HAWTHORNE VALLEY
farmscape ecology program

2025 Year in Review

The external context for our work shifted dramatically in 2025–a situation that is still playing out, and will likely have repercussions long into the future as funding cuts and shifts alter the trajectory of both research institutions and non-for-profit organizations.

Thanks to our amazing community of supporters, we were able to hire and house an additional summer intern as many summer ecological research positions disappeared and the upcoming generation of field scientists was left with fewer opportunities for training and experience.

We were able to stay mission-driven and to pursue a variety of meaningful research and outreach opportunities with our strong team of seven year-round staff and four interns. Amidst the continuing and deepening of ongoing projects, we are especially excited to highlight two milestones reached in 2025: the launch of the The Insect Conservation Center at the Farmscape Ecology Program and the opening of the Biodiversity Trail at Hawthorne Valley.

Top row: Laura, Kenny, Kyle, Anna, Claudia, Josie, Willow (intern)
Bottom row: Bethany (intern), Rebecca (intern), Delia (dog), Conrad, Sidney (intern).

The Insect Conservation Center

Baltimore Checkerspot Butterflies

Over the past 20 years, concern has emerged around the health of the world's insect populations. Dramatic declines in insect abundance have been documented across the globe, and even lay people have remarked on the "windshield phenomenon," observing that the once-routine activity of cleaning insect splatter off one's car now rarely (if ever) needs to be done. The causes of these declines remain unclear and may be multifaceted, with changes in the climate, land use, and insecticide use as likely culprits. Regardless of what factors drive them, however, insect declines are a cause for alarm because insects play key roles in food webs and provide countless ecosystem services such as pollination, pest control, and nutrient cycling. For these reasons it is vital that insect declines be understood and reversed.

A wasp in the family Braconidae found at Overmountain Conservation Area.

Recognizing this urgency, we have launched a new initiative: The Insect Conservation Center at the Farmscape Ecology Program. The Center aims to understand the status of insect populations in the Hudson Valley, to inspire appreciation for insects among the public, and to advocate for insect conservation in our region. Insects have always been a priority of our work, and we have developed a unique familiarity with those in our region and serve as a go-to resource for information on insects such as butterflies, dragonflies, and ants. FEP staff have also gained expertise in "dark taxa": insect groups that are abundant and hyperdiverse, yet historically have been largely been overlooked by researchers in the past, and which have recently emerged as priorities for research and conservation.

As detailed more below, our recent insect work has included a continuation of our long-term insect monitoring at the Hudson Valley Farm Hub and a second year of our collaboration with the Farmer-Ecologist Research Circle. Our regionally unique expertise in identifying ants and wasps led to a third year of collaboration with the New York Natural Heritage Program to help identify by-catch from their pollinator survey efforts. Kyle appeared as a guest on Episode 187 of the podcast *Nature Calls* by Tim Kennelty and Jean Thomas to talk about ants for. And as part of the Ancient Forest Project (detailed below), we are digging into the potential effects of forest land use history on soil invertebrates and ants.

The Center's first new project, an investigation into the effect of leaf litter on insects overwintering in lawns, is now underway thanks to the support of several generous donors and more than 20 community members who stepped forward to help make the study a reality. A grant from the Ackerman Foundation also allowed the insect team to host an inaugural insect-focused nature walk, which our community received with great enthusiasm. FEP is excited to be in a unique position to contribute to understanding and preserving our imperiled insect populations and looks forward to continuing to share its findings and knowledge with our community in the new year.

Kyle sharing an ant with participants on an insect-focused ecology walk at the KEEP Preserve in Germantown.

Finally, this year, we also spotted a couple of 'new-to-us' butterfly species here in Columbia County: the Silver-bordered Fritillary and the Pipevine Swallowtail. They bring the total number of butterfly species we have personally documented in Columbia County to 88, with historical work and recent sightings by others bringing our total documented butterfly fauna in the County to just shy of 100.

Biodiversity Trail and other projects at Hawthorne Valley Farm

Biodiversity Trail & Greenagers Collaboration

Scenic viewpoint on the Biodiversity Trail at Hawthorne Valley Farm.

The vision of a trail through Hawthorne Valley's actively managed farmland that might also highlight places where wild native plants and animals find habitat on farms, and the research efforts and management choices that facilitate those synergies, has been years in the making. After much coordination and many preparations, the Biodiversity Trail at Hawthorne Valley was officially opened to the public this fall. Launching the trail was truly a collaborative effort, involving many different departments at Hawthorne Valley, a partnership with Greenagers, a local youth empowerment not-for-profit that worked with Hawthorne Valley students to build the trail, and funding received from the Joyce and Irving Goldman Family Foundation, Fields Pond Foundation,

the Volgenau Foundation, the Bank of Greene County Charitable Foundation, and the Partners for Climate Action Hudson Valley.

The trail begins in the heart of Hawthorne Valley (self-guided tour brochures are available at the Farm Store) and follows old cow lanes and hedgerows as it leads walkers across Harlemville Road and into the north pasture where a riparian corridor, ponds, wet meadows, and an oak-hickory forest are some of the habitats highlighted through interpretive signs. FEP worked with Hawthorne Valley Waldorf School's 9th-grade class to introduce them to the biodiversity surveys we completed at Hawthorne Valley in 2021, which became the basis for the hand-painted interpretive signs the students created. However, one sign–explaining the Farmscape Ecology Program–was hand-painted by our very own biologist Laura Stark (below). The trail also includes poetry-inscribed benches and an art installation on Milkweed phenology.

Cows graze next to an interpretive sign on the Biodiversity Trail featuring the Farmscape Ecology Program; the Creekhouse is visible in the distance.

While the main 1.3 mile loop of the Biodiversity Trail is complete, the next phase of the project will include the "Creekhouse Loop" extension that will bring walkers on a loop through the Creekhouse native plant garden, and include highlights from our phenology trail. We are also excited to be collaborating with a local artist who is planning to create an art installation on the trail sometime next year that reflects the trail's themes of biodiversity and agriculture.

Hemlock Monitoring

At Hawthorne Valley behind the Waldorf School, there is a stand of ancient forest primarily composed of Eastern Hemlock Unfortunately, Hemlocks across the East Coast are suffering from an invasive insect called Hemlock Woolly Adelgid. This year, in collaboration with the New York State Hemlock Initiative, we established a Hemlock Health Monitoring Plot to identify individuals with potential genetic resistance. This research is part of the Lingering Hemlock Project, which aims to support

Laura measuring the diameter of a hemlock.

resistance breeding in Hemlock trees, and a Nature Conservancy initiative called Tree Species in Peril.

Leatherwood Deer Exclosure

Leatherwood flowering in early spring.

Thanks to an ecological restoration grant from Partners for Climate Action and the help of Annabel Roberts-McMichael, we successfully assembled a deer exclosure around a rare grove of Leatherwood (*Dirca palustris*) shrubs and spring wildflowers on Phudd Hill. Throughout the spring we led a variety of different groups, ranging from students to Hawthorne Valley staff, to visitors, on guided walks to the Leatherwood exclosure to introduce people to this locally rare population and our plans for monitoring and protecting it.

Spotted Turtle Research

One of the Spotted Turtles being tracked at Hawthorne Valley Farm.

Spotted Turtles are cute little turtles of marshes. They are relatively rare and, in New York State, are considered a Species of Special Concern. At Hawthorne Valley Farm, we are fortunate to have a small population, first thoroughly documented by our late intern Ben Derr in 2012. This year, with funding from The Wetland Trust, we have been radio-tracking several of these turtles as they try to weave their lives around farm activities. We're hoping this information lets us better pinpoint when and where these turtles might be most at risk because of farm work. While farm work can pose a risk, it is grazing animals who have kept the Turtle's prime habitat open and suitable for so long. Hence, as with many of the other organisms we study, finding the right balance between farm activity and attention to conservation is key.

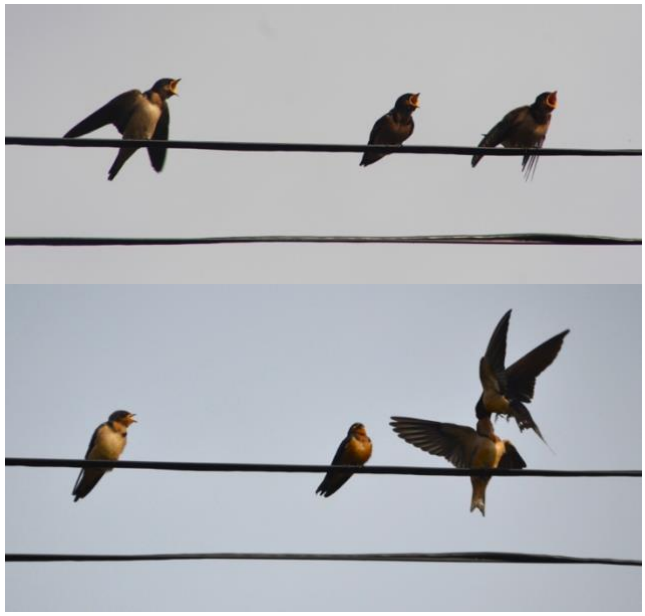
On-farm Habitats

With the help of our wonderful group of volunteers, the Soil Sisters, we continued to manage several on-farm habitats, such as perennial wildflower plantings and hedgerows, with the goal of

supporting wild biodiversity at Hawthorne Valley Farm. We are also in the midst of planning the establishment, with the support of the Wild Farm Alliance, of a bird-friendly planting along a recently constructed cow lane in the spring of 2026.

Breeding Bird Surveys

In June we conducted breeding bird surveys throughout the hay fields, pastures, and shrublands of Hawthorne Valley. With declines in the prairie habitats of the Midwest and increased reforestation in the Northeast, ground-nesting grassland birds have become dependent on open farm habitats like hay fields. Shrublands, which historically formed by disturbances like fire and beaver activity, have also become increasingly uncommon in our region as they revert to forests. Hawthorne Valley Farm consciously manages some pastures and hayfields to support grassland and shrubland birds of conservation concern. This year, we documented grassland species including Bobolinks, Eastern Meadowlarks, Savannah Sparrows, and for the first time, a Grasshopper Sparrow. Shrubland species such as Blue-winged Warblers, Prairie Warblers, and Brown Thrashers were observed as well.



While surveying birds on the farm in June, Laura captured these Barn Swallow babies begging for food on a powerline.

Ancient Forest Project

The forests of Columbia County are not necessarily created equally. Most of the forest in our landscape is secondary, post-agricultural forest that has grown up on the agricultural fields of times past when most of the land was cleared for agricultural production. Following a period of abandonment as farming moved to the west, the land has bounced back and our county is now mostly forested. Within this sea of secondary forest lie pockets and swathes of forest that were never fully logged or plowed, and remained

Laura, Rebecca, and Bethany conducting tree surveys in one of our ancient forest study sites.

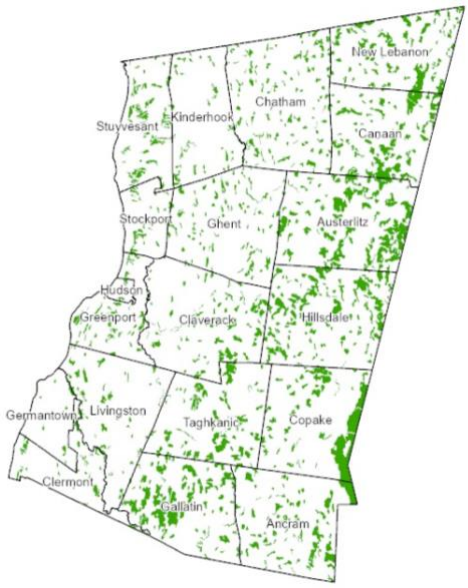
continuously forested. Through FEP's past research and the work of others in the Northeast United States and in Europe, there are reasons to believe that unique ecological communities and biodiversity have found refuge in these places.

As a continuation of the work underpinning our field guide, *From the Hudson to the Taconics: An Ecological and Cultural Field Guide to the Habitats of Columbia County, New York* (2024), FEP launched a study of ancient forests (for a definition, see here) in 2024 to dig in deeper and try to learn more about what makes these forests unique. After the project's first round of field study last year in Northern Hardwood forests, looking at plants, fungi, ants, and other soil invertebrates, in 2025 FEP researchers surveyed additional ancient and post-agricultural forest sites in southern Columbia County. With two years of data under their belts, as well as findings from some earlier studies, this place-based research documents why these forests should be acknowledged and protected.

With the help of generous private donors, we created and launched a map of "Potential Ancient Forest Remnants in Columbia County" that is now publicly available to residents, towns, and conservation organizations.

The Ancient Forest Project also includes an expansive outreach effort to bring more attention to forest land use history and its connection to forest health today. The Ancient Forest Map was featured in an article in the Columbia Paper, written by Deborah Lans, and presented at a public talk in the series "The Forest in Your Backyard." FEP staff participated in a podcast called "Who's that Expert?" where they discussed the project as a whole. Laura, Kyle, and Josie gave a presentation on the initial findings from the 2024 field

*Red Brittlegills (*Russula *sp.) found in an ancient forest study site at Lake Taghkanic State Park.*



Map of "Potential Ancient Forest Remnants in Columbia County."

*Pandorus Sphinx Moth (*Eumorpha pandorus*) caterpillar found in an ancient forest study site at Wally Farms.*

study in March, which is available on our website here. Throughout the year, FEP staff led four free ecology walks centered around reading a forested landscape for members of the community. These walks facilitated deep discussions of native plant diversity in our forests, how evidence of historical land use remains today, the impact of deer on forest regeneration, and what threats ancient forests face. We hope the knowledge gained and shared through the Ancient Forest Project will help people recognize, value, and conserve these special forests.

More information about this work can be found at hvfarmscape.org/ancientforest.

Long-term Agroecology Research at the Hudson Valley Farm Hub

Our long-term insect work at the Farm Hub continues. We have three interlinked central questions: How does certain on-farm management (i.e., the establishment of wild flowers patches) affect the populations of beneficial and pest insects? Regardless of management, how are insect populations changing over time? And how do insect communities change as one goes farther into a field from a forested edge? Although we only have a limited number of sites on a single farm, the length of our data collection (entering its 11th year for some aspects) and the parallel monitoring of the plant communities and flower resources, makes for an important, if localized, data set, and it has revealed certain surprises. Our plan is to do one more year of standardized data collection, and then summarize our data and consider our next steps.

One of the Native Meadow Trials with an insect trap in the background.

In early April, researchers involved in the Applied Farmscape Ecology Research Collaborative (AFERC) at the Hudson Valley Farm Hub, which FEP participates in and helps facilitate, presented a day-long session at the Northeast Natural History Conference in Springfield, MA. The title of this session was "The Habitat Ecology of a Farm: Learning from a Multiorganismal View of the Ecology of a Single Hudson Valley Farm" and our presentations are available to watch online here. In mid summer, the researchers showcased their project to the public during an Applied Farmscape Ecology Field Day at the Farm Hub.

As a guest writer for the Hudson Valley Farm Hub blog, Conrad offered a glimpse of the on-farm ecology research at the Farm Hub that we conduct and help facilitate. This piece introduced the research collaborative, described the aims and scope of its work, and illustrated brief results and findings from all of the collaborators. Click here to read it!

Farmer-Ecologist Research Circle

During the summer, as part of the Farmer-Ecologist Research Circle funded by the Hudson Valley Farm Hub, we explored flower offerings and bee visitation at nine different Mid-Hudson Valley farms. Our central question was: as compared to intentionally planted flowers elsewhere on the farm, what role do wild-growing flowers, such as the 'weeds' found along field edges, play in supporting on-farm bees? We are still analyzing our data, but so far we've gained some intriguing insights into regional farm bees, including the detection of some rare species. In our upcoming analyses, we hope to pair floral abundance maps on nine different farms with simultaneous descriptions of bee activity on specific flowers.

A native, parasitic bee in the genus Triepeolus *on a sunflower at Little Seed Gardens.*

The Research Circle also spent an amazing week in the winter with two visitors from England, farmer Richard Evans and ornithologist Chris Sharpe. Together, we toured 14 farms in the Hudson Valley and beyond, to learn about different approaches to farming and the interaction between farming and nature. The culmination of the visit was a public presentation by Richard Evans and Chris Sharpe on "Farming, Ecology and Landscape Recovery in the Brecklands of Eastern England" hosted by the Bard College Center for Environmental Policy on March 1st, which was recorded and can be viewed here.

Historical Weather Project

Conrad and Anna presented in a Morning Coffee Webinar hosted by Partners for Climate Action where they discussed a groundbreaking historical meteorological and phenological citizen science network throughout NY state from the 1800s. Other presenters included Kerissa Fuccillo Battle, the Founding Director of Community Greenways Collaborative, Jeff Freedman from the Atmospheric Sciences Research Center at the University at Albany (SUNY), and Anton Seimon from Bard College (watch the talk here).

Anna at the Historical Weather Day at the Martin Van Buren National Historic Site.

A similar constellation of presenters came together to share more about this work at the West Ghent Climate Day, and we had an

opportunity to talk about historical meteorology and showcase some of the historical meteorological equipment that Conrad has collected at a Historical Weather Day at the Martin Van Buren National Historic Site.

We are also very excited to have a group of volunteers who have been steadily helping to transcribe the handwritten (and at times poorly legible) meteorological datasheets from 19th-century observers throughout New York State. Digitizing these records is an important step to being able to analyze this data and learn what it might reveal about the patterns and dimensions of climate change in New York over the past three centuries.

Long-term ecological monitoring and outreach collaborations

Martin Van Buren Historic Site

We continued to monitor insects, amphibians, birds and bats at Martin Van Buren National Historic Site. One highlight was that our dragonfly surveys found the rare Arrow Clubtail, which is listed in New York as "Vulnerable." This species depends on sandy and silty rivers and was detected within the historical boundary near the Kinderhook Creek. We were also involved in the installation and management of pollinator habitats in the newly-restored orchard, and guided several public walks to allow people to experience the pollinator plantings.

Arrow Clubtail Dragonfly

Overmountain Conservation Area (Columbia Land Conservancy)

Since co-facilitating its seeding in late 2019, FEP has been monitoring the vegetation development of the pollinator meadow at Overmountain and helping to advise on its management. Last year, we also began to monitor the insects in this meadow and adjacent hayfields. The insect monitoring in 2025 continued to provide evidence for the potential positive impacts of pollinator plantings for uncommon species: the globally vulnerable Yellow-banded Bumble Bee was seen in the pollinator meadow for the first time this year. As in past years, we led a public walk to the pollinator meadow in mid-summer, which allowed participants to experience its vegetation in full bloom, to meet some of the pollinators "in person," and to discuss meadow establishment and management in some detail.

Yellow-banded Bumble Bee

Forge Project

Josie and Claudia continued to facilitate volunteer work days at the Forge Project in Ancram, working on removing a variety of invasive plants and teaching about the native plants present on the land. This year, we also began to monitor the vegetation composition, flower abundance, and insect life in six very different meadows present on the land, with the goal of documenting the impact of different meadow management strategies on insect populations.

Seeded meadow at the Forge project with an annual cover crop mix showing lots of color this year.

Other Activities

Field Guide

The Field Guide is out in the world, and books can be found in most of our local book stores. Earlier this year, all four authors spoke with Tim Kennelty and Jean Thomas on the podcast "Nature Calls: Conversations from the Hudson Valley," which is published by Cornell Cooperative Extension. Listen in on their conversation about the creation and content of the Field Guide in Episode 198 (Part 1) and Episode 199 (Part 2). David Foster, the Director Emeritus of the Harvard Forest, wrote a thoughtful book review in the online publication, From the Ground Up.

Halloween Bug House

On the day after Halloween, we hosted a Halloween Bug House at the creekhouse that was curated towards families with children. In the yard, we had ladybug and aphid themed "Bug Bowling" and two bog-themed games, including "Pitcher Plant Cornhole" and "Feed the Sundew Sticky Toss." Inside, there were a variety of displays and activities. Laura (while dressed as a firefly larva) helped attendees make their own bugs using egg cartons and wooden spoons. Conrad created a "Table of Dismay" where participants chose a "beast" or "track" to match with one of the many animal skulls on display. Josie put on display images of some of the "Freaky Fungi" we have found in Columbia County, including the Beefsteak Fungus, the Zombie-ant Fungus, and the

Dead Man's Fingers. Bethany, one of the insect interns, dressed up as a Bald-faced Hornet and shared her enthusiasm for wasps through a creative game that took children through the lifecycle of Yellow Jackets. Upstairs, Kenny was set up with a microscope and monitor for viewing insect specimens close-up. Kyle created an engaging matching game with insects that have evolved to mimic one another. Lastly, Laura's office, where Walter the window-roosting bat hangs out, was transformed into a bat cave. Inside, a slideshow featured pictures and videos of Walter.

Laura (Firefly larva), Kyle (Ant), Bethany (Bald-faced Hornet), Claudia (Spider Witch), Rebecca (Sphagnum moss), Josie (Webcap Mushroom), Kenny (Bug Wizard), Conrad (Forest Spirit).

The bat cave during the Bug House event.

A few days later, Walter came back for a single day. We think he admired our decorations…

Sugar cookies decorated by Bethany.

Additional Ecology Walks and Talks

In addition to above mentioned ecology walks, FEP staff helped facilitate a series of walks with town libraries centered around Braiding Sweetgrass, the Columbia County Library Association's 2025 Community Read. Participants learned about the spring flora at local public areas while connecting passages from the book to the landscape around them. In the fall, Josie led a mushroom walk at Beebe Hill State Forest, and Claudia facilitated an aster identification workshop in the Native Plant Garden at the Creekhouse. Claudia was also part of a panel at Arthur's Point Farm during their final Open Nursery Weekend. She discussed the ecological role of native plants in gardens, including how diversity of flowering times, flower morphology, and

genetics can support pollinators and other insects, and broader landscape health. The talk was livestreamed and recorded on Instagram and can be viewed here.

Hosting Public Talks

Looking at mosses with Jerry at an ancient forest study site.

We had the pleasure of offering two talks at the Creekhouse this year with two very special guests. In July, Carla Rhodes gave a presentation on her shift from a career in comedy to wildlife photography and conservation. After an insightful and entertaining talk, folks stuck around and shared their love of wildlife and insects with Carla, and even spent some time looking at moths once the sun went down. In November, we hosted ecologist and botanist Jerry Jenkins for a talk about his newly released Field Guide to Woody Plants of the Northern Forest. He described the state of field guides in the past and today, while working up to how and why he designed the book the way he did. Jerry and the Northern Forest Atlas's resources are some of our beloved reference materials, and we are so grateful to have spent time with Jerry in the field and to host him for this event.

Blog Posts

A wealth of Farmscape's knowledge is shared (and archived!) in our weekly blog called Progress of the Seasons. Each week, a staff member or intern goes out on a "Wonder Wander" and captures something happening at that time of the season. This year, some of the highlights included Anna's encounter of a Garter Snake versus a toad, Bethany's discovery of a Zombie-Ant Fungus, Rebecca's account of our visit to a rare peatland habitat, Laura's diary of Walter the window-roosting bat, and Conrad's sighting of the rare Pipevine Swallowtail butterfly.

Customized Programming

This year, we also provided customized programming exploring the interactions between farming and wild nature here at Hawthorne Valley Farm for two sessions of the Climate Farm School, two groups of students from an Applied Ecology class at SUNY-Albany, and Cornell University's Master Naturalists. We also hosted a group from the Wild Ones who came to visit the FEP native plant garden and beneficial habitats at the farm.

Learners/Interns and Volunteers

FEP was fortunate to have such a wonderful group of interns this year. We would not be able to do what we do without their hard work and enthusiasm for ecology. A huge thank you goes to our three entomology interns Bethany Holland, Sidney Turczyk, and Willow Humphrey and our botany/mushroom intern Rebecca Wessel. We are very grateful for individual donors in our community who, in response to the cancellation of temporary environmental positions across the country, allowed us to hire and house a fourth intern for the year.




We had another productive and fun season hosting the "Soil Sisters," a dedicated group of volunteers who help us take care of our native plant garden and maintain on-farm habitats weekly at Hawthorne Valley. Thank you so much Anne Codey, Joanne Klein, Eve Kaplan, Tracy Pennea, and Deborah Thomas.

Financial, Institutional, Landowner, and Farmer Support

Our work this year was made possible by the generous support (some of it financial, some in-kind, institutional, and/or collegial) of the Ackerman Foundation, Arthur & Eileen Newman Family Foundation, Bank of Greene County Charitable Foundation, Cary Institute, Columbia Land Conservancy, Community Greenways Collaborative, Fields Pond Foundation, Forge Project,

Fidelity Charitable Gift Fund, Forge Project, Gerda and Ole Skaarup Fund, Greenagers, Hudson Valley Farm Hub, Hudsonia Ltd., Hygeia Foundation, Jewish Communal Fund, Joyce and Irving Goldman Family Foundation, Martin Van Buren National Historic Site, New World Foundation, Northern Forest Atlas, Partners for Climate Action Hudson Valley, Peggy McGrath Rockefeller Foundation, RSF Social Finance, Sandy River Charitable Foundation, The Wetland Trust, Volgenau Foundation, Wally Farms, Wild Farm Alliance, Xerces Society, and 170 private donors.

The staff at Hawthorne Valley and at the Hudson Valley Farm Hub helped with many aspects of our research, outreach, fundraising, program administration, and land stewardship, and we are deeply grateful for their support. We also would like to thank the landowners who welcomed the second season of ancient forest research on their land and the farmers who facilitated biological surveys on their farms.