

The background of the cover is a photograph of a winter forest. In the foreground, there are snow-covered evergreen trees. In the background, a valley filled with trees is illuminated by a warm, golden light, likely from a low sun, creating a strong contrast with the cool blue tones of the sky and the snow. The overall mood is serene and majestic.

VNRC

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Environmental Report

The Future of Vermont's Forests

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VNRC is the Vermont affiliate of the National Wildlife Federation.

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The Inside Word

Will We Lose Our Forests a Second Time?



By Brian Shupe, *Executive Director*

One hundred and forty-five years ago, Vermont native George Perkins Marsh authored *Man and Nature*, one of the first books to document the effects of human actions on the health of our environment. It was estimated at the time that approximately 80% of Vermont's forests had been cleared. Based on his knowledge of Mediterranean landscapes where he served as a U.S. diplomat, and the denuded slopes visible from his Woodstock home, Marsh recognized that deforestation adversely impacts water quality, wildlife populations, and the economic vitality of rural communities.

In the decades following the publication of Marsh's book, Vermont suffered an ecological and economic collapse. Fortunately, the state proved to be a resilient place and our forests returned over the following century – and with them more prosperous times. But today we are in danger of forgetting the dire warnings of Marsh and other conservationists.

Vermont's working landscape – a mosaic of farms and forestland punctuated by compact villages – is being lost to sprawling development made possible by a combination of fluctuating real estate markets, cheap land relative to nearby urban centers, high property taxes, and weak and inconsistent land use planning.

Last fall, VNRC released a report, *Tracking Parcelization Over Time*, that reveals where, and how quickly, parcelization (the breaking up of large wooded parcels into smaller, often residential, parcels) is occurring. The report is accompanied by a website that allows viewers to select and visualize a range of metrics they can use for research and planning purposes. Our research found that Vermont's undeveloped forest plots are shrinking as landowners face pressure to subdivide formerly intact parcels, and as residential subdivisions crop up in rural areas, far from villages and other compact centers.

Not only were we able to quantify the extent to which we are losing undeveloped forestland parcels in Vermont; we were part of an effort to quantify just how much we stand to gain from conserving our natural lands. In a report released in September, the Trust for Public Land and the Vermont Forest Partnership, of which VNRC is a member, found that every \$1 invested in land conservation in Vermont returns \$9 in natural goods and services to our economy by sustaining our working forests, bolstering the farming and forest products industries, stimulating tourism and outdoor recreation, and much more.

Vermont has an opportunity to heed the lessons learned by George Perkins Marsh nearly a century and a half ago, or repeat past mistakes by allowing our forests — which do so much to define our state — to be lost for the second time.

**Forests have long
since returned to
Vermont, but today
we are in danger
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Marsh and other
conservationists.**



The Future of Vermont's Forests

The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.
— Robert Frost

A. Blake Gardner

Millions of Americans are familiar with the iconic closing stanza of Robert Frost's most famous poem. Far fewer know that Frost wrote "Stopping by Woods on a Snowy Evening" from his home in southern Vermont near Bennington, where he moved in 1920 at age 44. Frost would go on to live primarily in Vermont for the next forty years, serving as the state's first official poet laureate and doing most of his writing from a farm in Ripton, nestled in the Green Mountain National Forest. The Robert Frost Interpretive Trail near this farm, created by the USDA Forest Service decades later, now winds gently through the forest off Route 125.

Frost's poetry does more than enshrine Vermont's wooded landscape in our national imagination; it speaks volumes about the importance of forests to Vermont's cultural character. Our secluded mountain trails and sweeping vistas are a key reason many of us enjoy living here. Ski slopes and maple syrup are cornerstones of our state's identity.

Forests contribute roughly \$1.5 billion to Vermont's economy annually in forest products, and another \$1.9 billion in recreation, employing over 10,000 of our friends and neighbors in each sector.¹ Wooded areas maintain air quality, water quality,

flood resilience, and natural habitat, and are a valuable tool for fighting climate change by sequestering and storing carbon. Vermont is the third-most forested state of the lower 48, with approximately 4.5 million acres of forestland covering nearly 80% of the state.²

As much as we love our forests, though, their future is far from secure. We lost them once due to heavy land clearing, and despite their impressive regrowth, we might be on track to lose them again. According to the US Forest Service, the Green Mountain State may have lost an estimated 2.2 percent, or 102,000 acres, of forestland from 2012 to 2017.³

VNRC has long suggested that Vermont is steadily losing forest cover from subdivision and development. Now, we finally have the tools to quantify this alarming trend.

1 Vermont Sustainable Jobs Fund, 2018. "Vermont's Forest Products Industry: In Transition and Hopeful for the Future." <http://www.vsjf.org/2018/01/24/vermonts-forest-products-industry-in-transition-and-hopeful-for-the-future/>

2 Morin, Randall S. 2018. *Forests of Vermont, 2017*. Resource Update FS-164. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.

3 Morin et al, 2017. *Forests of Vermont, 2016*. Resource Update FS-119. Department of Agriculture, Forest Service, Northern Research Station.

Tracking Forest Loss

In September 2018, VNRC, in collaboration with University of Vermont researcher Brian Voigt, released a report that tracks how parcel size and ownership are changing in Vermont's forests. *Tracking Parcelization Over Time* reveals where – and the rate at which – parcelization (the breaking up of parcels into smaller parcels) is occurring. The research is accompanied by a website that allows viewers to select and visualize a range of land use trends from the Parcelization Database.

Our research identifies the key parcelization trends from 2004-2016 on private land, and provides year-to-year data showing that Vermont's large, undeveloped forest parcels are shrinking. View the Vermont Parcelization website, developed by Steve Sharp of the Vermont Center for Geographic Information (VCGI), and download the report by visiting vforesttrends.vnrc.org.

When forestland is subdivided into smaller lots, it typically results in an increase in the number of parcel owners. This can lead to new development (roads, septic, utility lines, etc.), which “fragments” the landscape. Forest fragmentation can have a number of deleterious effects on the surrounding environment. It reduces the potential of working lands by creating parcels too small to be sustainably managed for timber products. It decreases the ecological functions of forests: their ability to provide viable habitat for plants and animals, maintain water quality and mitigate floods, sequester carbon, and more. And it undermines forests' ability to provide hunting and recreational opportunities.

“Part of what makes our forests healthy is their pattern,” explains Keith Thompson, Private Lands Program Manager at the Vermont Department of Forests, Parks, and Recreation. “Fragmentation disrupts that pattern.”

This rings especially true for wildlife. A moose, for instance, needs at least ten square miles to raise its young, while a bobcat requires 125,000 acres of wild land to sustain itself and find a mate. Many bird species can only survive in high-density areas of tall trees.⁴

“A forest that is split apart by roads and houses and broken into small pieces cannot sustain the animals that we are so lucky to live alongside, whether they are songbirds or bobcats or black bears,” says John Lloyd, Director of Science at the Vermont Center for Ecostudies, who notes that habitat loss is the number one threat to wildlife in Vermont. “If we continue to lose big tracts of forest – which VNRC's new report on parcelization suggests is a real possibility – then in the future we simply won't have the abundance of wildlife that we currently enjoy.”

Alarming Data

In *Tracking Parcelization Over Time*, we found that the amount of Vermont “woodland” parcels, which represents mostly undeveloped forestland (not counting, for instance, the presence of a seasonal camp), decreased by approximately 15% over the study period. While a portion of this was due to land transferring to public ownership, an overwhelming majority was due to land being converted to residential and other land uses. Acreage in large parcels (50 acres or larger) declined, while the number of parcels 50 acres or smaller increased by nearly 9,000 parcels.

The takeaway is clear: Vermont's forests are becoming more developed, and they are shrinking as a result. “There's no longer



A. Blake Gardner

a question of whether Vermont is losing undeveloped woodland parcels; it's a question of how much, and where, and whether we can help reverse the rate at which it is happening,” said Jamey Fidel, Forest and Wildlife Program Director at VNRC and the Lead Principal Investigator for *Tracking Parcelization Over Time*. “If we do not do anything about the trends we're seeing now, in 50 years we'll have lost nearly 60% of our undeveloped, privately owned woodland parcels.”

Developing A Better Way

Many of our findings in *Tracking Parcelization Over Time* emphasize the connection between parcelization and residential development. For instance, we discovered that the number of forest parcels smaller than 50 acres in size with dwellings on them increased by 8.8% over the study period, and that residential acreage increased by 7%. According to Kate McCarthy, VNRC's Sustainable Communities Program Director and co-Principal Investigator of the report, however, residential development need not be incompatible with intact forests – there are ways to build thoughtfully. “If someone decides to develop in a forested area, there are ways to lessen the impact, like carefully choosing the building and septic site or limiting the driveway's length,” she says.

Ideally, McCarthy explains, a developer would choose to

⁴ Conservation Commission of Marshfield. *A Guide to Preserving Wildlife Corridors and Habitat in Your Own Neighborhood*. Designed by Tracey J. Hambleton; illustrations by Adelaide Tyrol; edited by Sara Norton.

build residential property within a compact downtown or village area, enhancing a population center while reducing encroachment onto natural or working lands. But consider a case where a developer takes ownership of a 100-acre parcel of rural forestland to develop ten new homes. The owner has many decisions to make about how the land will be used. She could turn the plot into ten, 10-acre parcels, each with its own driveway, utility lines, and a house right in the middle. Alternatively, she could build the same ten homes, each on a one-acre lot, closer to the edge of the parcel in question with shared infrastructure, leaving 90 acres of intact forestland.

While both of these options alter forestland to make room for residential development, the latter makes a smaller impact by setting aside more land for wildlife, forest management and firewood, and recreation while providing the same amount of housing in a desired woodland setting.

Not only does protecting forests not have to impede growth; it can actually support it. McCarthy explains that intact forests offer valuable recreational opportunities which can attract new residents looking to move to Vermont and contribute to our economy. “I see villages and forests as very compatible with one another in reaching our state goals,” she adds. “The important thing is that, when and if we proceed with development, we do so thoughtfully.”

Act 171

One crucial tool for guiding development on forestland is Act 171, a law that VNRC aggressively supported in the Legislature. Act 171 promotes strategies to maintain intact forests, and as of 2018, requires municipalities and regions to identify areas that are important as forest blocks and habitat connectors and to plan for development in these areas to minimize forest fragmentation. “We know that people value forests in their towns,” says Fidel. “Now there’s new reason to focus on maintaining them with the planning requirements of Act 171. For those who want to get started, we have resources to support them.”

VNRC recently helped the town of Marlboro to adopt a Wildlife Habitat Overlay District, an area in which district boundaries are drawn to support “core” forest blocks that have been identified for special consideration. Marlboro now has a comprehensive plan in place to better support animal habitats, maintain habitat connectivity, and reduce forest fragmentation. Also in 2018, we helped the town of Jericho adopt the same type of change.

More broadly, we helped develop a guide with the Agency of Natural Resources and professional planners to give municipalities concrete guidance on how to plan to maintain forest blocks and connectivity areas (find it at http://anr.vermont.gov/Planning/Forest_Blocks_And_Habitat_Connectors) and offered

Not Your Parents’ Wood Heat

VNRC, with the help of the Working Lands Enterprise Board (which we helped establish in 2012), is pleased to support the **Feel Good Heat** initiative, a collaborative effort led by the Northern Forest Center to promote the use of efficient Automated Wood Heat across New England and New York.

Here’s how it works: Instead of pumping oil into an oil tank, imagine a fuel truck delivering wood pellets directly to a storage unit through a pneumatic hose. When you turn up the thermostat, the pellets are delivered automatically to the boiler.

Automated Wood Heat provides all the hot water you need for kitchen and bathrooms, and for baseboard, hot air, or radiant floor heating in homes of any size. The “automated” part means you can rest assured knowing your house will stay warm with minimal effort.

When you purchase wood pellets from local producers, most are made from the by-products of furniture or sawmills, or from managing local forests, which means you’re getting local and buying local. (All of Vermont’s fossil fuels, on the other hand, come from outside the state.) High-efficiency Automated Wood Heat boilers burn clean, producing no visible smoke

from your chimney, with emissions that meet all EPA and New England and New York standards for particulate matter.

While the initial cost of installing an Automated Wood Heat boiler is often higher than conventional oil boilers, the result is heating bills that are about 30% lower than heating with oil over a five-year average, and long-term stability of prices and supply gives peace of mind — unlike volatile oil prices.

“Feel Good Heat is doing an excellent job of educating people about an unfamiliar technology, and we’re delighted to have the resources available to tell the story so well,” says Maura Adams, Energy Program Director at the Northern Forest Center, who administers the campaign. “We’ve found that businesses, agencies, non-profits, and communities all agree that Automated Wood Heat is worth supporting

publicly as a renewable heating option for our region.” Learn more about Feel Good Heat by visiting feelgoodheat.org.

If you’re interested in making the switch to Automated Wood Heat, Vermont offers incentives through the Vermont Clean Energy Development Fund. Find more information at rerc-vt.org.

Wood pellets in the making in Vermont.



Northern Forest Center

webinars about how communities can implement Act 171, reaching hundreds of planners and town officials to date. We also developed a manual to help municipalities with implementation strategies once their planning is complete. Find *Community Strategies for Vermont's Forests and Wildlife: A Guide for Local Action* at vnrc.org/programs/forests-wildlife/guide/.

Recommendations

In *Tracking Parcelization Over Time*, VNRC presents several recommendations for addressing the parcelization of our forests, spanning statewide and local policy changes. Notably, we urge improving Act 250 criteria to minimize the fragmentation of priority intact forest blocks in the face of subdivision. H.233, a bill in the Vermont Legislature we worked to support in 2017-18, would have added new criteria to Act 250 requiring that large subdivisions and commercial projects going through the process be designed to avoid, minimize, or mitigate the impacts of forest fragmentation in priority forest blocks and habitat connectivity areas. In 2018, the Act 250 Commission, assigned by Act 47 to modernize Vermont's landmark legislation for the next 50 years, acknowledged the need for such reforms, and VNRC put together some core recommendations that informed the Commission's final report at the end of the year.

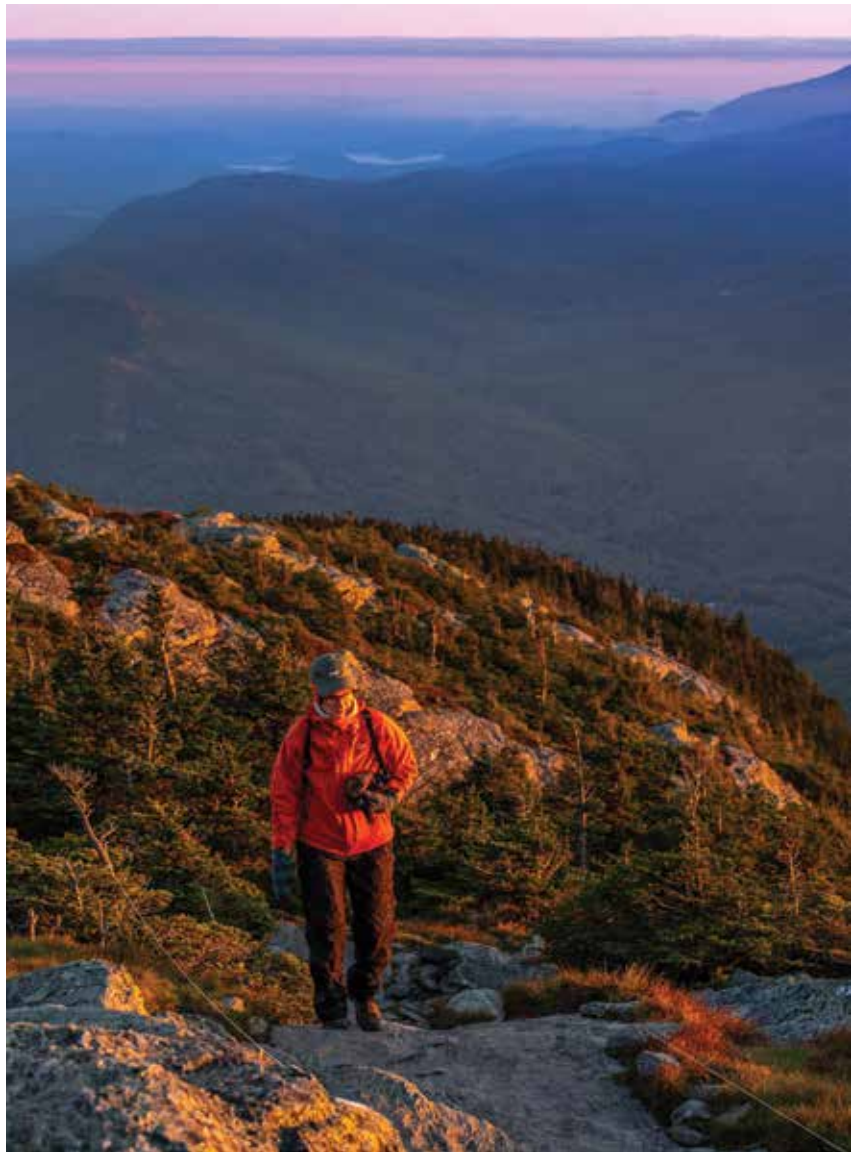
"Based on the testimony of land use experts, and according to multiple research and legislative reports going back more than ten years, the existing Act 250 criteria simply fail to maintain functioning forests and it's critical we address that gap if we want to maintain the integrity of our forests," explains Fidel.

VNRC also supports boosting conservation funding, landowner incentives to maintain working forests, and local planning to shape how land development takes place. "We need to look at the vulnerability of a particular place, and determine whether development will undermine the overall quality of that area," adds McCarthy. "There are ways to innovate so we can get what we want as landowners and homeowners, while still maintaining the natural resources we love." Find a summary of our key recommendations on the next pages.

Planning Ahead

Beyond helping to inform decision makers in the Legislature and in municipalities, our parcelization report is a crucial tool for professionals in the land use planning, conservation, and natural resource communities, enabling them to work together on maintaining Vermont's intact forests before it's too late.

Darren Schibler, a planner for the Town of Essex, finds VNRC's analysis useful because it provides a quantitative look at how land use and forests are changing in our communities. "This is really good feedback for planners, as it can help identify some of the unintended consequences of local and state development regulation," he says. Schibler finds the customization of the



Bob LoCicero

datasets to multiple scales, and their online accessibility, makes it easy to incorporate them into comprehensive plans or reports at multiple levels: local, regional, and state.

"We know that local officials across Vermont are thinking about the best ways to protect forest resources in their communities," says McCarthy. "We hope the information in the report and the interactive website will make their work easier, and be a useful conversation starter about ways to address the trends – particularly since so many land use decisions are made at the local level."

Amanda Holland, a regional planner at the Northwest Regional Planning Commission, will use the report to inform recommendations to municipalities on both policy and regulatory language. "We regularly converse with communities on natural resource protection. This is a helpful tool to provide Vermont-specific trends as a part of that conversation and educate communities on the importance and role of our forests," she adds.

In addition to helping guide planners in how to undertake projects in their communities, VNRC's parcelization research clues foresters into where large, undeveloped forest parcels are still being maintained, so they can plan appropriate action to

continued on page 8

Key Recomm

Below are VNRC's recommendations for addressing the parcelization of our forests, strengthening working forests, and protecting ecological resources. Most of these recom

State policy and investments	Recommended actions	In particular...
Current Use Program	Continue to fund the Current Use Program, which provides tax incentives to landowners for maintaining their land as working forests	Strengthen forestland enrollment, provide incentives for permanent conservation, and provide necessary resources to administer the program
Act 250	Pass improvements that allow Act 250 to play a more meaningful role in reviewing the impacts of development on forestland	Strengthen the criteria to minimize the fragmentation of priority intact forest blocks and connectivity areas, and lower the threshold for Act 250 review in priority areas
Succession planning	Fund succession planning and technical assistance programs to woodland owners to promote the long-term ownership of intact forests	Make it easier for woodland owners, many whom are above the age of 75, to plan for their land to stay intact when it is passed to future owners
Vermont Housing and Conservation Board	Provide full statutory funding for the Vermont Housing and Conservation Board (VHCB) so it has adequate annual revenue to achieve forestland conservation	Fund forest conservation projects with willing landowners to further their conservation goals
Working Lands Enterprise Fund	Provide adequate funding to maintain rural working forests	Provide targeted economic support for forest products businesses
Land Conservation	Provide incentives to landowners to conserve land, and offset costs for conservation easements	Create a fund to offset landowner costs for donating conservation easements, and offer conservation tax credits to encourage the donation of easements



Bob LoCicero

Recommendations

reflecting a diversified approach that considers land use planning, recommendations are noted in Tracking Parcelization Over Time.

Local action	Recommended actions	In particular...
Act 171	Implement Act 171, which requires municipalities and regions to identify areas that are important as forest blocks and habitat connectors and to plan for development in these areas to minimize forest fragmentation	Boost technical assistance to municipalities to identify important forest areas and plan development to minimize fragmentation
Zoning Bylaws and Subdivision Regulations	Adopt zoning bylaws and subdivision regulations to minimize the fragmenting impacts of subdivision on forestland	Provide grants and technical assistance to municipalities to strengthen development review policies to promote sound development in forests
Local Conservation Funds / Town Forests	Support the creation of local conservation funds to support forestland projects in municipalities, including the establishment of town forests	Provide municipal planning grants and other seed money to help towns create local conservation funds, and establish town forests



A. Blake Gardner

manage and potentially conserve these lands. Vermont forester Charlie Hancock looks forward to using the resource in his work. “We need strong planning and land use regulation to work in tandem with a vibrant industry to ensure that our forests remain functional, resilient, and productive into the future,” he says, citing VNRC’s report as a “critical tool in this planning effort.”

VNRC’s new parcelization report gives us proof that our undeveloped forests are shrinking, and rapidly. “But knowledge is not enough,” says Fidel. We need the Legislature, municipalities, and landowners to use the tools at their disposal

to support intact forestland across the state. “VNRC has never believed in silver bullets, as there is no one solution for a large environmental challenge. Nowhere is this more apparent than with forest loss in Vermont. Either we act now, together, or we allow parcelization to threaten the fate of Vermont’s beloved forests for good,” adds Fidel.

We can probably all agree that giving up is not an option. As Hancock puts it, “our forests are why so many of us live in Vermont and are what define the place we call home.” Surely, Robert Frost fell into this category – chances are that you do, too.

Don’t forget to visit vtforesttrends.vnrc.org to view the parcelization report and explore the data. We welcome your feedback. 🌲

Q&A: Steve Sinclair

At the Summer 2018 meeting of the Forest Roundtable, a diverse gathering of forest professionals first convened by VNRC 12 years ago, VNRC’s Forest and Wildlife Program Director Jamey Fidel presented Steve Sinclair with an award for his long-standing dedication to Vermont’s forests, and to the Roundtable itself. As Director of Forests at the Vermont Department of Forests, Parks and Recreation, Sinclair was a critical partner in implementing many of the Roundtable’s recommendations, including VNRC’s research on subdivision trends in Vermont’s forests and promoting planning to help landowners keep their forestland intact. “Steve was there from the very beginning, and believed in the power of partnerships to achieve the goal of keeping forests as forests,” says Fidel.

Roundtable participants have included consulting foresters, professional planners, government officials, landowners, representatives from the forest products industry, conservation organizations, and many others. “VNRC has done a tremendous job trying to bring all voices to the table, getting all sectors involved, and making them heard,” reflects Sinclair, who recently retired after 43 years with the Department. We spoke with him about the Roundtable’s history, its biggest accomplishments, and more.

VNRC: How did the Forest Roundtable get off the ground?

SS: In my career, I witnessed a number of efforts to get a broad cross-section of forestry interests at the same table together. Back in the ‘80s, the Department [of Forest, Parks, and Recreation] tried to do this with the Forest Resources Advisory Council (FRAC). Later, an informal discussion group called the Blueberry Hill Gang began meeting at the Blueberry Hill cross-country ski center in Goshen, bringing together Forest Service officials, local governance, conservation and business interests. Then there was a lag. VNRC and Jamey



Steve Sinclair

Fidel filled the void in 2006 when they formed the Forest Roundtable.

VNRC: What have been the Roundtable’s biggest accomplishments?

SS: The Department’s partnership with the US Forest Service required us to put together a forest action plan every ten years, to communicate our vision for Vermont’s forests. It was really beneficial to have the Roundtable’s cross-section of critical partners review the plan and provide guidance on our actions. Similarly, when the Department was required by the Legislature to analyze forest fragmentation in the state, we were able to draw on the research that VNRC had done on this topic.

Just having a forum like the Roundtable in and of itself has been invaluable to forest work in Vermont, from improving Current Use to analyzing parcelization. VNRC’s new report tracking parcelization from 2004-2016 is a model for our future monitoring of these important and concerning trends.

VNRC: What else would you like to reflect on, from your career as a forester?

SS: It’s not easy to admit this as a Vermonter (we always say that the good thing about New Hampshire is that it affords nice views of Vermont), but in my 40+ years as a forester, I have always been envious of New Hampshire’s ability to get the environmental and natural resources sectors in communication with the forests products industry and forest economy. The Society for the Protection of New Hampshire Forests even shared offices at one point with the state’s timber producers and forest products sector.

As foresters we tend to focus more on what’s removed than what’s left behind; or what we disagree on, versus things we agree on. Having the right kind of collaboration is key, and being a part of VNRC’s Forest Roundtable has provided that in Vermont to great success.

The “Return on Investment” of Vermont’s Conserved Lands

If you’re reading this, you probably know that conservation in Vermont pays off. This year, we put a number on just how much. In September 2018, the Trust for Public Land (TPL) and the Vermont Forest Partnership, of which VNRC is a member, released a report documenting that every \$1 invested in land conservation in Vermont returns \$9 in natural goods and services to Vermont’s economy. Find the report and a brief fact sheet at www.tpl.org/vermont-roi.

That’s a return on investment (ROI) of 1:9, one of the most impressive ratios seen yet by TPL, whose economists have quantified the benefits of conservation in various states. The report “is a proof point that the infrastructure of natural lands makes a quantifiable economic return and can guide decision-making in the future,” Shelby Semmes, TPL’s state program director for Vermont and New Hampshire, told Vermont Public Radio in September.

According to the report, Vermont’s forest products industry supports 10,600 jobs and generates nearly \$1.5 billion in economic output, while the outdoor recreation industry generates 51,000 jobs and \$5.5 billion in consumer spending in the state each year. Vermont currently leads the country in farm stands, farmers’ markets per capita, and maple syrup

“...The infrastructure of natural lands makes a quantifiable economic return and can guide decision-making in the future.”

— Shelby Semmes, Trust for Public Land

production – and conserving land is a key component of our farming future.

Beyond supporting thousands of jobs and the economic wellbeing of our state, conserved lands in Vermont are invaluable in the services they provide to the wider ecosystem. These include water quality protection, flood prevention, food

production, wildlife habitat, and carbon sequestration and storage – all of which are vital to Vermont’s economy, too.

“Carbon sequestration in particular will become more and more relevant as Vermont combats the steady march of climate change,” says Jamey Fidel, Forest and Wildlife Program Director at VNRC. TPL reports that Vermont’s forests remove more than 8 million metric tons of carbon dioxide along with 1,610 metric tons of other pollutants annually. “Forest owners in Vermont are increasingly interested in the potential of their land to mitigate climate change, and some are even beginning to explore financial benefits through carbon markets,” adds Fidel.

If you’re a landowner interested in participating in carbon markets, a new report released by Spatial Informatics Group, the Carbon Dynamics Lab at the University of Vermont, and the Vermont Land Trust outlines benefits and options. Find it at www.vlt.org/carbon/.



Members of the Vermont Forest Partnership at the launch of the ROI report in Richmond, VT: Nick Richardson, Vermont Land Trust; Heather Furman, The Nature Conservancy in Vermont; Brian Shupe, VNRC; Shelby Semmes, Trust for Public Land; David Mears, Audubon Vermont. Photo courtesy of Heather Furman

News & Notes

What Future Are We Leaving Our Kids?

Our future is threatened by climate change – and so are Vermont's winters. In a new video, we asked children how they'd feel if they could no longer enjoy their favorite winter activities. With the 2019 Legislature in session, we urge you to ask your lawmakers: #WhatsYourPlan on climate change? As the kids say: Big problems demand big solutions, and we can't do it ourselves. Watch the video at vnrc.org. And sign up to receive our weekly live Climate Dispatch videos from the State House in your inbox at tinyurl.com/climate-dispatch.



Paul Costello is 2018 Recipient of Arthur Gibb Award

At VNRC's Annual Meeting in Waitsfield on September 20, we presented the 2018 Arthur Gibb Award for Individual Leadership to Paul Costello, Executive Director of the Vermont Council on Rural Development. Paul has promoted economic vitality and stewardship of Vermont's natural assets in all corners of the state and is a leader on climate change, having begun an initiative at VCRD to make Vermont a national hub for climate economy development. Congratulations, Paul, and thank you for your continued work!



From left to right: Brian Shupe, Paul Costello, Kate McCarthy

Act 250: The Next 50 Years

In 2018 the Commission on Act 250: The Next 50 Years was established by Act 47 to comprehensively examine how Act 250's review criteria and processes can better serve Vermont. As an advisor to the Commission (a role established by the Legislature), VNRC developed a set of recommendations to inform the Commission's final report on the future of Act 250, in advance of its release in January 2019. Visit vnrc.org to read our comprehensive position on strengthening Vermont's environment, communities, and the Act 250 process. In addition, we designed and delivered a series of webinars to help prepare our members to engage in the Commission's six summer outreach meetings across the state, reaching approximately 50 people – many of whom attended and spoke up at the Commission's public forums.

Welcome, Matt Lacey

Matt Lacey came on board as VNRC's Mollie Beattie intern in January. In this role, he assists with forest, wetlands, and wildlife policy research, and tracks legislation at the State House. After graduating last spring from Virginia Tech with a degree in Wildlife Conservation, Matt spent his summer working as a technician on a mule deer and elk ecology research project in Wyoming. He moved to Vermont in the fall to pursue an interest in wildlife policy, and instantly fell in love with the Green Mountain State. We're happy to have Matt on the VNRC team!



Ian Hitchcock Takes on a New Role

In 2017, Ian Hitchcock joined VNRC as our AmeriCorps Member and Community Energy and Climate Action Coordinator, helping to start and strengthen town energy committees across the state. In July 2018, VNRC welcomed him on a more permanent basis as our new Community Organizer, a role we share with Vermont Conservation Voters. Last fall, Ian was instrumental in VCV's work to elect environmental climate champions to public office. At VNRC, he educates the public on our environmental campaigns, building the support we need to advance a pro-climate, pro-environment policy agenda. We're happy to have Ian with us full time!



Congratulations, Kate McCarthy!

Kate McCarthy, our Sustainable Communities Program Director, was named to Vermont Business Magazine's Rising Stars Class of 2018, a group of 40 Vermonters under the age of 40 who were selected for their commitment to business growth, professional excellence, and involvement in their communities. Pictured at the award ceremony are, from left to right (including friends and former staffers/Board members of VNRC): Betsy Hands, Kate McCarthy, Brian Shupe, Deb Markowitz, Kim Greenwood, and Beth Humstone.



Here's What a Small Grant Can Do!

In 2018 VNRC launched a new program, Small Grants for Smart Growth, which provides seed money for local, community-based smart growth initiatives. In the program's first year, we awarded grants to communities across Vermont. One winner, the Rich Earth Institute in Brattleboro, working with the Windham Regional Commission, used its small grant to implement a Nutrient Reclamation Project, the nation's first community-scale urine recycling program, transforming waste into legally-approved fertilizer for agricultural use.

Another recipient, the South Hero Land Trust, working with the South Hero Trails Committee and other local partners, planned the creation of a non-motorized, multi-use trail network to connect important community resources and natural areas in the core of South Hero. And the Danville Village to Village Steering Committee used its grant to support community engagement around the revitalization of the 1871 Historic Danville Railroad Station, which lies adjacent to the Lamoille Valley Rail Trail.

Find out about other grantees and learn how to apply for

a Small Grant of your own at tinyurl.com/small-grants-smart-growth. The Small Grants for Smart Growth Program is made possible with assistance from Beth Humstone, co-founder of the Vermont Forum on Sprawl and former VNRC board chair, and her son, Chris Gignoux.



Abraham Noe-Hayes, Kim Nace, and Arthur Davis of the Rich Earth Institute stand beside a tank of concentrated and pasteurized urine ready to be applied to hay fields.

Kate McCarthy

Welcome, Sophie Ehrhardt

VNRC welcomed our new Legislative Intern, Sophie Ehrhardt, in January. Sophie is a Vermont Law School student pursuing a Master of Environmental Law and Policy. She comes with a background working in early childhood education and in human resources, and having volunteered on a variety of political campaigns. In her new role, she will be monitoring legislation for VNRC and VCV at the State House. We're very glad to have her on board!



Welcome, Kelsey Gibb

VNRC welcomed Kelsey Gibb, our new Office Associate, in September, and she jumped right in to help our daily operations run smoothly. Kelsey grew up in Rutland, VT and attended Colgate University, where she majored in Sociology and Anthropology. After college, she worked for a solar company in the Roaring Fork Valley of Colorado, developing a passion for clean energy and sustainability. Kelsey is excited to be back in her home state, and we're thrilled to have her here at VNRC.



Program Updates

Below is a brief rundown of VNRC's programs, a few recent highlights of our work, and program director contact information.

ENERGY AND CLIMATE ACTION PROGRAM

Advances conservation, efficiency, renewable energy, and transportation solutions that reduce fossil fuel usage and save Vermonters money.

- Crafted and rolled out a climate action platform shared by 25 low-income, business, public health and other allies, which includes doubling low-income weatherization and identifying an economy wide carbon pollution reduction policy that grows jobs and protects vulnerable Vermonters.
- Collaborated with a senior seminar class at Middlebury College on a project to better understand the state of Vermont's fuel provider sector and identify potential avenues to support its transition to deliver fewer fossil fuels and more efficient, renewable resources and services.
- Continued to support the important work of grassroots energy and climate action committees, including hosting our most successful VECAN conference yet.



PROGRAM DIRECTOR:
Johanna Miller, jmiller@vnrc.org

FOREST AND WILDLIFE PROGRAM

Maintains and enhances the ecological and economic vitality of Vermont's forests, and healthy wildlife populations.

- Supported legislation and provided input to the Act 250 Commission on ways to protect intact forests and wildlife connectivity areas, and supported legislation to strengthen the rural economy.
- With Sustainable Communities Program, finished analyzing 12 years of parcel and land use change data and published a final report, highlighting that large parcels in Vermont, including undeveloped woodland parcels, are shrinking while many smaller parcels are being created with new residential development.
- Conducted a series of webinars and presentations to planning commissions, natural resource professionals, conservation, and forestry groups on VNRC's Vermont Parcelization Website, where users can examine parcel and land use trend data at the local, county, regional and statewide levels.



PROGRAM DIRECTOR:
Jamey Fidel, jfidel@vnrc.org

SUSTAINABLE COMMUNITIES PROGRAM

Protects and promotes Vermont's smart growth development patterns of compact settlements – with options for transportation, housing, and employment – surrounded by farms, forests, and unique natural areas.

- Designed and delivered a webinar to help prepare members and activists to engage in important conversations about the next 50 years of Act 250, reaching an estimated 50 people.
- Coordinated the Transportation for Vermonters Coalition on the development of several legislative positions for 2019. T4VT will continue to emphasize the importance of transportation to the economy, communities, and environment by highlighting land use, active transportation, and GHG-reducing solutions.
- Funded additional catalytic local planning projects through the Small Grants for Smart Growth program.



PROGRAM DIRECTOR:
Kate McCarthy, kmccarthy@vnrc.org

WATER PROGRAM

Protects and enhances the quality of Vermont's streams, rivers, lakes and ponds, wetlands, and groundwater.

- Filed VNRC's brief in the Vermont Supreme Court appealing the Environmental Court decision in the Morrisville Water and Light case. The Court held that hydroelectric uses that can impair fish habitat and water quality are protected under the Vermont Water Quality Standards.
- In conjunction with Conservation Law Foundation, filed a public records request with the Vermont Agency of Agriculture seeking records related to farm pollution, which yielded hundreds of documents that are currently under review.
- Worked with the Vermont Water Caucus to develop principles to guide the Legislature in adopting clean water funding as required by Act 64 of 2015, the Vermont Clean Water Act.



PROGRAM DIRECTOR:
Jon Groveman, jgroveman@vnrc.org

VNRC Member Profile: Putnam (Put) Blodgett

Why are you a member of VNRC, and when did you initially become involved?

I have always believed that any serious interest should have an organization to represent that interest. Without doubt, Vermont's natural resources qualify for advocacy! I became a member back in the days of Richard Brett and Seward Weber, sometime in the 1970s. I tried to find out at the office, but you don't keep records back that far.

As a forest landowner since 1953, what are some of your pressing concerns for the future of Vermont's forests?

Climate change, which brings more stress to trees and makes them even more susceptible to insects and diseases. The Emerald Ash Borer. The loss of low-grade wood markets that are crucial for good forest management. The fragmenting of forestland into house lots that are too small for timber harvesting or wide-ranging wildlife habitat.

In the mid 1990s, you donated a conservation easement to the Upper Valley Land Trust. Why did you decide to do this, and how has the decision paid off in the decades to follow?

My parents purchased our original dairy farm in Bradford in 1935. I remember the destruction of the Great Hurricane of September 21, 1938. In 1945 they obtained two adjoining farms and the associated woodland. This allowed for grazing the dairy cattle on meadowland instead of in woodland, which was common practice at that time but had the same effect on forest regeneration as too many deer. I purchased the farm from my parents in 1953 and added two more farms in 1957, which made it possible to cease pasturing the young cattle in the woodland altogether.

I have a record of the first Orange County forester's visit in 1942. First my father, and then I, benefited from the advice of county foresters until 1980, when the new Current Use program started to occupy most of their time. Since then, consulting foresters have guided our practices through the management plans required by Current Use.

My youngest son built his home on the property and is now in the process of taking it over. The work of three generations has taken the land from a pastured, devastated survivor of the '38 hurricane to productive woodland. We think the long-term management of this woodland should be continued into the future—hence the Conservation Easement.

Why is the Current Use program important?

Before the Use Value Appraisal Program, or Current Use, became effective in 1980, forest and farmland were taxed on an Ad Valorem value (highest and best use). This had the effect of



Put Blodgett holds three bear cubs born on his property in Lyme, NH as their mother's radio collar is serviced by bear expert Ben Kilham and a NH Fish and Game warden

forest landowners and farmers selling their land for development because the land alone could not earn enough to pay the taxes. By allowing land to be valued based on it remaining in forest or agricultural use, Current Use has been a huge help in keeping a rural landscape in Vermont and in other states with similar programs.

What else should Vermont do to make it easier for forest landowners to keep their wooded parcels intact?

Vermont should study Quebec's support of its forest industry. The best logs in New England are trucked to Quebec for processing, depriving our area of the value-added dollars that should remain here. A system for connecting loggers and consulting foresters with wood processors to better meet the needs of both should be investigated.

Are there ways that landowners can responsibly bequeath their forests to family members without subdividing or fragmenting the land?

One way is to form a Limited Liability Company (LLC) that maintains the land as a whole and issues shares to each heir. The LLC can stipulate if and how the shares can be further distributed in the future.

What advice do you have for forest landowners looking to manage their privately-owned wooded parcels with an eye towards conservation?

First and foremost, employ a consulting forester just as you'd secure the advice of your doctor, dentist, lawyer or accountant. They are professionals trained in the intricacies of forest management, of which a layman has no idea. Consider a Conservation Easement, but be sure to construct it to allow forest management and harvesting under the guidance of a consulting forester.



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VECAN's 11th Annual Community Energy and Climate Action Conference

Amid intensifying warnings on the global effects of climate change, 300+ energy leaders, business innovators and policy makers gathered for an action-oriented conference in Fairlee, VT on December 1. Workshops included The Path to a Green Transportation System, Making Solar Accessible to Vermonters with Low Incomes, a 2019 Legislative Look Forward on Climate and

Clean Energy, and Communicating Beyond the Choir.

Our keynote speakers Bill McKibben (350.org) and Michael Shank (Communications Director for the Carbon Neutral Cities Alliance and the Urban Sustainability Directors Network) left participants with big ideas and real-world strategies to take home. And Miro Weinberger, Mayor of Burlington, announced the formation of a new coalition for regional action, Northeast Mayors for Carbon Pollution Pricing.

Thank you to all who attended our biggest conference yet! To learn more about VECAN, visit vecan.net.



From left to right: Brian Shupe, Johanna Miller, Bill McKibben, Ian Hitchcock



Jared Duval and Sarah Wolfe of the Energy Action Network (EAN)



Michael Shank

Members are crucial to our success. Thank you for your support!
If you haven't already, please join us by visiting vnrc.org and clicking on Join/Renew.

vnrc.org