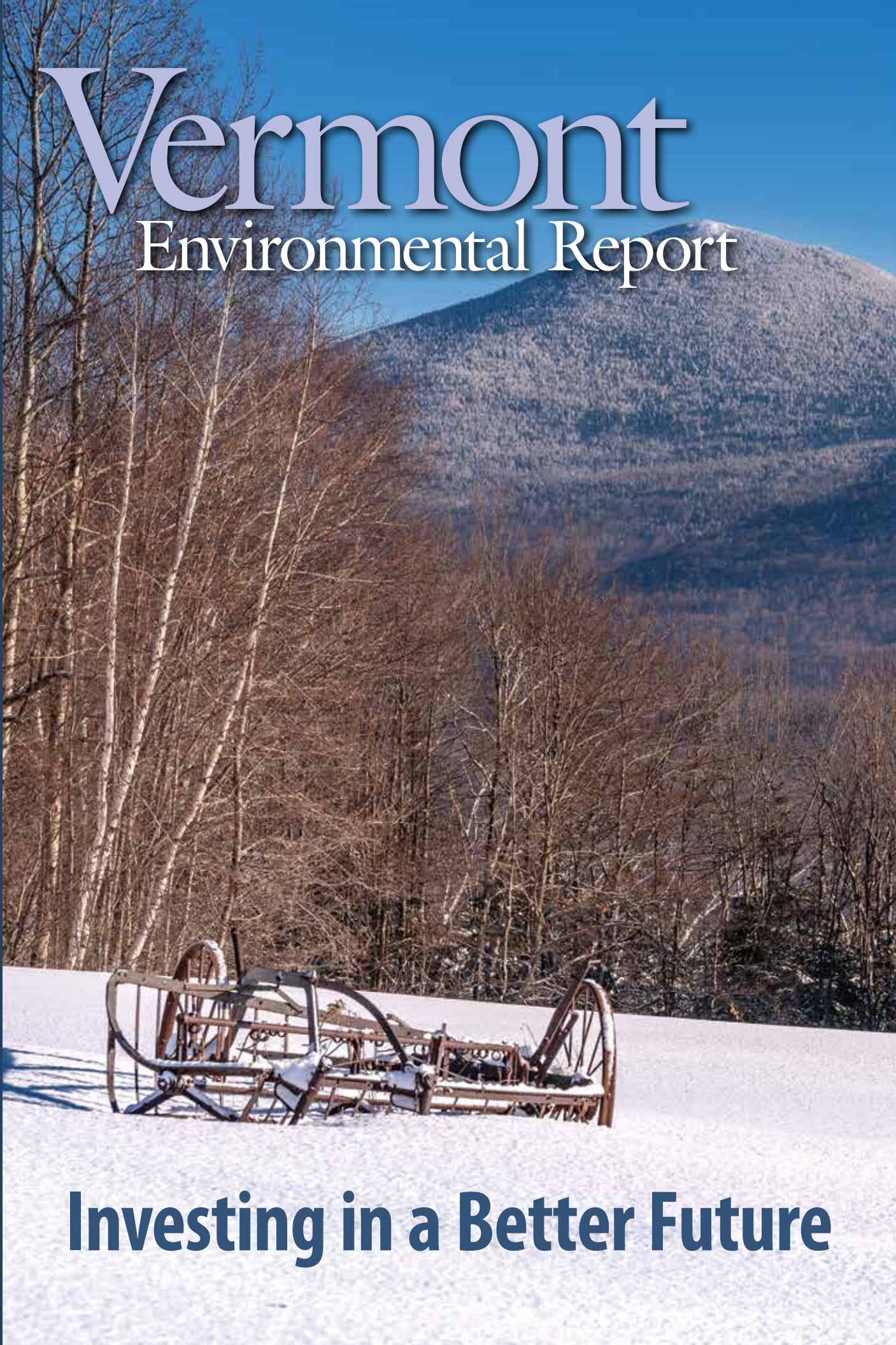


VNRC

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Environmental Report



Investing in a Better Future

Winter
2021

Member Profile

Paul Zabriskie

Paul directs energy efficiency and weatherization programs at Capstone Community Action, an organization dedicated to creating resilient households and communities and advancing justice in social, economic and environmental policy. Learn more about Capstone at www.capstonevt.org.

Why are you a member of VNRC?

I'm an unabashed environmentalist. My parents were born in 1930 and grew up during the Depression, so gardens and recycling were part of my childhood. I believe in the work that VNRC does and I am grateful that there are people who have dedicated their professional lives to make things work at the grassroots level where policy is crafted.

Good environmental policy doesn't happen by accident. It happens because thoughtful people engage and push, and VNRC is a champion in that effort.

You direct energy efficiency and weatherization programs at Capstone Community Action, one of VNRC's valued partners. What is weatherization?

Weatherization is a process of modifying buildings to reduce energy consumption and optimize energy efficiency, which saves fuel and money. Weatherization makes buildings healthier for occupants by improving indoor air quality, controlling moisture, and managing ventilation. It makes homes more comfortable and durable.

Capstone weatherizes up to 250 homes a year, many of which are households with lower incomes. We believe weatherization and energy efficiency are critical ways to build more sustainable communities and alleviate poverty.

By applying building science and diagnostic tools, we work with clients to identify opportunities for improvements, and manage the construction process to make efficiency upgrades happen. Our program helps ensure Vermonters are warm and comfortable in their homes.

What is one of the biggest challenges in your work?

What started out as a job saving people money on their energy bills evolved to include the broader climate impacts of their energy use by leveraging a social service investment to also reduce emissions and improve our environment.

Climate work is long-term, but our organization primarily serves people with lower incomes who don't always have the



bandwidth to contemplate what is over the horizon. Many people we serve are laser focused on immediate, basic needs, like how they are going to feed their family.

It's not that our participants aren't concerned about the climate. Many are quite aware that their community is the most vulnerable to the impacts of uncontrolled climate change. But we have to approach tomorrow through practical steps we can take today.

Could you say more about the health benefits of weatherization?

The Vermont Department of Health has documented that the value of health benefits from weatherization exceed the energy benefits. When homes lack proper ventilation, chronic respiratory issues and childhood asthma cases rise. Excessive

air leakage makes indoor air very dry, and when residents add humidity as a remedy, excess moisture can accumulate on cold surfaces and harbor mold.

There are also health issues that arise from being chronically cold. Elderly people find their existing medical conditions are exacerbated. Children don't learn as well. When people are unable to properly insulate and heat their homes, it can put a strain on entire social systems.

Beyond savings in fuel bills, weatherization means reduced hospital visits, lower medication rates, and even less absenteeism from work and school.

Why is investing in weatherization worth it?

I come from an engineering background, but I know that we cannot engineer ourselves out of the mess we created. What we need to do is reduce the amount of energy per capita that we use. We need to invest in infrastructure renovations to use less energy, and evolve our behavior to eliminate waste.

A small investment in weatherization yields huge returns. Return on Investment (ROI) isn't usually talked about in lower-income communities, because there is simply less money to be invested overall. Weatherization invests in buildings and families in a way that produces immense returns down the road without the volatility and risk of other financial instruments. It produces fuel savings every year that households can use to better their lives in other ways.

The struggling state of the COVID-19 economy is no time to ignore the future. Healthier people and healthier buildings do better in a pandemic, not to mention in the long haul. 🌱

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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.

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The Inside Word

In Crisis, There Is Opportunity



By Brian Shupe, Executive Director

The adage that “elections have consequences” has rarely meant more to me than in the past three months. After a steady barrage of lies, complicity, and violence that threatened our democracy, a friend told me that New Year’s Day seemed to wait until January 20, when President Biden and Vice President Harris were sworn into office.

I have written often in the past four years about the Trump administration’s assault on the basic protections for our water and air, public lands and wildlife, and human health. In the past several weeks, President Biden has taken several important steps to reverse many of Trump’s most egregious actions.

These include rejoining the Paris Climate Accord; nominating qualified—and often groundbreaking—people to lead the Environmental Protection Agency, Department of the Interior and other important positions of power; and vowing to conserve 30% of the nation’s land and water by 2030. He is pledging, through words and actions, that his administration will be guided by science, as well as a deep commitment to equity, when addressing the environmental and public health challenges we face.

Obviously, this is a great relief to VNRC and our members and supporters. But beyond the policy decisions, I’m hopeful that it reflects something deeper and more profound in how we view the role of government in our lives.

For the past 40+ years Americans have been inundated with messaging about how government is the problem, not the solution. How taxes, especially on the highest income-earners, are unaffordable and a drag on the economy. How regulations—that ensure the air we breathe and water we drink don’t make us sick—inhibit business. How the best stewards of our public lands are the oil and gas industry. How the private sector knows best and, left unimpeded (though often subsidized with public dollars), will work in the public interest and protect the common-wealth.

The results are what many predicted: Out of control global warming; a species extinction crisis; the proliferation of poisonous chemicals in consumer products, industry and agriculture; deteriorating infrastructure; and deep levels of systemic racial and income inequality. These have gotten worse because we have kicked too many cans down the road. We’ve failed to make the investments and enact the policies that can address threats before they turn into crises.

But in a crisis there is opportunity. The Biden administration has identified a plan to address the immediate challenges of the day—COVID-19 and the associated economic downturn—by going big on recovery and investment. Vermont Senators Leahy and Sanders will play central roles as Chairs of key committees and we should support their efforts. If they succeed, it will be an important lesson for Vermont, where our leaders have paid far too much tribute to the affordability and austerity narrative for decades.

This issue of the *Vermont Environment Report* is about preventative medicine. About how businesses, communities, state government and individuals can work together to not only solve today’s problems, but more importantly, to prevent future problems from growing out of control—and instead build a more sustainable, equitable, and healthy future. 🌱

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Investing in a **Better Future**

Bob Lo Cicero

When we cut corners on maintaining a healthy environment, people suffer. We know this because we're witnessing it firsthand. Exposure to air pollution has made millions of Americans—people of color in particular—more vulnerable to illness and death from COVID-19. Climate change has already measurably increased health risks in Vermont, from extreme heat-related illnesses, to the increased distribution and abundance of the ticks that cause Lyme Disease, to higher incidences of water contamination caused by more frequent downpours.

The costs of mending an ailing planet are staggering, but the costs of inaction will be even more disastrous. In 2019, in a report called *The Cost of Doing Nothing*, the International Federation of Red Cross and Red Crescent Societies (IFRC), the world's largest humanitarian network, reported that if no action is taken on climate change immediately, the number of people worldwide in need of humanitarian aid annually due to the climate crisis could double by 2050. Financial costs could rise to \$20 billion per year, a drastic increase from current annual expenditures of \$3.5 to \$12 billion.

Vermont's Genuine Progress Indicator (GPI)—an alternative to Gross Domestic Product (GDP) that considers factors such as pollution and the loss of ecosystems and habitats as costs—found that the depletion of non-renewable resources cost Vermont \$5.2 billion in 2015 alone.

More than preventing monumental costs, investing in climate

mitigation and adaptation can generate vast, quantifiable gains—for public health, jobs and the economy, and people's wallets. The Vermont Department of Health calculated that meeting the renewable transportation goals as outlined in the Comprehensive Energy Plan (CEP)—which calls for doubling walking, biking and bus use by 2030—would save \$1.1 billion dollars in Vermonters' health care costs by 2050.

A December 2020 report on climate from the United Nations' World Meteorological Organization states that globally, an investment of \$1.8 trillion from 2020 to 2030 in adaptation could generate \$7.1 trillion in total net benefits for the people of the Earth.

In this issue of the *Vermont Environmental Report*, we explore how Vermont might share in these benefits. We also discuss how, in addition to ensuring a healthier, greener state, making the right investments in our environment and communities now could help usher in Vermont's economic recovery after COVID-19.

Electric success

We all know that wise investments can reap significant returns. Case in point, Vermont's residential electric bills. While the average residential electric rate—the cost of each kilowatt of power we purchase—is 43% higher than the national average, our average monthly bills are actually 10% lower than the national average.

For this counterintuitive statistic, we can credit large-scale



Bob LoCicero

investments Vermont has made in electrical efficiency over the past two decades. These expenditures have prevented a massive, high-cost statewide upgrade in power supply and infrastructure—like electric poles and wires—even as electronic use boomed in the digital age.

It all started when the Vermont Legislature and the Vermont Public Service Board (now the Public Utility Commission) created Efficiency Vermont, the nation's first statewide energy efficiency utility, in 2000. Today, the utility boasts more than \$2.6 billion saved over the lifetime of investments in efficient equipment and buildings through 2019. These include insulation and air sealing, solar energy, advanced wood heating, and more.

From 2014 to 2019, small-scale solar installations in New England saved utilities and their customers more than \$1.1 billion in wholesale electricity costs. These savings were enjoyed not only by people with solar, but by everyone with an electric bill, reports Renewable Energy Vermont (REV) from new data that became available in December 2020. If not for local solar, which provided more than \$152 per year in cost-savings and benefits to every Vermont household annually, electric rates would be higher for everyone. We would also experience greater health costs and pay a higher price to mitigate damage from climate change.

Vermont's success with electric and solar is a glowing example of how substantial investments in infrastructure and related improvements can mean big savings—for consumers and for the environment. "In the vulnerable position we're in now, due to COVID-19, it's all the more important to translate these economic successes into other strategies that protect our environment and rebuild and grow a more climate-friendly, more equitable economy," says Brian Shupe, Executive Director of VNRC.

"In the vulnerable position we're in now, due to COVID-19, it's all the more important to translate these economic successes into other strategies that protect our environment and rebuild and grow a more climate-friendly, more equitable economy."

— Brian Shupe

Seeking solutions

The benefits of centering climate action and conservation in COVID-19 recovery are manifold. At a time when many Vermonters are out of work, investing in clean energy infrastructure could create thousands of jobs. Supporting the resilience of Vermont's farms and forests would protect occupations that rely on agricultural and wood products.

The Energy Action Network (EAN) has determined that if we were to achieve the scale and pace of our electrical accomplishments in the heating and transportation sectors, which (combined) account for 70% of Vermont's carbon emissions, we would reduce dollars sent out of state by more than \$1 billion between 2020–2035. State investments in electric vehicles and installing cold climate heat pumps could save consumers \$792 million, or nearly \$10,000 per household. Not only would investing in weatherization and renewable heating reduce energy burdens for families who are already strapped; it could invest an estimated \$323 million directly into the Vermont economy.

"We know that weatherizing pays, and conserving energy pays—literally," says Johanna Miller, Energy and Climate Program Director at VNRC. "But it doesn't mean much if we don't have a framework to make sure Vermont actually makes the vital investments needed to ensure this progress."

VNRC, with a diverse coalition of partners and advocates, was instrumental in advancing the Global Warming Solutions Act, which became law in September 2020 after the Legislature overrode Governor Scott's veto of the bill. The Solutions Act will allow Vermonters to hold the state government accountable for meeting climate pollution reduction targets. VNRC's Miller has since been appointed by the Vermont House of Representatives to the 23-member Climate Council, the body tasked with making a plan for meeting Vermont's mandatory emissions reductions, to be adopted in December 2021. The group submitted its first annual progress report to the Legislature on January 15.

In addition to the Climate Council, the Solutions Act calls on the expertise of five subcommittees to address how implementation will look on the ground level. Among other issues, subcommittees will explore the pressures that climate change adaptation will impose on rural communities and how mitigation and adaptation can support all Vermonters fairly and equitably, since rural, low-income, and Black, Indigenous, and People of Color (BIPOC) communities are most under threat from a changing climate. One subcommittee will focus on the role of Vermont's natural and working lands in carbon sequestration and storage, climate adaptation, and ecosystem and community resilience.

Keep up with the Council and stay apprised of how you can get involved. We'll be posting updates at our website (find the link at vnrc.org/climate-council) and alerting you by email of opportunities to use your voice to ensure Vermont takes the climate action we need.

A resilient recovery

Recent revenue projections, spending proposals by Governor Scott, and the potential for federal aid have made the need for deep budget cuts in Vermont state government less likely in 2021. Still, it is critical that we use one-time funds carefully to invest in clean water, climate resilience, and conservation to create new jobs and jumpstart our challenged economy, in ways that last.

Consider clean water. A 2015 study conducted by the University of Vermont estimated that \$300 million annual tourist expenditures in Vermont's four main lakeside counties generate an additional \$72.75 million in spending and nearly 1,070 jobs, which does not even take into consideration the income generated by people who live and work in the region. And yet Vermont's 2018 Genuine Progress Indicator (GPI) found that the state lost \$35.79 billion in economic value to water pollution between 2005-2015.

Lake Champlain is in crisis. Many of its beaches are plagued by cyanobacteria, a toxic substance that blooms favorably in increasingly warmer temperatures, and as more intense rain events increase nutrient runoff to surface waters. The Vermont Department of Health reports that swimming or wading in water with cyanobacteria may cause minor skin rashes, sore throats, diarrhea, vomiting, or more serious health problems, with children and pets at higher risk of exposure because they are more likely to play near the shoreline and drink water while swimming.

There's more. The frequency of precipitation events in Vermont of three inches or more is expected to rise from the present level of once (or less) per decade to twice every three years by the end of the century. When we invest in conserving Lake Champlain and its watershed, we protect Vermont's shores from costly and devastating erosion, just as when we invest

in preserving floodplains and removing dams across Vermont to encourage the natural sinuosity of our rivers, we make our communities more resilient against damaging flooding.

"We know the costs of pollution and the degradation of our natural resources. Wetlands, river corridors and areas near lakes and ponds are nature's way of protecting Vermont's waters. It makes economic and environmental sense to protect them at all costs," says Jon Groveman, Policy and Water Program Director at VNRC. Groveman said he hopes pandemic-related austerity will not further endanger Lake Champlain and the many other already-vulnerable waterways around the state.

"There's immense potential for our natural resources to guide us through an economic recovery, given how critical they already are to our economy," says Shupe. In addition to Vermont's

waterways, he points to our forests. From the outdoor recreation industry to maple syrup production to wood products, 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.

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. This amounts to 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.

These benefits take into account the ecological functions of forests and conserved lands, which include water quality protection, flood prevention, food production, wildlife habitat, and carbon sequestration and storage. During the pandemic, the health of Vermont's conserved lands has felt yet more critical, as Vermonters took to the outdoors for a respite from self-isolation.

The health of our families, economy, and communities is inextricably tied to the health of our environment—including clean air and water, thriving food systems and working lands, functioning ecosystems, and access to the outdoors. As federal funding for COVID-19 recovery comes to Vermont and our leaders make choices on how to rebuild out of the pandemic, we have a once-in-a-lifetime opportunity to invest these dollars and adopt complementary policies to create a future in which both people and nature thrive.

In December, The Nature Conservancy, in partnership with VNRC and other Vermont organizations, released a platform around investing in programs, policies, and projects that "put Vermonters to work turning crisis into opportunity" while addressing environmental challenges. Find the platform at vnrc.org.



Pre-pandemic fun on a frozen Vermont lake

Bob LoCicero

The Cost of Contamination

Before COVID-19 became a pressing health crisis in Vermont, many Vermonters were suffering from the effects of PFAS-contaminated drinking water. The ongoing PFAS saga offers a look into how investing in our natural resources is vital for Vermonters' health.

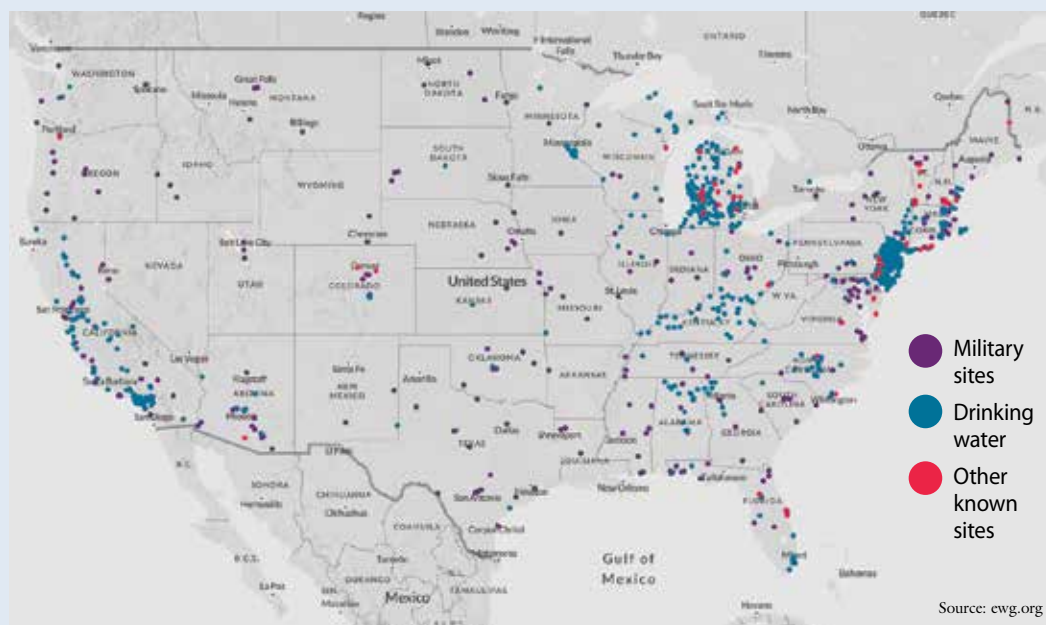
After being discovered in Bennington County in 2016, PFAS chemicals (a group of man-made, water-resistant compounds that includes PFOA and PFOS) have been found in Vermonters' drinking water sources across the state, including in schools and childcare facilities. The harmful health impacts linked to PFAS chemicals include high blood pressure, thyroid disease, kidney and testicular cancers, and suppressed immune system function.

To make matters worse, it was recently determined that PFAS exposure, which weakens immune systems and is reported to reduce antibody responses to vaccines, could make entire communities more susceptible to COVID-19 infection.

The health, infrastructure, and other costs of PFAS contamination are high. A 2016 study found that toxic chemicals found in plastic bottles, flame retardants, metal food cans, detergents, cosmetics, and pesticides—some of which fall under the PFAS family of chemicals—cost the United States more than \$340 billion annually in health costs and lost earnings. Safer States, a national organization, estimated an economic burden of \$13.7 billion resulting solely from an increased number of low birth weight infants due to PFOA contamination for the period 2003-2014.

People who have been exposed to toxic contamination can mitigate ill effects by undergoing medical monitoring. Monitoring keeps them apprised of the levels of harmful chemicals in their bloodstream and helps them secure earlier detection and treatment of potential health effects. But it's costly, and many Vermonters cannot afford this necessary expense.

VNRC and Vermont Conservation Voters (VCV), along with many other partners, have long advocated for legislation that would allow Vermonters to seek medical monitoring expenses from the polluter that exposed them to toxic chemicals in the first place. S.37, a recent medical monitoring



This map shows known sites of PFAS contamination in the United States.

bill, also would have authorized the State of Vermont to sue companies that manufacture chemicals that contaminate the environment and cause harm to our air, land, and water.

In 2019, citing unfair costs to businesses, Vermont's Governor Phil Scott vetoed the bill. Scott's resistance to this legislation exemplifies an irony in state policy many of us are familiar with, notes Lauren Hierl, Executive Director of VCV. "The veto highlighted a concern with how much businesses would have to pay to rectify their wrongs, but not with the high, often unattainable, costs of medical care that ordinary Vermonters, and taxpayers, would need to take on, as a result of industrial pollution."

Luckily, Vermont enacted a law in 2019 requiring the Vermont Agency of Natural Resources (ANR) to test all public drinking water supplies and develop drinking water and surface water standards for PFAS chemicals, to help ensure our water is healthy and safe. Other legislation was signed to better protect children from toxic chemicals, and to require the testing and cleanup of any lead contamination in drinking water in all Vermont schools and childcare facilities.

"We hope the state will continue to make meaningful investments in regulating and monitoring harmful chemicals, to ensure Vermonters can access drinking water that is safe and chemical-free. If not, we can expect monumental costs for entire communities—in medical bills, lost productivity and quality of life, and loss of life itself," adds Hierl.

Visit vermontconservationvoters.org to sign up for emails and stay up to date on issues like toxic contamination that affect the health of Vermonters and our communities. 🌱



Pliny Park in downtown Brattleboro

Bob LoCicero

Investing in Vermonters

We can calculate the cost of repairing infrastructure that has been damaged by natural disasters, or shoring up systems to better withstand them. We can even put numbers on expected increases in medical costs due to the steady toll of climate change. “But it’s much harder to measure the loss of human potential, quality of life, and even happiness that occurs when we delay investments in our people and communities, or only think short-term about those investments,” says Kate McCarthy, VNRC’s Sustainable Communities Program Director.

McCarthy believes that these mental health and other human costs are worth taking into account when it comes to creating the places where people can live and thrive. “It should go

without saying, but the money we spend has the potential to address so many problems at once, if we’re deliberate about the types of investments we make,” she says, adding that deadlines, funding parameters, and the need to solve problems that are literally life threatening can make it hard to think long-term. “I think Vermont does it better than most states, but we should keep trying to improve.”

McCarthy sees investments in downtowns and villages as one way to maximize benefits for people’s well being and the environment. While there are factors that make it harder to develop in downtowns and villages, including tight quarters for construction, the complexities of older buildings, and the need to remediate brownfields (previously developed land, not currently in use, that may be contaminated), these are outweighed by immense benefits. They include greater transportation choices and affordability, a variety of housing types, access to jobs, and an ability to provide faster broadband access more efficiently. All are part of a pattern of development called smart growth.

These and many other factors can improve quality of life, provide economic opportunity, and curtail isolation, in addition to reducing emissions. The positive ripple effects that are possible with smart growth also improve people’s ability to adapt to shocks in the system—whether from a pandemic, from climate change, from economic uncertainty, or from some combination of the three.

We know that Vermonters are interested in living in walkable communities: For the last ten years, over 35% of Vermonters surveyed in the annual statewide Vermonter poll (administered by the Center for Rural Studies at the University of Vermont) have said that given the choice, they’d choose a home in a walkable, compact community over an outlying area with more space. So, how do we get there? Despite a common perception

Bob LoCicero



A mural outside a biergarten in downtown Bellows Falls

Budgeting for Change

In his 2021 budget address, Vermont Governor Phil Scott revealed a number of proposals to significantly increase funding for programs that will benefit Vermont's people, environment, and communities.

Scott's proposed one-time expenditures include a boost to weatherization funding for low- and moderate-income households, support for clean energy and transportation options, and investment in our public lands. The Governor also committed to supporting programs that promote smart growth in the state's downtowns and village centers while maintaining our farms, forestland, and natural areas.

The Governor's budgetary commitments include, among many others:

- \$25 million to weatherize Vermonters' homes, saving households money on their monthly heating bills, putting people to work, and making homes healthier—while cutting climate pollution.
- \$10 million towards an initiative to bring affordable, clean energy to Vermonters with low and moderate incomes.
- \$20 million for the Vermont Housing and Conservation Board (VHCB), which since the late 1980s has worked

to ensure affordable housing, farmland, jobs, and recreational assets for every generation of Vermonters.

- \$5 million to boost the Downtown Transportation Fund, making it easier to move around our communities.
- \$1.75 million in additional funding for the successful downtown tax credit program, whose funds support housing in and near compact, walkable communities. This improves Vermonters' access to work, school, health services, and other opportunities, and mitigates climate change through decreased vehicle dependence.

"We applaud the Governor's budget. It makes a strong statement about the importance of investing in clean energy, the economic viability of our downtowns and working lands, and land conservation," says VNRC's Executive Director Brian Shupe.

Shupe cautions, however, that the proposals made in January's budget address do not mean these investments are secured. "It's the Legislature's job to implement these changes and build on these important investments in subsequent years. We hope that the Governor's commitment is an indication of long-term support, and that the Legislature will agree to that vision." 🌱



Bob LoCicero

that land use patterns are largely the result of market forces, state policy and spending decisions actually exert a significant influence on how our communities grow, and how private developers decide where to locate new homes and commercial space. So how and where we spend our state dollars matters.

VNRC's soon to be released Smart Growth Report Card, developed in cooperation with AARP-VT, evaluates state policies and spending to determine the extent to which those decisions reinforce—or undermine—the state's smart growth policies. Find the 2020 Report Card at vnrc.org/smart-growth/report-card.

Housing and conservation, and capital spending are two areas of state investment that can influence smart growth, and our research shows that Vermont is doing fairly well. Of the approximately \$57 million invested in housing from FY13-19 by the Vermont Housing and Conservation Board (VHCB), 85% of it was in smart growth locations. (A large weatherization and renewable energy project in a sprawl location accounted for a significant part of the sprawl spending; without this project, the Board's smart growth investment was over 90%.) In addition, 100% of VHCB's investment in farm, forest, recreational, and historic areas is considered smart growth.

State investment in downtowns and village areas also makes a difference by providing jobs in smart growth locations, which in turn supports local businesses. From FY12-FY19, 76% of

state investments in capital construction were in smart growth locations. Of the capital dollars the state spent on recovery from Tropical Storm Irene, 86% were spent on smart growth locations, owing to the state's forward-thinking decision to reinvest in the Waterbury Office Complex. This takeaway is instructive as we contemplate the expenditure of COVID-19 recovery dollars.

People, Places, and Transportation

"Since every investment—whether with state dollars, municipal funds, business decisions, or individual decisions—represents a building block of the communities we live in, every investment matters," says McCarthy. She points to our transportation system as an example. Transportation accounts for nearly half (44.5%) of Vermont's climate pollution. To create more resilient communities where Vermonters can live to their full potential, the state must improve the way people can get around, while benefiting the environment as well.

One funding option can be found in the Transportation and Climate Initiative (TCI). In December 2020, three East Coast states (Massachusetts, Connecticut, and Rhode Island) and the District of Columbia announced their commitment to officially join TCI, a regional cap-and-invest program designed to reduce pollution from the carbon-intensive transportation sector and use revenues raised to invest in equitable solutions that serve the unique transportation needs of different states.

This was the earliest point at which states could sign on. Vermont has not done so—yet. Along with other northeastern states, Vermont has agreed to remain engaged and continue with the negotiation towards joining TCI, which already amounts to a decade's worth of work among Georgetown University and state executive branches, including agency leaders in the Scott administration.

It is projected that TCI would provide Vermont with more than \$60 million in revenue. According to the terms laid out in a memorandum of understanding in December 2020, a minimum of just over \$22 million (35%) of that would be earmarked for communities most burdened by the inequities in the transportation system.

By funding healthier transportation options, TCI could save lives. The Transportation, Equity, Climate and Health Study (TRECH), an analysis of TCI's health impacts, determined that the Initiative could help avoid 1,100 deaths and nearly 5,000 asthma cases each year in the region, and could save more than \$11 billion in health costs, solely by reducing air pollution and increasing activity from biking and walking.

"TCI could serve as a much-needed tool to cut transportation-related pollution and raise revenues to invest in cleaner, more affordable transportation solutions that work for all Vermonters, no matter who you are, where you live, or how much money you make," says Johanna Miller.

When Vermont declined to join TCI in December, Miller said that while it's good we remain at the table, she worries Vermont will miss out on a robust revenue stream that could help us achieve our climate goals. She also cautioned that higher gas prices could be in Vermont's future either way.

"We are in a regional market, and this could have potential financial impacts to Vermonters who may pay even if we don't

Bob LoCicero



Downtown Bellows Falls

play,” Miller told *Seven Days*.

Polling data from December 2020 revealed that 70% of Vermont voters support TCI. A majority of Vermonters also recognize the value of the program in a recovery from COVID-19; 68% of those polled believe that TCI will help jumpstart Vermont’s economy and create new, good-paying jobs, while reducing air pollution. You can find the full poll results at vnrc.org.

Even if Vermont declines to join the Initiative, McCarthy hopes to see increased investment from the state in the programs TCI would have helped fund. “Too many Vermonters still lack affordable, convenient, reliable transportation to schools, jobs, healthcare, and other services,” she says. “This access is essential for people’s quality of life, economic opportunity, and health. It’s also essential to the state’s economy as a whole.”

To this end, Transportation for Vermonters (T4VT), the coalition McCarthy coordinates to work on sustainable transportation solutions in a rural state, is counting on additional investment to make these solutions possible. The group is calling for Vermont to commit to strengthening, expanding, and electrifying our transit system; funding transit agencies so they can continue offering fare-free operations and avoid reductions in service; and improving infrastructure to enable widespread electric vehicle adoption. T4VT is also advocating for increased investments in the foundation of our transportation system: downtowns, villages, and compact community centers.

VNRC will be exploring these issues and more in *People*,

Places, and Transportation, a continuation of the blog formerly run by Sustainable Transportation Vermont (STVT). Each month, we’ll publish entries from diverse experts and voices about shaping a cleaner, greener, more accessible, and more sustainable transportation future in Vermont. Come along for the ride at vnrc.org/people-places-transportation, where you can also sign up to receive new posts in your inbox.

Conclusion

An October 2020 episode of NEXT—a weekly radio show and podcast about New England—focused on the importance of pre-emptive infrastructure investments to prepare New Hampshire residents for future droughts. Tom O’Donovan, the state’s water director, explained the situation in plain terms: “Buying a fire extinguisher when your house is on fire makes no sense. Buying a fire extinguisher ahead of time is how you save your house.”

This metaphor from a natural resources expert in a neighboring state feels apt here in Vermont. We had 18 federally-declared disasters in the past 10 years, which is an increase of 50% when compared to the previous decade. The deleterious effects of climate change continue to unfurl at a frightening pace, but we can be prepared to meet them, if we choose to.

We will need to make significant investments in our environment and communities to get there. If we do not, we will spend significantly more coping with the consequences. 🌱



Bob LoCicero

While only used today by the Green Mountain Railroad for scenic foliage rides, the Chester Depot was once a stop for rail access across Vermont, linking the Connecticut River Valley at Bellows Falls and Lake Champlain at Burlington. The first public train arrived there in July 1849. In *People, Places, and Transportation*, we’ll cover issues like the potential return of wide-scale rail service across Vermont.

Recent Highlights of Our Work

Energy and Climate Action



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

- Co-creating and advancing clean energy and climate priorities with the #ActOnClimateVT coalition, a 31-organization coalition VNRC helps coordinate.
- With much in flux, the 2021 climate agenda is still taking shape, but priorities include the Transportation Modernization Act; a massive investment in low-income weatherization programs; strategic, climate-beneficial federal funds investments; and implementing the Global Warming Solutions Act (more below). Advancing and shaping an equitable Transportation & Climate Initiative, a regional cap-and-invest program for the transportation sector, also remains a VNRC priority.
- Johanna Miller is serving on the new Vermont Climate Council, which is tasked with developing a Climate Action Plan to equitably implement the emissions reductions mandated by the Global Warming Solutions Act.
- We continue our Friday “Climate Dispatch” through the virtual legislative session, providing updates on happenings in key policy and political arenas, as well as ways for Vermonters to engage.
- We continue our work to support important grassroots energy and climate work through coordination of the Vermont Energy and Climate Action Network (VECAN). VECAN’s

four-day virtual 2020 “Community Energy and Climate Action” conference in December drew 400+ people.

Forests and Wildlife

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



- Coordinating with diverse partners to promote Act 250 legislation to minimize the fragmentation of forests and wildlife connectivity areas, and develop a program outside of Act 250 to support sustainable trail development and outdoor recreation.
- Updating and reprinting VNRC’s Community Strategies for Vermont’s Forests and Wildlife guide, which was previously distributed to every municipality in Vermont, with several new chapters on Act 171 implementation (planning for forest blocks and wildlife connectivity) and strategies for maintaining water quality in forests.
- Providing technical assistance to communities to help implement Act 171, and developing a comprehensive database of successful municipal strategies for maintaining intact forest blocks and wildlife connectivity areas.
- Working with VNRC policy interns and the Vermont Fish and Wildlife Department to analyze every town plan and zoning bylaw in Vermont as part of a ten year review of progress made on wildlife and natural resource conservation in the state. The research will be published in a comprehensive report this year.

- Developing a funding proposal with key partners to explore the effectiveness of conservation policies in keeping forests as forests, with particular attention on whether the policies are accessible for people with diverse economic and racial backgrounds.

Smart Growth

Promotes and protects Vermont’s smart growth development pattern of compact settlements – with options for transportation, housing, and employment – surrounded by farms, forests, and natural areas.



- Coordinating the Transportation for Vermonters (T4VT) coalition, which released its legislative agenda in February. T4VT is putting forth a range of transportation and land use strategies and investments to create a more sustainable transportation system while supporting economic recovery and promoting affordability and better access to opportunity. These include e-bike and EV incentives, a placemaking program, and safer streets for all users.
- Publishing *People, Places, and Transportation* (formerly Sustainable Transportation Vermont), a new blog at VNRC that launched in December and will explore big-picture questions related to transportation, land use, climate, and equity. Recent posts look at COVID’s impact on commuting, and the Transportation and Climate Initiative.
- Awarding Small Grants for Smart Growth to communities and nonprofits (most recently, the Town of Rockingham) to help catalyze work



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on transportation, housing, public participation, village development, and more, including a new, larger award that debuted in 2021.

- Continuing work on the Smart Growth Report Card, a research project looking at state spending on smart growth. When published (early this year) this will be an important tool to highlight the importance of making smart growth decisions with any recovery funding we may receive resulting from COVID-19.

Clean Water

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



- Collaborating with Water Caucus partners to improve watershed health by investing in natural infrastructure solutions like intact floodplains, connected river systems, and restored wetlands to improve water quality, emergency preparedness and climate resilience.
- Providing comments and ensuring that the implementation of Act 76, Vermont's Clean Water Service Delivery Act (currently on public notice), allows for an equal delivery of phosphorus reduction projects to move forward within each Tactical Basin.
- Testifying in the Legislature and working with partners to ensure healthy wetlands across Vermont and promoting wetlands education and outreach.
- Collaborating with a team of concerned citizens to improve riparian protections for rivers and streams statewide, aiming to mitigate impacts of climate change on rivers, streams, wetlands



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and lakes, and protect the many ecologically important values and functions of naturally vegetated riparian corridors.

- Working on a bill that would address the impact on drinking water of pesticides from farming and the land application of sewage sludge.
- Monitoring an attempt by Morrisville Water & Light (MWL) to void a Clean Water Act permit that ensures the protection of water quality and fish habitats where hydroelectric facilities draw from public waters, a safeguard VNRC fought for through years of litigation.
- Identifying, designing, and planning for derelict dam removal in 2021 and beyond, with two projects shovel-ready but awaiting secure funding; a third in the early design phase; and four to six others in preliminary stages.
- Participating on a committee established by the Legislature to develop a surface water withdrawal project for Vermont.

Toxic-Free Environment

Advocating for policies that protect Vermonters' health by reducing exposure to hazardous chemicals, holding toxic polluters accountable for the harms they cause, and ensuring our waters are clean and safe.



- Working on a bill to hold corporate polluters responsible for paying the medical monitoring costs for victims of toxic contamination.
- Providing oversight on the Agency of Natural Resources' work to regulate toxic PFAS in drinking water and surface waters to ensure the state is doing all it can to protect public health (there are 9,000+ PFAS chemicals and Vermont is currently proposing to regulate just 5).
- Advocating for policies to ban toxic PFAS chemicals from food packaging, firefighting foam, ski wax, and carpets and rugs.

- Advancing updates to the "Bottle Bill" to encourage recycling, and exploring new policies like recycled content standards and Extended Producer Responsibility to reduce waste, toxicity of the waste stream, and the use of virgin materials.



Bull Run Brook in Northfield flows freely after a dam removal last fall.

Are you interested in leaving a gift in your will?

Over the years, donors have informed us of their intention to include a gift to VNRC in their wills. You can join these supporters. A planned gift to VNRC represents a commitment by donors to protect Vermont's environment beyond their own lifetimes, and to ensure that our communities are best equipped to nurture us for generations to come.

For more information on planned giving, contact Stephanie Mueller at (802) 223-2328, x113 or email smueller@vnrc.org.



News & Notes

Climate Council Embarks on Climate Action Plan

In September 2020 the Vermont Legislature passed the Global Warming Solutions Act (H.688). The law requires Vermont to lower its climate-damaging emissions while creating jobs, improving community resilience, and reducing burdens for rural and under-served communities to access clean energy, transportation, heating, and housing.

A 23-member Climate Council was tasked with making a plan for meeting the emissions reductions mandated by the Solutions Act, to be adopted in December 2021. The group submitted its first annual progress report to the Legislature on January 15. Johanna Miller, Energy and Climate Program Director at VNRC, is one of the appointees to the Council.

Find updates on the Climate Council at vnrc.org/climate-council and stay tuned for opportunities to learn more in webinars and engagement opportunities.

People, Places, and Transportation Has Arrived

What if, when we thought about transportation, we thought about downtowns, villages, walking and biking, housing, local economic development, and multigenerational communities just as readily as we thought about cars and roads? What if we had more examples of what's possible?

Enter VNRC's People, Places, and Transportation, a continuation of the blog formerly hosted at Sustainable Transportation Vermont (STVT). We look forward to continuing the important work begun by STVT, to help people in Vermont think about and shape a cleaner, greener, more accessible, and more sustainable transportation future.

Find the blog and catch up on new entries at vnrc.org/people-places-transportation.

A Resilient Recovery

The health of our families, economy, and communities is inextricably tied to the health of our environment—including clean air and water, thriving food systems and working lands, functioning ecosystems, and access to the outdoors.

That's why VNRC joined dozens of Vermont organizations to support a platform for moving ahead with a COVID-19 recovery that creates a future in which both people and nature thrive. Find it at vnrc.org.

Join us in sharing the importance of investing in our natural resources in order to strengthen our communities and economies. Post your thoughts about a resilient recovery with the hashtag #NatureWorks.



Welcome, New Additions to the VNRC Board!

Thanks to all who attended our 57th Annual Meeting in September. We were thrilled to have so many of you join us on Zoom to discuss our year in advocacy. We were pleased to honor Peter Gregory, Executive Director of Two Rivers-Ottawaquechee Regional Commission (TRORC), with the 2020 Arthur Gibb Award for Individual Leadership.

We also welcomed five new members to the Board of Directors: Jameson C. Davis (South Royalton), Charlie Hancock (Montgomery Center), Colleen Moore de Ortiz (Newport), Mark Nelson (Ripton), and Bindu Panikkar (Burlington). VNRC's bylaws were amended to establish two Student/Youth board member positions, and in November Nolan Holmes of Brattleboro and Jillian Scannell of Burlington were appointed to fill those seats. Learn more about our new Board at vnrc.org/board-of-directors-advisory-committee.



Davis



Hancock



Moore de Ortiz



Holmes



Nelson



Panikkar



Scannell

VECAN Conference Goes Virtual

VECAN's Community Energy and Climate Action Conference took place in December to celebrate the role that community energy leaders play in Vermont's clean energy transformation. This year's virtual, multi-day event began by framing up the current state of energy and climate action with a post-election analysis and an overview of timely, potentially transformative opportunities, including the recently enacted Vermont Global Warming Solutions Act.

Did you miss it, or want a second look? Find all recorded sessions at www.vecan.net.

Small Grants for Smart Growth Get a Little Bigger

Over the past two years, VNRC has awarded our donor-supported Small Grants for Smart Growth to fund a dozen projects from Brattleboro to Canaan, from trails to town halls—most recently to aid the Town of Rockingham in revitalizing buildings in downtown Bellows Falls.

As of 2021, our program got bigger. We offered a new award up to \$3,000 through a competitive application process with a deadline of February 1. Thank you to those who applied!

If you missed out, fear not: we are still offering awards up to \$1,500 that you can apply for on a rolling basis throughout the year. Learn about the application process, and find a new map of grantees across the state, at vnrc.org/small-grants-for-smart-growth.



Vermont Youth Get Creative

With our Visualize Vermont Art Contest over the summer, we asked Vermont youth to submit art depicting what they love about Vermont. Many shared inspiring views of how the outdoors was helping them cope with the pandemic.

We featured some of the artwork in our year-end brochure. Find all winners and submissions at vnrc.org/artcontest. Thank you to the wonderful young artists who participated!



Bekah Kuster Joins as VECAN's Community Energy Coordinator

The Vermont Energy and Climate Action Network (VECAN), which VNRC coordinates, hired Bekah Kuster last fall. Bekah is VNRC's AmeriCorps member, serving as the Community Energy Coordinator to support and foster town energy committees across Vermont.

Bekah graduated from the University of Vermont with a B.S. in Environmental Studies and a minor in Community and International Development, designing her studies to focus on understanding the interplay between environmental policy and community development and organizing. We're thrilled to have her on the team!



Daniel Jarrad Joins as Our 2021 Legislative Intern

Daniel Jarrad is assisting VNRC, Vermont Conservation Voters (VCV), and the Vermont Planners Association (VPA) in tracking legislation moving through the State House during the 2021 legislative session. He was previously an intern for the Vermont Legislative Climate Solutions Caucus and has a strong interest in climate and energy policy. Welcome, Daniel!



Grateful for Our Interns and Volunteers

Over the past several months, many interns and volunteers have contributed valuable research and analysis to aid VNRC's policy work, particularly around land conservation and local planning for wildlife habitat.

We'd like to thank Nick Davies, Grace Ecklund Gustavson, Henry Mauck, Lauren Shapiro, and Veronica Ung-Kono for their insights and dedication!

If you'd like to find out about internship and volunteer opportunities at VNRC, visit vnrc.org/join-our-team.



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Save the Date: 13th Annual Wild & Scenic Film Festival

VNRC has co-hosted the Wild & Scenic Film Festival in Vermont for over a decade. Last year we held our first online screening, drawing a crowd of more than 500 remote viewers! Mark your calendar and join us for another virtual evening of inspiring short films about the world's most wonderful places and the people who care for them. **Tickets and access info at VNRC.org/wsff2021.**

The poster for the Wild & Scenic Film Festival features a central illustration of a woman's profile with long brown hair, looking towards the right. To her left is a stylized owl. Above the woman's head is a green globe with a film strip winding around it, and the text "SYRCL's" is written on the globe. The main title "WILD & SCENIC® FILM FESTIVAL" is in large, bold, black letters. Below the title, the tagline "where activism gets inspired" is written in a smaller, black, sans-serif font. To the right of the tagline, the text "Presented by:" is followed by the VNRC logo. Below this, the date and time "April 8th, 6:30-8:30 PM" are written in a bold, red, sans-serif font, followed by "A Virtual Film Series" in a smaller, red, sans-serif font. At the bottom, the text "With generous support from our sponsors:" is followed by two logos: "Lake Champlain CHOCOLATES" and "Hunger Mountain COOP".

Support our work at vnrc.org/donate. Keep up to date at vnrc.org and on Facebook and Twitter.

Visit our new blog—People, Places, and Transportation—at
vnrc.org/people-places-transportation!

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