting season, when I finally killed my first

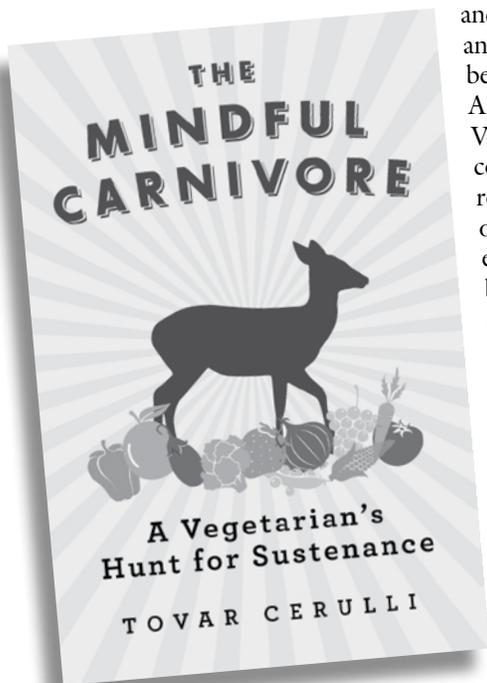
deer, I was deeply shaken by the experience. I wasn't sure I would ever hunt again.

**What are the rewards?**

One reward is a deepened sense of connection with the landscape I inhabit—the places, the animals, the rhythms of the seasons. I also experience a stronger and more specific sense of the meaning of food, especially meat. Meat from the store is always anonymous: some animals, killed somewhere, sometime. Meat you have hunted or raised is always specific: that animal, that place, that moment. I can't pull a package of venison out of the freezer without recalling the cost of that particular animal's life.

**What are some things Vermont policy makers should keep in mind if they want to support the increasing interest in local food, in this case wild meat, coming from the Vermont landscape?**

To support wildlife and wild food, Vermont needs to keep habitats intact and accessible. Groups like VNRC need to continue promoting a vision of resilient human communities as part of a larger land community, and need to forge long-term partnerships with hunting groups. Building on those kinds of coalitions, Vermont needs to muster the political will to establish a long-term, broad-based funding mechanism for the state's Fish and Wildlife Department. Historically, the department was funded almost entirely by hunters and anglers, but its responsibilities have grown dramatically in recent decades and new dedicated revenue is required to leverage vital federal matching funds. Vermont also needs to continue its strong support for the Current Use program and other policies that promote healthy, intact forests and clean rivers, lakes, and ponds. All of these are wildlife habitat that have provided, and continue to provide, food for Vermonters. 





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Vermont has been through a lot in the last few years. But we've always been the state that could.

We are growing and attracting new businesses to Vermont. We have an extraordinary workforce, a high quality of life, beautiful open spaces and a clean environment. We are moving away from carbon-fueled energy and toward renewable and local sources of power. We are committed to becoming the first climate-neutral state in the country.

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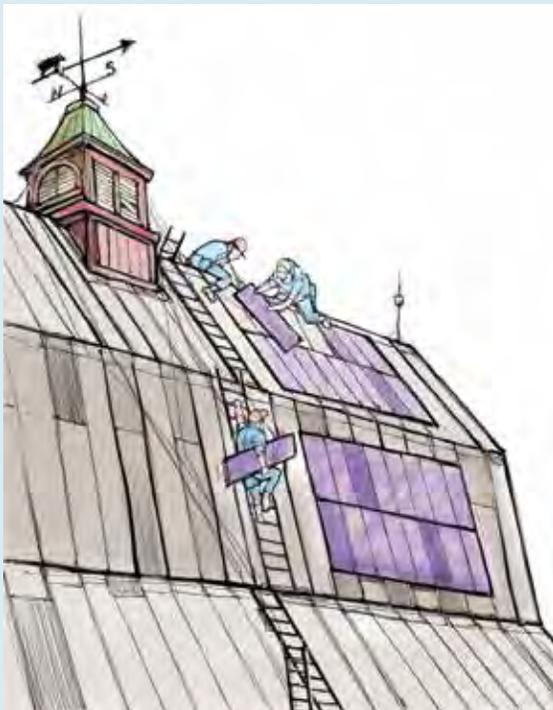
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## Save the Date!



### 6th Annual Vermont Community Energy and Climate Action Conference

**Dec. 7, 2013, Lake Morey Inn, Fairlee**

This year's VECAN conference focuses on getting serious about climate action in Vermont by strengthening partnerships and advancing total energy solutions. The day includes 14 timely workshops, roundtable discussions on hot topics, networking opportunities. This year's keynote speaker is the inspiring, motivated, and powerful young climate leader, May Boeve, director of 350.org.

Cost is \$30 before Nov. 22, \$40 after Nov. 22 and includes lunch. Stay tuned to [www.vecan.net](http://www.vecan.net) for all the details and please, spread the word!

**Vermont Energy &  
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**Remember:**  
**VNRC is a membership organization and we count on members for support!**  
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