VNRC VERMONT NATURAL RESOURCES COUNCIL

Vermont Environmental Report

Protecting Pollinators, Promoting Resilience

Fall 2024

VNRC's Dam Removal Program

At VNRC, we oversee a dam removal program that aims to restore healthy rivers and aquatic habitats, protect public health and safety, and help reduce flood risk for the surrounding area.

This August, we began the removal of the Wainwright Dam. This derelict dam lies on Tributary 10 in Salisbury, Vermont just above the confluence with Halnon Brook and downstream from the Salisbury Fish Hatchery - and right off the busy thoroughfare of Route 7. Originally constructed as a sawmill in 1805 and later used as an ice pond, the dam has been responsible for the fragmentation of this river for 219 years.

This summer, after a series of hurdles, the VNRC team and our design partners (SLR Consulting, Markowski Excavating, and Trout Unlimited), made significant progress in recovering this river's ecosystem.

The Wainwright Dam removal and river restoration project includes several phases. The initial phases entailed constructing site access and staging equipment, followed by implementing flow bypass and erosion control measures. Next, the project progressed to the removal of the concrete dam and a portion of the impounded sediment behind the dam (some sediment was allowed to remain in the river to restore downstream habitat). Then, the project proceeded to the restoration of the stream channel, reconnection of the floodplain upstream of the dam, and installation of eight habitat features (aka strategic wood additions) along the same channel reach. Following this restoration work, native trees and shrubs will be transplanted from the adjacent floodplain, and a local wetland seed mix will be spread. Trout Unlimited plans to host tree planting in 2025.

The ultimate goal of this project is to reconnect the headwaters of Tributary 10 with Otter Creek and ultimately Lake Champlain. These benefits include restoring aquatic organism passage at the dam location and through adjacent stream reaches for native brook trout and other cold-water stream species, restoring sediment transport for overall improved water quality, and reducing water surface elevations in the project vicinity during storm events by reconnecting the river to its floodplain and wetlands, allowing these areas to temporarily store water during flood events.

"Assisting in the recovery of a river system such as this is a great honor, and is most meaningful when we can restore natural stream processes so that the river can begin to heal itself," said Karina Dailey, Restoration Ecologist and project manager with VNRC. "This tributary has failed water quality standards for many years, and the dam is contributing to this problem. We are very excited to reconnect this stream and restore its natural function."

"We are proud to be part of this restoration project and look forward to the tributary naturalizing once the barrier and unnatural sediment deposits have been replaced with a free-flowing river, wood, and vegetation," added Jessica Louisos, PE, Project Engineer with SLR Consulting.

Our dam removal program is busier than ever between directly managing nine different projects and providing technical support for several others. At least three projects are fully designed and currently completing the permitting process, so 2025 could be a busy dam removal season. To learn more about our dam removal work head to FreeVermontRivers.org.

We're grateful to our incredible funding partners: Vermont Emergency Management through the Flood Resilience Community Fund, NEIWPCC in partnership with the Lake Champlain Basin Program and US Fish and Wildlife Service.

The Wainwright Dam in Salisbury, Vermont, which we worked to remove this year.

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

VNRC is the Vermont affiliate of the National Wildlife Federation.

VNRC membership includes a subscription to the *Vermont Environmental Report*. Join VNRC in protecting Vermont with your sliding-scale membership.

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Letter from the Executive Director

Looking to the Future

By Lauren Hierl, Executive Director

As I begin my tenure as Executive Director of VNRC, I'm excited to look to the future - while also learning from and building on the organization's storied legacy. We are coming out of one of the most successful legislative sessions for environmental action in recent memory, and VNRC has a lot to be proud of. Staff brought their deep expertise and skills to work with lawmakers and partners to craft and advance thoughtful approaches to improve flood resilience, hold fossil fuel companies accountable by creating a first-in-the-nation Climate Superfund, increase our commitment to clean energy, foster smart growth housing and land use reforms, and more.

These legislative wins are just the beginning. Now, we need to partner with a broad range of local partners from around the state to effectively implement these bills to build a healthier, more resilient, and more equitable Vermont. We will need you, our members, to look out for opportunities to provide your input on how flood safety or climate resilience or clean energy is rolled out in your communities. Our work at the local level will be essential to making these state policies work as intended.

One issue VNRC is increasingly working on is toxic chemical reform. We are partnering with a range of organizations to advocate for strong protections from PFAS "forever chemicals" and other harmful chemicals in consumer products, as well as ensuring we have toxic-free water, air, and soil. Vermont is a national leader on these issues, with some of the most health-protective toxic chemical policies in the country. Our efforts have inspired action in other states, and helped spur markets to shift away from dangerous chemicals. However, with much more work to do, Vermont must continue to play a leadership role in ensuring the products on our store shelves are safe for our families, and that our environment is free from toxic contamination.

In this *Vermont Environmental Report* (VER), we are highlighting another widespread use of toxic chemicals in our state: pesticides. VNRC supported this year's successful campaign to phase out neonicotinoids, which harm pollinators like bees and birds. VNRC is planning to broaden our work on pesticides, looking for additional ways to ensure the state is adequately protecting our air, water, soil, wildlife, and human health from these chemicals. Vermont has a long history of organic and regenerative farming practices that do not rely on pesticides, and we will be looking for input from farmers, scientists, and impacted communities on what a future for Vermont could look like that is significantly less reliant on pesticides.

I believe we are at an inflection point. Our communities are still rebuilding from the pandemic, and far too many Vermonters are dealing with the impacts of recent flooding. We are also staring down a contentious election that could have dramatic impacts on our environment and democracy in the coming years.

I believe we must build bridges and seek new ways to work together to build a healthier Vermont that works for everyone. For our work in the State House to succeed, we need Vermonters to pull together to address the climate crisis, biodiversity loss, the housing crisis, toxic-free communities, and so many other pressing issues facing our state. I know that we can accomplish more by working together.

I'm honored to be a part of the VNRC team, and while you can read about some of our priorities in this VER, I encourage you to reach out to let me know what you would like to see for the future of our organization. Thanks for being a member!

Vermont Becomes Second State in the Country to Ban Harmful Neonic Pesticides

By Cory Dawson

Vermont has become the second state in the country to ban neonicotinoid pesticides – neonics for short – marking a major victory for environmentalists, researchers, beekeepers, and concerned residents who have long advocated for such restrictions.

The new law, Act 182, overcame a gubernatorial veto when the required two-thirds of legislators voted to override the veto. This successful vote was due to a vast coalition of groups and a growing body of evidence about the harm neonics cause to pollinators and other wildlife.

This change comes amid mounting research showing that neonics are not only highly toxic to bees but are also likely overused, and in many cases, used whether or not pests are threatening crops. Studies from Quebec and New York – where similar bans are already enacted, as well as in the European Union – indicate that these pesticides do little to improve crop yields.

Vermont's law will phase in starting July of next year, 2025, when applying the pesticide outdoors to leafy vegetables and ornamental plants is outlawed. In 2029, the ban on selling neonic-coated seeds kicks in, alongside a similar law in New York. In the coming months, the Vermont Agency of Agriculture, Food and Markets will be taking public input and developing rules around how and when farmers can use neonics in emergencies, such as when a pest is found that threatens their crops.

The Vermont Natural Resources Council spoke with a wide range of scientists, advocates, beekeepers, and other stakeholders to illustrate how the bill came about, and the hopes and worries about what the future holds.

Turning Points

Jared Carpenter, an environmental attorney and lobbyist for several environmental groups, has seen plenty of so-called "ban bills" come through the legislature, often with little effect.

But this year's neonic bill was different from past bills that aimed to tackle pesticide regulation. During this most recent effort, Carpenter worked with the Lake Champlain Committee, which partnered with the Vermont Public Interest Research Group, VNRC, beekeepers, and other allies to support the measure.

The previous bills were simplistic, Carpenter said. "This bans the use of glyphosate, or this bans the use of chlorpyrifos, or something of that nature," Carpenter said. "There are no intricacies to it. There's no policy."

"Those bills, as a general rule of thumb, don't get a lot of traction," Carpenter added.

A key factor that made Vermont's bill more viable, Carpenter explained, was similar action taken in the New York legislature, which Vermont's bill mirrors. New York's similar ban creates a far larger market for untreated seeds, and Vermont, being right next door, can benefit from it.

"It's really going to have the most impact of any bill that's passed in recent years," Carpenter said.

Had Vermont acted alone, there may have been a risk that seed producers would not have been able or willing to sell

farmers the soon-to-be-necessary supply of untreated seeds

"New York took a very necessary step in terms of opening up the market and the possibility of untreated seeds being available in Vermont," Carpenter said.

In the coming months, the Vermont Agency of Agriculture will have to determine how to enforce the new law and, crucially, what rules should govern how and when to grant exemptions to farmers who may need to use neonics on their fields.

The new law is far more comprehensive, though it has its limits. The bill works to limit neonics in largely agricultural settings, but it doesn't address their use in residential areas, schoolyards, state lands, or government buildings.

Lauren Hierl, executive director of the Vermont Natural Resources Council, said that the upcoming discussions on granting exemptions will be key.

"Either we really get a handle on reducing neonics, or they could try to make it easy for people to keep using them. I think that's going to be a really meaningful and important discussion coming up," Hierl said.

Hierl also emphasized that early coalition-building was key to the bill's successful passage.

"It's just an issue that has been hard to get a lot of traction on," Hierl said. "What this campaign and coalition did that I think was really exciting was doing a lot of work early on to connect scientists, researchers, beekeepers, and farmers who do not use these pesticides."

Liam Keegan

Pollinator in action

"Not only are neonics highly toxic to bees and other pollinators, even at low levels, they are also almost certainly overused. Coated seeds are used every year, even when they aren't needed."

— Samantha Alger, Vermont Bee Lab

Homegrown Research

One of those scientists is Samantha Alger, who has run the Vermont Bee Lab at the University of Vermont since 2018.

The lab, which has emerged as an invaluable resource for beekeepers and anyone interested in the health of Vermont's vital pollinators, was created to bring various bee-related research projects under one roof, Alger said.

Alger, who earned a Ph.D. from UVM studying virus spillover between honeybees and bumblebees, said the lab began more closely examining neonics and other pesticide residues in pollen starting from just a handful of Vermont apiaries in 2021.

Before then, Alger had been running Vermont's involvement in the National Honeybee Survey, which tests for pesticide residue, but is limited in scope and ability to detect pesticides at very low concentrations that may still be causing impacts.

With funding from the Vermont Beekeepers Association in the project's first year, the pollen samples were sent to Cornell University to be examined by more sensitive equipment – and the results were alarming.

"When we got it back, we were surprised to see so many different chemicals," Alger said.

Since 2021, the pollen collection project has expanded from the four original beekeepers to more than 70. The project relies on the honeybees themselves – when they return to their hives, the pollen they've collected from plants is pulled from their legs, which researchers collect to be analyzed.

While Alger's lab has identified numerous compounds in bee pollen that can be toxic and harmful, neonics stand out.

Not only are neonics highly toxic to bees and other pollinators, even at low levels, they are also almost certainly overused. Coated seeds are used every year, even when they aren't needed, Alger said.

Recent data and observations from farms in Quebec, where neonics have been restricted since 2019, and in New York, where Cornell researchers sought to determine whether using neonics results in higher crop yields, all point to the same likely answer – they don't.

"So, the farmers are using this highly toxic chemical that's really persistent in the environment for no reason, and they're paying for this and being told that they need it," Alger said. "But it just turns out that the research says, no, it's actually not something farmers need."

And while the impact on actual pests is dubious, the impact on honeybees is clear.

Devastating losses of honeybees have become more common, with some beekeepers regularly reporting half of their bee colonies dying every year, Alger said.

In an attempt to save their colonies, beekeepers can import more bees from out-of-state, and split their healthy colonies in hopes that the split colonies can regenerate and survive long enough to be productive honey-makers or be sold off as nucleus colonies to other beekeepers. But these aren't long-term solutions.

"Your heart goes out to them," Alger said. "I'm hearing beekeepers say, 'I can't take another year like this'."

The impact on honeybees, while deeply concerning to Alger, brings up another, much harder-to-answer question about the impact on wild bee populations.

"People think of it as sort of like the canary in the coal mine – if beekeepers are having trouble keeping this managed insect

alive," Alger said, "what's going on with all the wild bees?"

Alger is quick to note that the pressure on honeybees isn't solely from neonics – it's almost certainly a combination of other chemicals, climate change, and various stressors – but the bill does provide some much-needed relief.

"Beekeepers have a lot of hope around what's going to happen as a result of pulling out this one important stressor," Alger said. "There's so much of it being used."

A beekeeper for about a decade, Bianca Braman runs a commercial beekeeping operation in Swanton, Vt., alongside her partner and her partner's father. Braman also serves as vice president of the Vermont Beekeepers Association, where she has advocated in support of Vermont's neonic law.

In the beekeeping community, Braman said, over the years there's been a shift, from doubting the impact of neonics on honeybees to accepting the severe damage these pesticides cause to beekeepers' colonies.

"It gets to the point where you're like, 'What is happening? I mean, why am I losing so many?'" Braman said, echoing the concerns she's heard from beekeepers over the years. With data from researchers like Alger, Braman and other Vermont beekeepers felt it was time to target neonics.

In the coming months, the Vermont Agency of Agriculture will be developing rules on when to grant emergency-use exemptions to farmers to use neonics. Braman said that the process should unfold in a way that is fair to both farmers and beekeepers.

"I just hope they get the assistance they need to go forward in a way that is sustainable for everyone," Braman said. "So that agriculture, in general, can be sustainable."

Andrew Munkres, a beekeeper who runs Lemon Fair Honeyworks in Cornwall and a former president of the Vermont Beekeepers Association, said the upcoming exemption rules process will be key.

"If all you have to do is fill out a form and send it to the agency, and you get to use neonics again, then we haven't done anything," Munkres said. "We've wasted a vast amount of effort and money and resources to create a bill which is in name only."

What Munkres and others at the beekeeper's association would like to see before exemptions are granted to farmers is evidence that pests are actually present, and that alternative pest control methods have been tried and failed.

Overall, Munkres said he and the association are cautiously optimistic about the exemption process.

"The big thing that I like to remind people, is that if it was half the cows in Vermont that were dying every year, somebody would have done something 10 years ago," Munkres said.

Braman, for her part, still has serious uncertainties and anxieties. Neonics persist in the environment for decades, and it's unclear what the long-term effect will be on pollinator populations.

"Neonics have such a long half-life," Braman said. "Will I be nearing the end of my career when I finally see the change? And will there be something else detrimental in the picture by that time? I have no idea. Will there even be bees? I don't know."

Cory Dawson

Sydney Miller, Lead Research Technician at the Vermont Bee Lab

Clipped Wings

Despite the focus on how banning neonics can help pollinators like honeybees, Vermont's bird populations stand to benefit as well.

Margaret Fowle, a senior conservation biologist at Audubon Vermont for almost 16 years, has dedicated her career to restoring bird populations in Vermont and now works with landowners and farmers to help them manage land in bird-friendly ways.

Like many experts, Fowle says it's difficult to lay the blame for bird declines solely on neonics. However, there are plenty of signs, and some solid research, she said.

Aerial insectivores, such as swallows and flycatchers, and grassland birds are the two groups hardest hit by neonics, Fowle said. Research from the American Bird Conservancy has shown that neonics, specifically Imidacloprid, can be lethal to a variety of bird species.

There are other effects on birds attributable to ingesting these pesticides, Fowle said.

"It kind of affects their ability to navigate, causes weight loss, maybe delays migration because it affects their ability to navigate, and also reduces productivity," Fowle explained.

Earlier in Fowle's career, she coordinated programs to support peregrine falcon populations, which had been hit particularly hard by DDT, a pesticide now banned at the federal level. Fowle

contrasted those efforts with today's work to limit and ban the use of neonics.

"It was so clear with DDT," Fowle said. "It's less clear with neonics."

Neonics certainly play a role, but now climate change, habitat loss, building collisions, and outdoor cats must all be considered when looking at bird population declines.

"It's all just kind of compounding," Fowle said. "All of them combined are really causing these significant declines in many species. Pretty much all birds are declining, which is scary stuff."

Liam Keegan

Pollinator visits a flower

"What got me personally most worried was that these [pesticides] were extremely water-soluble. They migrate with surface water or groundwater, flow into our streams and rivers, and they're incredibly toxic to aquatic insects, which are the base of the aquatic food chain."

— Nat Shambaugh, retired chemist for the Vermont Agency of Agriculture, Food and Markets

The Rise of Neonics – and Modern Pesticide Practices

Nat Shambaugh, a retired chemist for the Vermont Agency of Agriculture, Food and Markets, has been studying pesticides for three decades.

Shambaugh first became concerned with pesticide use around the year 2000, after observing startling deformities in frogs.

"Frogs started showing up on the shore of Lake Champlain with missing legs, added legs, extra eyes, things of that nature," Shambaugh said.

While further testing wasn't able to definitively link pesticide use with the frog deformities, it led Shambaugh and other researchers to discover detectable levels of Atrazine, a weed-killer used with field corn, in the lake in the early spring, before farms would have started treating their crops for that year.

"That shocked me and the others that we were actually able to detect it from previous years' use in a body of water," Shambaugh said. This discovery led the Vermont Agency of Agriculture to start the Surface Water Monitoring program around 2002, he said.

Neonics rose to become the most commonly used pesticides in the world, and with that came concerns about the effects on pollinator populations. Shambaugh and the Vermont Agency of Agriculture added neonic testing to the monitoring program in 2015, thus observing the pesticides flowing from farmland areas into tributaries that led to the lake.

Shambaugh retired from the agriculture agency in 2016, but has continued his work as an environmental advocate, lending his expertise, including as a witness to lawmakers discussing Vermont's new law.

Over time, the way pesticides are used has changed, he said, shifting from an ad-hoc application to something applied routinely.

Historically — before neonics came onto the market — Shambaugh said farmers would apply pesticides only when they found an actual pest. And when applied, they would be sprayed on, not coated onto the seed as neonics are now. The oversprayed pesticides would easily blow back into the face of the person applying it, drift to parts of the field where it wasn't necessary, and because it was aerosolized, farmers had to use a lot.

Applying a pesticide to the seed itself made much more sense, in theory, Shambaugh said. Since neonics are water-soluble, they would spread throughout the entire plant from the inside.

"In theory, that's wonderful, eliminating the risk to humans and other mammals, or minimizing it, anyway, and only getting the pesticide where you want it," Shambaugh said.

But gradually, researchers discovered only a fraction of the pesticide stayed with the plant, and much of it could easily enter waterways.

"What got me personally most worried was that these were extremely water-soluble," Shambaugh said. "They migrate with surface water or groundwater, flow into our streams and rivers, and they're incredibly toxic to aquatic insects, which are the base of the aquatic food chain."

While the new law only covers neonics, Shambaugh said treated seeds often use a combination of pesticides, such as diamides and other fungicides.

Shambaugh hopes laws like those in Vermont and New York will spark a shift toward farmers using untreated seeds more often and applying pesticides only when necessary.

"The more you use a pesticide, the more likely pests will become immune to it, just like antibiotic resistance," Shambaugh said. "Use them all the time, and they aren't effective anymore, and that's why you have to keep coming up with new chemistry."

Systems Thinking

Some advocates involved in Vermont's new law, while praising the measure, stress that it's only part of a larger set of problems.

Graham Unangst-Rufenacht, is the policy director for Rural Vermont. It's a nearly 40-year-old advocacy organization founded by farmers and community organizers that works to support small farms. They've helped support policies around genetically modified organisms, pushed back against federal legislation that allowed large seed companies to more easily sue farmers, and

Andrew Munkres, former president of the Vermont Beekeepers Association, at one of his bee yards in Salisbury

Cory Dawson

more recently focused on issues around food sovereignty and farmers' ability to make their own choices about how to produce, Unangst-Rufenacht said.

When it comes to neonics, farmers — especially large-scale farms in Vermont that use treated seeds — are often left without options and unfairly blamed for the resulting damage, Unangst-Rufenacht said.

Farmers having few options to transition away from treated seeds is part of the reason why Gov. Phil Scott's description of the bill as anti-farmer in his veto letter rings hollow, Unangst-Rufenacht said.

"The root of inequity in farming, and why so many dairy farms have failed, isn't because of environmental groups," Unangst-Rufenacht said. "It's because of agribusiness and government policy, and the complicity of those things together, creating untenable environments for small farms."

Local and state-level action can only accomplish so much, Unangst-Rufenacht said. Policies like antitrust enforcement of large seed companies and promoting smaller-scale, regionally appropriate seed availability, along with expanded social support systems would go a long way in creating a better food system, Unangst-Rufenacht said.

"In an ideal world, we'd be seeing international and national law change," Unangst-Rufenacht said.

Mike Keirnan, an emergency room doctor and co-founder of the pollinator advocacy group Bee the Change, has been working for over a decade to create pollinator habitats in unused spaces in solar fields across Vermont. Keirnan, like Unangst-Rufenacht, points to large-scale, systemic reform as the ultimate goal.

From his medical perspective, Keirnan expressed concerns about the lack of rigorous safety assessments for humans exposed to pesticides and other chemicals used in agriculture. He drew parallels to the pharmaceutical industry's more stringent protocols for human testing.

"If we really want to have a rational system, then all the chemicals we're applying on our landscapes will have to go through the same rigor of looking at the collateral damage," Keirnan said.

Keirnan isn't the only one drawing attention to the potential risks neonics pose to human health. A group of health experts and environmental scientists in New York wrote to Governor Kathy Hochul and other state leaders before the passage of that state's neonic law, highlighting the increasing dangers neonics posed to both wildlife and humans.

According to the experts behind the letter, exposure to neonics — especially during pregnancy and early childhood — poses significant risks to brain development, leading to potential long-term effects such as reduced intelligence, behavioral issues, congenital defects, and autism-like symptoms.

"There is already enough concerning evidence to warrant taking immediate action to reduce neonic exposures," the letter stated.

For Keirnan's part, supporting and protecting pollinators goes beyond a ban on neonics. Creating pollinator habitats in solar fields – Bee the Change has helped create around 1,000 pollinator-friendly solar fields in Vermont – helps stave off the decline in local wild pollinators and, with it, the decline in all the food the pollinators support.

"If we're going to have food security, it's going to be necessary to have a native pollinator population everywhere you're trying to grow those fruits and vegetables," Keirnan said. "Many of the micronutrients in our diet, like vitamins, are dependent on pollinators."

Keirnan carries with him, everywhere he goes, a reminder of what a world without pollinators looks like.

"On the back of my business card," Keirnan said, "is a picture of people in southwest China trying to pollinate a pear tree by hand."

Neonics is a First Step

"While addressing neonics is a vital step forward, we need to take a comprehensive look at the harm to the environment and public health caused by pesticides more broadly," says VNRC Executive Director Lauren Hierl.

VNRC is working with its partners to build off the success of passing the neonic bill to continue to educate people about the damage pesticides can cause and the significant gaps in how and when pesticides are allowed to be used.

"Vermont must rethink its approach to regulating pesticides if we are going to protect drinking water, our lakes, ponds, rivers and streams, wildlife and the health of Vermonters," said Hierl, adding, "there is so much work to be done."

Legislative Victories, Expanded Partnerships, and Updates on Our Work for Vermont's Environment and Communities

Clean Water & Dam Removal

This program works to protect and enhance the quality of Vermont's streams, rivers, lakes and ponds, wetlands, and groundwater.

- The enactment of the Flood Safety Act in the spring of 2024 (Act 121) marked a tremendous achievement for Vermont. We were deeply involved in advocating for the passage of this bill alongside many partners, including the Lake Champlain Committee, Conservation Law Foundation, and Connecticut River Conservancy. This law takes important steps to reduce flood risks across Vermont at a critical time when flood-related disasters are becoming more frequent and more severe. Following the devastating floods of 2023 and 2024, the adoption of this new legislation gives us a clear path forward to provide education and outreach related to this new policy. We must work diligently to implement the language in the Act through the Agency of Natural Resources' rulemaking process for the future safety and health of our wetlands, rivers, floodplains, and dams.
- More dams are coming down! Our dam removal program is busier than ever with a "flood" of projects that have come forward following the 2023 and 2024 storm events. Our Restoration Ecologist, Karina Dailey, is receiving many more phone calls and emails from landowners who no longer want the responsibility, liability, or maintenance that comes with owning a dam – and who do not want the blame if damage from this dam were to impact their downstream community. That being said, these projects never move fast and we're working extremely hard to prioritize, partner, convene, educate, fundraise, design, permit, and remove dams, and keep the momentum going to improve flood resilience in a changing climate. You can learn more about our dam removal projects and process at FreeVermontRivers.org.

- The Environmental Protection Agency notified the Vermont Agency of Natural Resources in September 2024 that it must develop a plan to control illegal discharges from farms to Vermont waters, in response to a petition we submitted in partnership with the Conservation Law Foundation and the Lake Champlain Committee. We will be working with our partners to ensure that the plan complies with the Clean Water Act and properly addresses farm pollution.
- We intervened in a court case that was seeking to appeal the denial of a permit that would have allowed chemicals to be used in Lake Bomoseen to address invasive species (milfoil). We have been working for the last two years to amend the law that allows the use of chemicals in Vermont waters to address invasive species. We're advocating that chemicals should be used only when there is a significant risk of harm caused by invasive species and there is no safer alternative. As we work to alter the law, we are intervening to ensure that harmful chemicals are not used in Lake Bomoseen so we can protect water quality, the Lake Bomoseen Wetland, and support recreation on the lake.
- We continue to work to better address Combined Sewer Overflows (CSOs) at wastewater treatment facilities. CSOs occur when facilities that process both stormwater and wastewater are overwhelmed by significant rain

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events, which are becoming a regular occurrence due to climate change. Last year, we appealed a discharge permit issued to the City of Rutland, arguing that the permit did not contain conditions sufficient to address CSOs and therefore violated the Clean Water Act (CWA). The Vermont Superior Court Environmental Division ruled that the Rutland facility was not yet required to take specific actions to reduce and ultimately eliminate CSOs (as is required by the CWA, even though the Rutland facility has been addressing CSOs at its facility for decades). We are also analyzing all CSO facilities across Vermont, assessing where they currently stand, and strategizing on how to ensure these facilities are all on a path to eliminate CSOs.

- We intervened in the federal court proceeding on whether ANR waived its authority to regulate water quality and aquatic habitat impacts at the Morrisville Water and Light (MW&L) hydroelectric project on the Lamoille and Green River. We have also intervened in MW&L's appplication with the Federal Energy Regulatory Commission (FERC) to ensure that the hydroelectric facility operates in a manner complementary to water quality protection and fish habitat conservation and that there is a fair opportunity for Vermonters to weigh in on any proposal to alter the Green River Reservoir, a vital recreational resource.

Healthy Forests & Wildlife

This program works to maintain and enhance the ecological and economic vitality of Vermont's forests, including promoting healthy wildlife populations.

- We successfully advocated for the passage of Act 181 – a bill that provides one of the most comprehensive updates to Act 250 since its inception. This bill modernizes statewide policies to promote housing while also strengthening the protection of critical natural resources and the governance structure of Act 250. Act 181 enhances the role of regional planning, and offers the opportunity to map areas for potential growth. Importantly, the bill also identifies areas where Act 250 review should be leveraged to protect critical natural resources. For example, VNRC has been pressing for the past decade for Act 250 to better address impacts to forests. Act 181 finally adds a new policy to address the fragmentation of forest blocks and habitat connectivity areas. In addition, Act 181 includes a new tier for environmental review in critical natural resource areas of statewide importance. As a next step, VNRC will be tracking the numerous implementation steps to make sure Act 181 delivers on the intended results.
- We continue to convene the Forest Roundtable as a lead venue to address forest policy in the state. Recent meetings have covered a broad range of topics ranging from land use and land conservation policy to the future of our forest economy. In particular, the Forest Roundtable has recently focused on the identification of policies and programs to implement Act 59, an ambitious effort to conserve 30% of Vermont's land base by 2030, and 50% by 2050 for community and biodiversity resilience.
- We are overseeing a collaborative outreach project to help new forest landowners maintain and promote healthy forests. We have been busy writing a new guide for landowners to understand the value of Vermont's forests, and the diverse strategies to conserve and steward forests so that they remain intact, healthy, and resilient into the future.
- We partnered with Audubon Vermont and Professor Bill Keeton, an expert on forest carbon and old growth forests, to analyze the Draft Environmental Impact Statement for the Telephone Gap Integrated Resources Project on the Green Mountain National Forest. As part of our analysis, we submitted comments supporting a model approach for protecting and recruiting late-successional and old growth forest conditions in the national forest while addressing other diverse forest management goals. In addition, we submitted comments on the Draft Long Range Management Plan for

the state managed Worcester Range Management Unit with Audubon Vermont and the Vermont Center for Ecostudies. Our comments focused on supporting a new Highly Sensitive Management designation to double the amount of land managed for natural processes, headwater protection, and old forest conditions, while promoting ecologically-based forestry and measures to protect water quality and sustainable recreation.

Sustainable Communities

This program works to promote and protect Vermont's smart growth development pattern of compact settlements – with options for transportation, housing, and employment – surrounded by farms, forests, and natural areas.

- The Sustainable Communities Program participated as an advisory member of the Department of Housing and Community Development's "Designation 2050" process to update the state's designation program, which identifies areas like downtowns, village centers, and growth centers. They released their final report in December, which helped inform Act 181, a landmark land use bill passed into law earlier this year.
- Act 181, briefly described above, also overhauls Vermont's planning framework for coordinating state, regional, and municipal land use. It modernizes how Vermont maps and directs public investments to designated centers, and also initiates Act 250's transition to location-based jurisdiction (rather than the current jurisdiction based on size). This will improve Act 250's ability to promote housing in well-planned smart growth areas, while reducing development pressures in areas less appropriate for growth.
- VNRC's Small Grants for Smart Growth collaborated with Preservation Trust of Vermont to fund a special competitive round of small grants to support flood-impacted communities seeking to build back smarter. The Town of Waitsfield was awarded a $5,000 grant to conduct educational outreach and engagement for the Waitsfield Community Wastewater Project.
- Through our coordination of the Transportation for Vermonters (T4VT) coalition and beyond, we advocated for safer streets, new funding mechanisms, and strengthened incentive programs for sustainable transportation options. Successes include: funding for innovative grant and incentive programs, the requirement of a long-term transportation funding study, and greater protections for vulnerable road users. We also participated as a Technical Advisory Committee member for VTrans' Smart Growth Research Project, which assessed the impact of smart growth land use on transportation. The recently released report shows that supporting smart growth across the state will reduce our carbon emissions by 13,000 metric tons annually.

Clean Energy & Climate Action

This program works to advance conservation, efficiency, renewable energy, and transportation solutions that reduce fossil fuel use and save Vermonters money.

- We worked closely with coalition partners, policy makers, and local leaders to advance several key climate and energy bills this past legislative session, including a modernized Renewable Energy Standard that requires all utilities to be 100% renewable by 2035. We also successfully helped enact a law to hold fossil fuel corporations accountable for the damages their products have caused – establishing a first-in-the-nation Climate Superfund and obligating Big Oil to help pay for costly climate-intensified disasters.

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News & Notes

Intern Reflections

Mollie Beattie 2024

Nate Launer

Nate Launer joined us as 2024's Mollie Beattie intern.

Hear from Nate: "As a Vermonter who has worked to address environmental issues for many years and is now studying environmental law at Vermont Law and Graduate School, I hoped there was a group of people who were working tirelessly and thinking intentionally and carefully about how to best protect and enhance the natural environment here in Vermont. Having worked with the team here at the VNRC this summer I can assure you that there is. This summer I had the honor of learning from and working with the team at the VNRC to help address the most urgent and complex environmental issues we face here in Vermont. I had the opportunity to help implement policy and legislation that passed during this historic legislative session including Vermont's 30x30 goals and reforms to Act 250. I helped comment on the environmental impact of dam construction and repairs, and researched and discussed renewable energy development, and explored when legal action can be necessary to protect our shared natural environment. I am thankful for the experience and skills I have developed, the lessons learned, and the amazing people I have had the pleasure of working with. And I hope that through my work this summer, I have helped carry forward the legacy of Mollie Beattie. It was an experience that will continue to inform and shape who I become and all of my future work."

Andy Chao

We also had the pleasure of hosting Middlebury College summer intern Andy Chao.

Hear from Andy: "I greatly appreciate the opportunity to help out with researching Vermont's thermal and transportation sector this summer. While tracking the progress on the Clean Heat Standard, I have developed a more nuanced understanding of how environmental policy is integrated with economics, housing, and the energy sector. Within my transportation research, I looked into Vermont's transportation funding structure and the state's various transit programs to better understand how we can connect communities through cleaner modes of transportation. From a T4VT coalition meeting to a veto session, I have gotten so many opportunities to meet and observe the collective power and voices of Vermonters. I am grateful for the experience to learn more about Vermont and its communities. Thanks again to the VNRC for a great summer!"

Thanking Outgoing Staff and Interns

We're grateful for the support and efforts of our wonderful outgoing interns, Americorps Members, and externs. We've bid farewell to Cora Smith, our 2024 Legislative Intern who is now a Staff Assistant at U.S. Senator Peter Welch's office. We've also said goodbye to our legal externs, Craig Howie and Mackenzie Dix.

This year, we've also sent off a handful of staff members to their next adventure. We celebrated our Executive Director Brian Shupe's successful tenure in August 2024. Communications Director Greta Hasler moved on from VNRC to an exciting new role at Vermont State Colleges. Our two fellows, Communications Associate Sarah Plaut and VCV Community Organizer Erika Faulkner, are also branching out into their new adventures at the Boston Mayor's Office and Vermont Law and Graduate School, respectively.

Welcoming Incoming Staff and Interns

Maggie Richardson

In the past year, VNRC hired Maggie Richardson as Communications Associate and Dan Fingas as Climate Action Coordinator. Vermont Conservation Voters also welcomed Climate Action Organizer Evelyn Seidner. We're excited to be growing our team as we head into the 2025 legislative session by welcoming a new Vermont Conservation Voters Executive Director in the fall of 2024. This fall, we're also joined by Vermont Law School legal externs Shelby Anderson and Sarah Christopherson.

Dan Fingas

Evelyn Seidner

Art Gibb Award 2024

We were delighted to present the 2024 Arthur Gibb Award for Sustainable Community Leadership to Jessica Laporte, in recognition of her deep dedication to Vermont's land and people. Jess is a dynamic leader, collaborator and statewide advocate for community resilience and equity. We celebrated Jess at our recent Annual Meeting.

As Co-Director of Community Resilience Organizations, Jess has expanded the organization's capacity, enabling it to support six times more community projects since 2020 and demonstrating how creative fiscal sponsorship can empower communities to respond to their own needs.

Jess was a foundational member with Seeding Power Vermont, a collective of organizers working on systemic changes for BIPOC self-determination and healing relationships with land and between people. Through this work, Jess played a

key role in organizing, writing, and passing legislation that led to the formation of the Land Access and Opportunity Board (LAOB), a state entity tasked with improving access to housing equity and land for Vermonters from historically marginalized or disadvantaged communities.

According to those that nominated her, Jess' leadership is marked by her ability to inspire and mobilize diverse groups, her commitment to radical transparency and equitable practices, and her empathetic approach. She combines technical skills with creativity and humor, making her a powerful force for sustainable community impact. As one nominator described, "Jess fiercely motivates and inspires countless others…She has a unique ability to harness the will and skill of community and turn it toward real action that results in huge shifts in Vermont." These are just a few highlights of Jess' steadfast leadership and dedication to lifting up those around her that made her a standout nominee.

VNRC Executive Director Lauren Hierl gives the Arthur Gibb Award for Sustainable Community Leadership to Jess Laporte.

Every year, in honor of the late Arthur Gibb's legacy of commitment to safeguarding Vermont's environment and communities, VNRC recognizes an individual whose leadership has similarly brought about positive and lasting change by building healthy, equitable, and sustainable communities. Gibb played a major role in passing key environmental and land use legislation that includes banning billboards, enacting Vermont's bottle deposit law, regulating junkyards, and modernizing statutes governing local and regional planning.

Program Updates: Clean Energy & Climate Action

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- We have been closely following and working to shape the process to develop a model rule to establish a thermal performance standard in Vermont. This "clean heat standard" would require importers of fossil fuels into Vermont to help their customers reduce climate pollution by offering them cleaner heat options – not just fossil fuel heating. We remain focused on helping to design a new and needed program to move Vermonters off of price-volatile, imported fossil fuels and, instead, offer more efficient, cost-effective, cleaner heating solutions to all Vermonters.
- We continue to support and collaborate with community energy leaders across Vermont, with a core focus on promoting and helping people access and benefit from cost-saving, pollution-reducing federal incentives via the federal Inflation Reduction Act and beyond.
- VNRC's Climate & Energy Program Director, Johanna Miller, continues to serve on the Vermont Climate Council, helping to lead the work on transportation solutions in particular and

– as an update to the Climate Action Plan ramps up – we have been working with coalition partners and other stakeholders to ensure an updated plan reflects the strategies that will be essential to fostering more resilient, energy-independent and equitable communities.

Annual Meeting 2024

Thanks to everyone who came out to our Annual Meeting at Farmhouse Flowers! We're so grateful to our board, staff, members, and coalition partners for making the work we do here at VNRC successful. We couldn't do it without you and we're thankful to have had a chance to celebrate the past year with you all. We were also honored to present the Arthur Gibb Award for Sustainable Community Leadership to Jess Laporte for her outstanding contributions to our community here in VT. Learn more about her work as Co-Director of Community Resilience Organizations and support their efforts to build climate refuge in Vermont at gocros.org.

VNRC Board Chair Will Lintilhac

VNRC Executive Director Lauren Hierl


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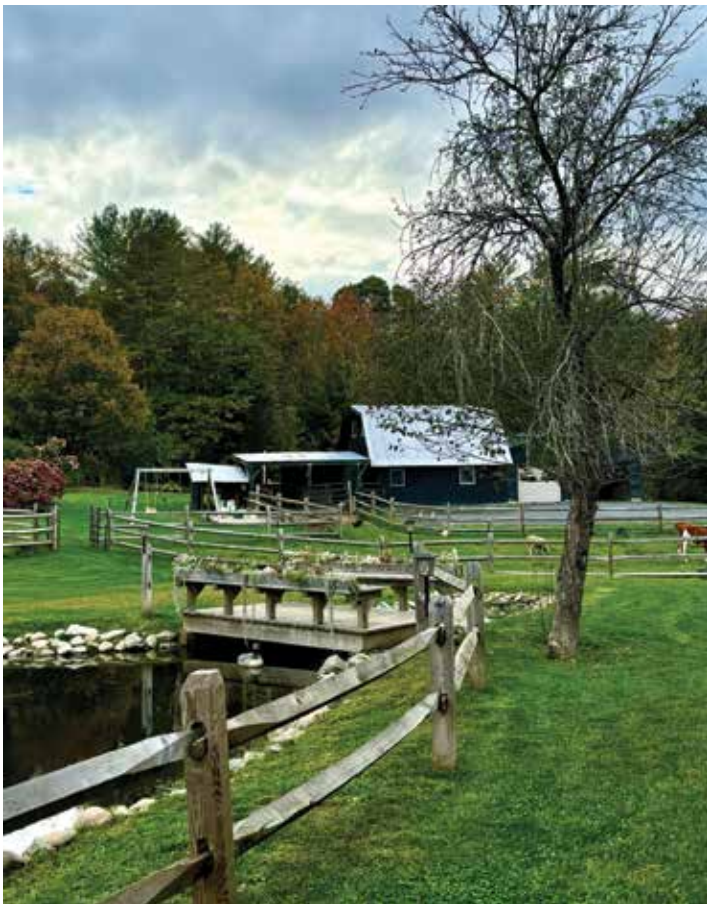

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