



FALL/WINTER 2021-2022

# VERMONT *Nature*

## Combating Climate Change

### VINS Reduces Carbon Emissions

Anyone who visits the VINS Nature Center knows that we have a special place in our hearts for birds of prey. They serve as sentinel species, helping us see the changes occurring in all aspects of the global ecosystem. When the Peregrine Falcon faced extinction just 50 years ago, a concerned nation came together to tackle the issue. In the 1980s, VINS was involved in the falcon's reintroduction program within Vermont, ultimately contributing to the larger effort to save the Peregrine Falcon in one of the greatest conservation success stories the world has seen.

Today, it is clear that climate change is the greatest challenge that humanity has ever faced.

Addressing climate change demands radical action and adaptation on a scale that might at times seem insurmountable. The good news is that none of us has to face this challenge alone. In fact, we can only solve this problem by working collectively.

VINS is excited to stand as a committed partner in Vermont for reducing carbon emissions to combat climate change globally. According to Project Drawdown, the five most important actions needed to reduce greenhouse emissions include steps VINS has already taken. Those five actions are:

#### 1. Replace fossil fuel-based energy generation with wind and solar.

VINS currently has two solar panel arrays on our property, which feed power back into the grid for everyone's use. Green Mountain Power, which supplies the majority of electricity in Vermont, reports that only 5% of its electrical mix comes from fossil fuels, with the remainder coming from other sources including solar, hydroelectric and some nuclear.

#### 2. Reduce electricity usage.

Our buildings at VINS include high-efficiency windows, and lights that employ daylight-harvesting, which means that our lights automatically dim on sunny days. We have also installed motion-sensing lights in our administration building and public restrooms, so that lights don't get accidentally left on.

#### 3. Reduce food and packaging waste.

A lot of food gets consumed at VINS – by our birds! We work with Casella Waste to pick up all of our animals' and humans' food leftovers for composting in order to reduce the amount of waste going to landfills, then repurpose those nutrients. At the Nature Store, we sell products with reduced or non-plastic packaging in order to lower general waste.

#### 4. Restore tropical forests and manage global forests more sustainably.

At VINS, we manage our own forest to be a healthy, wild forest. Though we don't do any harvesting of timber or maple syrup, many organizations throughout Vermont do so in a way that best conserves the area for birds and other wildlife.

#### 5. Educate people!

Education is what we do best! Through our outreach, onsite interpretation, research programs, nature camp, and relationships with local schools, VINS' many facets all come together under the overarching goal of educating people about responsible environmental stewardship. Climate change has become a huge part of our conversations about conservation, and we are excited to grow and explore solutions with our community.

*Hannah Gelroth, Director  
School Programs and Teacher Professional Development*

*Anna Morris, Lead  
Environmental Educator*

*Jim Armbruster  
Field Research Coordinator*



# A Special Message

It has been an exceptional year for all of us, and we cannot thank you enough for your friendship and support.

We work daily to create a better environment for birds and other animals, and our important work is only possible because of all of you.

As we at VINS know, climate change compels us to educate our communities about this shared crisis, regardless of age, location or background. We take this vital responsibility very seriously, and hope that you will join us in our work to help mitigate this crisis through local action.

As we continue to move forward in these unprecedented times, our research staff and volunteers out in the field are gathering information on many important and vulnerable species, while our education and program staff innovate new ways to disseminate our learnings to the community. These combined efforts help all of us to better understand, and more effectively care for, the natural world.

We were excited to expand our trail system at the VINS Nature Center earlier this year with a new loop, traversing a lightly traveled portion of our forest, extending from the existing Laughlin Trail. We thank the Intraub Family for their support of this new project.

As many of you have experienced firsthand, our Forest Canopy Walk continues to be one of the most exciting features to date!

We want to thank all of the new members who have joined us in 2021, and to extend our appreciation to all of our long-term members who have continued to support us this year. We are sincerely grateful to have all of you in the VINS family. This year, our visitor-ship and membership programs surpassed all expectations.

In 2021, even as we welcomed many new members, we said goodbye to several friends of VINS, and to one individual in particular who helped develop our endowment program for the long-term health of our organization: Lorna Chang Post. Mrs. Chang Post was a tireless advocate for environmental education, and her work in support of VINS will have a lasting impact on our organization and the communities we serve.

**We appreciate your continued support and wish you all a very healthy holiday season.**

*Charles F. Rattigan*  
Executive Director

*Mary Davidson Graham*  
Assistant Executive Director



## Shop For Gifts NATURE STORE

Visit our online store for t-shirts, hats, books, bird guides, and more!

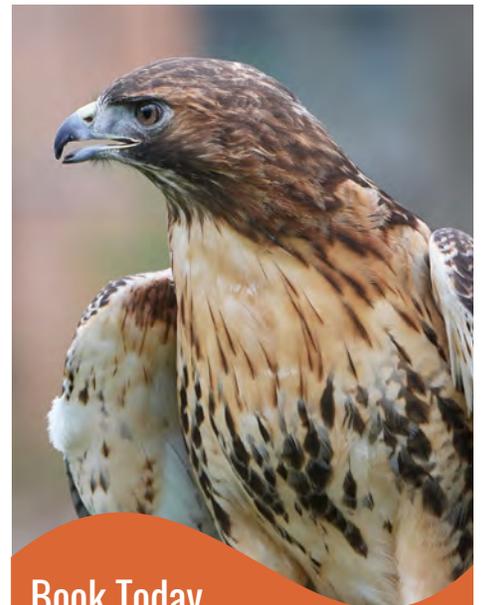
[store.vinsweb.org](http://store.vinsweb.org)



## Explore FIELD TRIPS

Every visit is a valuable experience for your students. Scholarships are available!

[vinsweb.org/field-trips](http://vinsweb.org/field-trips)



## Book Today PRIVATE EXPERIENCE

Take a private tour of the Forest Canopy Walk and enjoy an Animal Encounter.

[vinsweb.org/experience](http://vinsweb.org/experience)

# How Climate Change is Affecting a Common Owl

Human-related causes are a major reason wild birds end up at rehabilitation centers.

Cat bites, window strikes, vehicle collisions and climate change all contribute to injury and illness in wild birds. Climate change, as a larger-scale phenomenon, is harder to correlate directly with rehabilitation, yet has many effects that lead to more birds needing aid. Things such as altered weather patterns and extreme weather events can lead to surges in intakes. And alterations in the geographical ranges of disease-carrying organisms can cause novel illnesses, such as avian malaria in Common Loons.

A look at historical data from VINS Center for Wild Bird Rehabilitation (CWBR) has revealed a more subtle climate-related effect. We have noticed anecdotally that certain winters have led to “big years” for Barred Owl intakes, with significantly increased numbers of owls arriving for care, many of them starving and emaciated. After looking at these years, as well as weather data from the Killington weather station, we found that warmer and wetter winters were correlated with these “big years” for intakes. The driving factor behind the higher number of intakes seems to be the ice layers that form over the snow after wet winter weather, preventing Barred Owls from punching through this hard, crusted-over surface to hunt for rodents in the subnivean (under-snow) layer.



When they are unable to hunt in their normal habitat, owls are pushed closer to humans, hunting near roads and around bird feeders.

This in turn puts them at higher risk for human-related dangers, such as vehicle collisions and increased exposure to diseases such as trichomoniasis and salmonellosis at feeders.

The effects of climate change on wildlife are vast and varied, with new information being continually learned. Research in this realm often focuses on free-ranging wildlife, so our own observations are an interesting example of how a measurable increase in rehabilitation admissions has been connected to our changing climate.

*Bren Lundborg, Lead  
Wildlife Keeper*



## A New Trail at VINS

We are excited to announce the opening of a new trail at the VINS Nature Center.

The trail, named the Farrar Trail in honor of one of our founding members Rick Farrar, links to the existing Laughlin Trail and loops for approximately 3/10 of a mile through a unique section of the campus offering views of the Ottauquechee River. This simple path winds through a lightly traveled portion of our forest, follows the topography of the landscape around the Nature Center and consists of a series of terraces that

gradually slope downward toward the river, ending in a floodplain forest at the furthest northwest corner of the property. The new trail enters this floodplain, circles around its edges, and provides opportunities to view the unique species that inhabit the area. In the summer, Ostrich Ferns take over the majority of the forest and often grow to about five feet tall or more, earning the area’s staff nickname of Jurassic Park.

This section of campus has also proven to be the most diverse in terms of bird species. For the last two breeding bird surveys, the research plot at the edge of the floodplain has had the most species of birds recorded. Mammals like deer, fisher, gray and red fox, coyote, ermine and bear are routinely recorded on game cameras stationed throughout the floodplain and can be observed in person if your timing is just right. The natural community and secluded nature of this section of our campus offer the passerby a unique glimpse into the habitat for the species that call VINS home.

*Jim Armbruster  
Field Research Coordinator*

# VINS Research

## A Productive Year

The past year has been packed full of field work for the staff and volunteers in the Research Department. Projects were conducted across the state, focusing on several species of Vermont wildlife.

The winter marked the first year working with raptors in Addison County as part of our Winter Raptor Ecology Project. Staff, volunteers, and researchers spent several cold days driving the backroads searching for Red-tailed Hawks as our primary research species. Two birds were successfully outfitted with GPS units, allowing us to follow their movements throughout the year.

While Red-tailed Hawks are common and not considered threatened, there is still much to be learned about their movements and behavior in our area. By focusing on such a well-known, easy-to-spot and highly identifiable raptor, we can inspire people to work toward protecting or creating habitat for this species, which in turn will benefit other species that inhabit the same area. Our two birds have shown us different ways in which red-tails utilize this area of Vermont in winter. One bird, Goodrich, is a year-round resident breeding bird with a confirmed nest. His territory was most likely established the previous summer and kept throughout the winter into the next spring. Our second bird, Middlebury, was a migrant bird. He spent a good deal of time in Addison County, but also spent a fair amount of time across Lake Champlain in New York. He did not settle in one area this winter and went offline on his return trip to Canada. We presume that he will find a territory there, and will return to Addison County this winter. When he does, we will have data to potentially identify exactly where he breeds.

Addison County was always known to be a vital habitat for wintering raptor species, but their movements into and out of the area were less well known. By tracking birds in several different years, we will be better able to identify crucial habitat for them. We can also better understand the migratory behavior of these birds. Some, like Goodrich, may stay in Addison County, or travel around Vermont and New York like Middlebury. Others may continue even farther south and return in future winters.

Spring brought a group of volunteers that braved the cold rain to help move amphibians across a road to their breeding grounds near the VINS Nature Center. Getting amphibians out of harm's way, collecting data to identify their crossing locations, and recording the numbers of each species, are all important means of learning about and protecting these vulnerable animals.



Field Research Coordinator Jim Armbruster with Red-tailed Hawk Goodrich

The next spring project was monitoring birds as they arrived back in Vermont. Specially designed microphones were used to record calls of passing migrants and songs of birds at both the Nature Center and Old Pepper Place. A breeding bird survey was also conducted at both locations. Fifty-seven species were identified at Old Pepper Place during the first year of surveying.

In another spring research pursuit, VINS staff and volunteers began monitoring a network of kestrel boxes throughout the Upper Valley. Formerly one of our most plentiful birds of prey, the kestrel is declining across portions of its range in New England.

Summer fieldwork involved trapping small mammals on the VINS campus and in Hanover, New Hampshire as part of a larger project looking at the relationships among predators and tick populations. We recorded several species of mammals through trapping and game camera surveys, and collected tick samples to be analyzed and identified over the winter.

With fall's arrival begins another round of migration to monitor. Once again we count hawks as they pass by Mount Ascutney in Windsor, Vermont. The microphone will be redeployed to monitor the southward migration of songbirds, and Monarch butterflies will be caught and tagged as they stop at the Nature Center on their journey south.

Winter will bring more trapping of raptors in Addison County, Vermont, and we are excited to have funding for more GPS units. New this year, we will be targeting Rough-legged Hawks in collaboration with researchers on the Rough-legged Hawk Project.

Be sure to follow along as we send updates from the field! We will post our latest news on our Nature Blog at [blog.vinsweb.org](http://blog.vinsweb.org).

Jim Armbruster  
Field Research Coordinator

# Educating Environmental Stewards Means Educating About Climate Change



On a summer morning, VINS campers eagerly explore the meadow with sweep nets and bug viewers, learning about the importance of protecting native pollinators and the threats posed to their habitat by a changing climate.

Visitors attending a raptor program at the Nature Center learn simple actions we can all take to protect wildlife around us and ensure that our activities do not add to the long list of challenges wildlife faces as they navigate shifting weather patterns and food sources.

In schools, students participating in our Science Symposium program engage with environmental problems confronting their own communities, such as flooding risks due to increasing storm intensity, and then design solutions that address these global issues at a local level.

These are just some of the many ways that VINS programs educate our community about climate change. Now is a crucial moment to share the science of climate change, and teach about the impacts that we are currently experiencing and the environmental changes we will likely observe over the coming decades. As a trusted source of scientific information and facts about the natural world around us, educators at VINS have a unique role to play in this important dialogue.

*Hannah Gelroth, Director  
School Programs and Teacher Professional Development*

*Chris Collier, Director  
Onsite Programs and Exhibits*

*Sarah Strew, Lead  
Nature Camp and Adult Programs*

## Farewell to a Friend of VINS

This is a message to express the immense gratitude I have, not only for Mrs. Chang Post's generosity in support of VINS for so many years, but also for her friendship.

How fortunate was I to be able to pick up the phone and discuss with Mrs. Chang Post anything that came to mind on a given day? I will miss our monthly chats, our laughter, and most of all, sharing with her the value we both placed on caring for the environment and making sure children are learning from what we do best at VINS: environmental education.

In 2002, the David P.C. Chang Memorial Fund was developed by Lorna and her family as an endowed memorial for VINS. The purpose of the fund is to educate future generations to preserve and protect the health of river ecosystems, and to appreciate the fine art of fly fishing. VINS was instrumental in cleaning up raw sewage from the Ottawaquechee River in the 1970's, and in creating the natural river pools that enhance opportunities for trout fishing in our region. It is therefore fitting to hold an annual event that honors and supports the importance of clean riverine ecosystems.

This September, we hosted the 19<sup>th</sup> Fly Fishing event with Trout Unlimited. We had the pleasure of 25 family members in attendance on a perfect fall day as we said farewell to Mrs. Chang Post and honored Mr. Chang's memory and vision.



**Lorna Mickle Chang Post \* 1930-2021**

The financial security and future of VINS would not have been possible without the support and affection that our friend has given us throughout the many years. With immense appreciation, we are proud to carry on Mrs. Chang Post's belief in the importance of environmental education for all.

*Mary Davidson Graham  
Assistant Executive Director*



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## Upcoming Events at the VINS Nature Center

### DECEMBER 15

Registration Opens  
VINS Nature Camp 2022

### DECEMBER 18

VINS After Dark Event  
*Pre-registration is required*

### DECEMBER 28-30

VINS Nature Holiday Camp  
*Registration Opens Dec 1*

### TUESDAYS STARTING JANUARY 11

VINS Winter Homeschool Series  
Jan 11, 18, & 25 / Feb 1  
*Pre-registration is required*

### FEBRUARY 8

VINS Winter Homeschool Day  
*Pre-registration is required*

### FEBRUARY 12

Great Backyard Bird Count  
*Open to the public*

### FEBRUARY 14-18

VINS Nature February Camp  
*Registration Opens Dec 15*

**View our full  
event schedule at:  
[vinsweb.org/events](https://vinsweb.org/events)**

