



Fall 2023 Volume 82

of the Mianus River Gorge, Inc.

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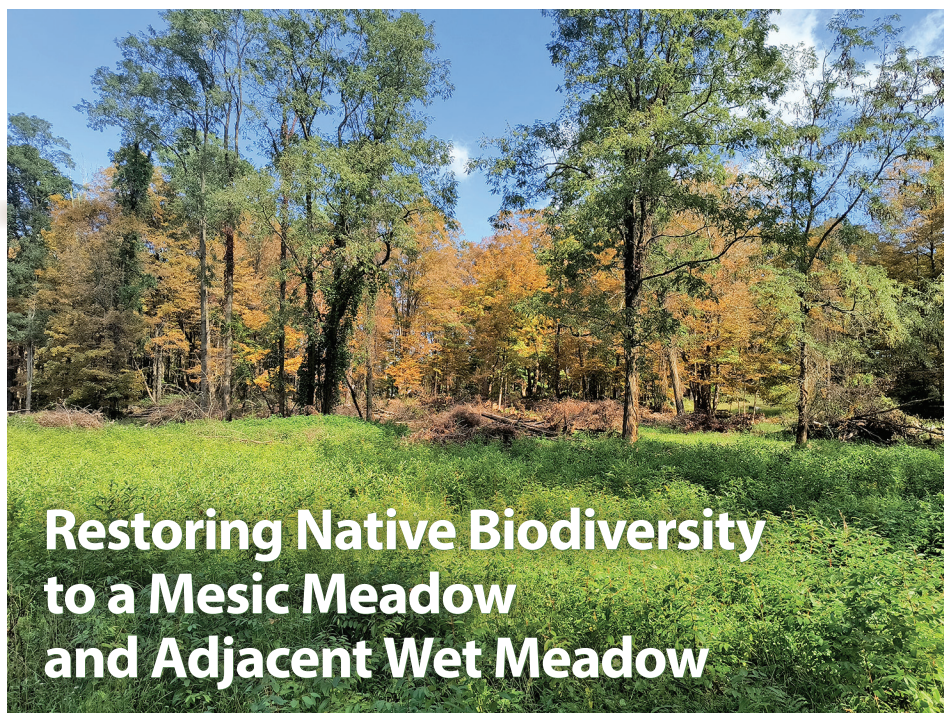
MRG Spotlights

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Platinum  
Transparency  
2022

Candid.



## Restoring Native Biodiversity to a Mesic Meadow and Adjacent Wet Meadow

Mianus River Gorge has embarked on an ecological restoration project to restore the function of two adjacent meadows (one is the “Levene Meadow” acquired in 2021) to re-establish a diverse native composition of plants and shrubs and create a meadow complex that supports birds, pollinators, and other wildlife.

Healthy native meadows contribute to the protection of Mianus River Gorge Preserve’s adjacent habitats including forest, wetland, and steep slopes.

Thanks to a grant from the NYS Department of Environmental Conservation / Land Trust Alliance, MRG contracted with J. Mortara Landscape & Design to pull out well-established invasive shrubs and vines and several small stands of mature tree-of-heaven and black locust trees. Both species are invasive.

To address biodiversity, MRG will re-introduce wet meadow species such as sedges, rushes, and tall meadow rue. We will plant butterfly weed, wild bergamot, and mountain mint in the mesic (meaning having a well-balanced supply of moisture) meadow. These species attract pollinators that are essential for plant reproduction and contribute to genetic diversity in the plants they pollinate. The more diverse plants are, the better they can weather changes in the environment.

MRG will closely monitor the restored meadows to ensure invasive species have not regrown and that the native plants have become established. The meadow will be mowed annually to inhibit succession growth of woody shrubs with a focus on maintaining a biodiversity of native species preferred by birds and other wildlife.



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For newsletter, news and program updates  
via email, send your email address to  
[info@mianus.org](mailto:info@mianus.org) or put it on the return  
envelope with your donation.

The mission of Mianus River Gorge, an independent, not-for-profit organization, is to preserve, protect and promote appreciation of the natural heritage of the Mianus River Watershed through land acquisition and conservation, scientific research, and public education throughout the region.



## Turtle Monitoring

Mianus River Gorge partners with conservation organizations throughout the region to survey breeding populations of box turtles and wood turtles. These species are on the special concern list for New York State. Populations in Westchester have been decimated by habitat loss and fragmentation; lack of protected nesting sites; and illegal collecting, much of it for the pet trade.

Counting the exact number of turtles in a given area is a challenge due to the difficulty of identifying individual turtles. Executive Director Rod Christie has been using shell pattern recognition to monitor populations of wood and box turtles in the region. Each turtle has a unique set of markings on its carapace (top shell) and plastron (bottom shell). We photograph both top and bottom shells, note the sex,



Peat, the conservation dog

and the time and location where we find each turtle. We are then able to monitor individual turtles over the years to assess the overall population and work on ways to protect them.

A relatively new technique used to find turtles is with the help of Conservation Dogs. Trained dogs can smell and detect twice the number of plants and animals that humans can observe with our eyes. Mianus River Gorge staff and summer interns were invited to watch “Peat” and his handler in action this past summer. Peat was being trained to find elusive turtles, which can then be documented as described above. Peat found two turtles that day.

## Ways to Give

### Make a Gift of Stock

When you transfer ownership of securities to Mianus River Gorge, you may receive a charitable income tax deduction for their full market value. To donate stock, please talk to your broker and ask them to contact us for account details.

### Donate a Vehicle

Mianus River Gorge has partnered with Donate for Charity (DFC) to receive the best-possible donation when they sell your vehicle. Simply call (866) 392-4483 for assistance with your donation.

### Donate Online

Your donation through PayPal or with your credit card is secure.

### Donate by Check

Please send your check to Mianus River Gorge, 167 Mianus River Rd., Bedford, NY 10506.

### Planned Giving

Donate land or a conservation easement, make a bequest in your will, name Mianus River Gorge as a beneficiary in your IRA, or any number of charitable giving options. Please contact MRG Executive Director Rod Christie at (914) 234-3455 to discuss a donation of land or a conservation easement.

## RAP Update

MRG’s Research Assistantship Program (RAP) awards grants to graduate students in ecology, environmental science, and conservation who are doing field studies for their M.S. or Ph.D. The awards offer \$10,000 over two years for Master’s degree candidates and \$15,000 over three years for Ph.D.’s. We currently have two Ph.D. students in the program, Andy Cortese (SUNY ESF) and Nicholas Dietschler (Cornell). Thank you to AE Family Foundation for their generous support of the RAP program.

Andy is studying mycorrhizal fungi, the large group of



Andy Cortese

fungi that forms symbiotic relationships with tree roots. Simply put, the trees provide sugars to the fungi (which they produce via photosynthesis) and the fungi provide water and minerals (which the fungi are better at obtaining in the soil). Andy’s work looks at how the proximity of an older tree, which has extensive mycorrhizal connections, might impact the growth of a smaller, younger seedling, specifically in terms of growth rates, foliar nutrient levels, and greater fungal connections. His findings will be important for MRG’s land management as post-agricultural soils have a different mycorrhizal diversity than old-growth forests – and we have both!

Nick’s research focuses on eastern hemlock trees and the control of an invasive pest, the hemlock wooly adelgid (HWA) that parasitizes them and is causing massive die-offs across the



## Spotted Lanternfly Biology

The spotted lanternfly is an invasive insect that has recently made its way to the Mianus River Gorge. Native to China, the spotted lanternfly was first discovered in the US in 2014, but was



**Late-stage nymph of Spotted Lanternfly (magnified)**

not detected at the Gorge until 2022. The spotted lanternfly has now been seen in at least 14 states, primarily in the northeast.

Spotted lanternflies hatch in the late spring/early summer. During their early developmental stages, the spotted lanternfly nymphs are only about ¼" long and are black with white spots. By July, these nymphs turn red and black with white spots as they enter their final developmental stage. The nymphs soon develop into adults which can be

found from July through December. By September, the adults start to lay egg masses on hard surfaces, including trees, stones, vehicles, and more. The adults die off in December, and the cycle starts again in May when the eggs hatch.

Often found on their preferred host tree, another problematic invasive species called tree-of-heaven, these insects feed on sap from over 70 different species, including many economically important plants such as grapevines, maple trees, apple trees, and more. Excessive feeding by the spotted lanternfly can cause significant stress to the plants, ultimately ending in death. As it feeds, the spotted lanternfly excretes a sticky, sugary substance called honeydew, which attracts bees, wasps, and other insects.



Spotted lanternflies are part of a group of insects called planthoppers. Adults can fly short distances between trees, but they tend to spread through hitchhiking and through egg masses



accidentally transported on vehicles, firewood, outdoor furniture, etc. Please be sure to check your vehicle when leaving any area with spotted lanternfly infestations for possible hitchhikers, and be especially vigilant when transporting any objects that could contain egg masses.

For more information about the spotted lanternfly, including information on what you can do to help control this pest, please visit our website ([mianus.org](http://mianus.org)) and search "Spotted Lanternfly" in the search bar.



**Nicholas Dietschler**

eastern hemlock's range. With the help of the NYS Hemlock Initiative, MRG has used a basal bark pesticide spray to protect our hemlocks since 2016 and has seen good success. Nick's research looks at whether there is movement of these chemicals from one hemlock tree to another, meaning that an untreated hemlock may receive some protection if another hemlock near it was treated.

Nick is looking into whether this happens at all (there is some anecdotal evidence that it does), what might be the spatial limitations and predictors, and, if the chemicals are moving from tree to tree, what is the mechanism for this transfer?

## Summer Interns

MRG hosted another four excellent undergraduate interns this summer. Emily Cao (Wellesley College), Megumi Imai-zumi (SUNY Stony Brook), Tegh Khosla (Colby College), and Sarah Pieratti (Wheaton College) worked on several different research studies and land management projects, including camera trap surveys at MRG and in NYC, assisting on the Bedford Wildlife Corridors Project, testing new wildlife abundance estimators, and building deer exclosures.

Sarah was supported by a grant from the Rusticus Garden Club. She made an excellent video to summarize what she worked on all summer. Please visit our website to view the video.

## VOLUNTEER SPOTLIGHT

## Meet Emily Teall

Emily first started hiking at the Mianus River Gorge in 2020 while visiting local outdoor spaces during COVID restrictions. During that time, she became concerned by how foot traffic has damaged the local woods, so she decided to do something to make up for her own wear-and-tear on the places that she loved. She later joined us for a Spring Volunteer Day and has been volunteering at the Gorge ever since.

Emily has been involved in many different projects, including surveying the health of our hemlock trees, removing invasive shrubs, and vacuuming up the invasive spotted lanternfly. While she has enjoyed all of these activities, one of her favorite parts about volunteering at the Mianus River Gorge is learning about the ecology of the forest around her.

When she isn't volunteering, Emily spends much of her time immersed in art. She works as the Educational Coordinator at the Norwalk Art Space where they run free arts programming, classes, and artist residencies. She is also a working sculptor and painter, creating art inspired by nature.

Mianus River Gorge appreciates all of the hard work that Emily has done for us. Thank you, Emily!



## BOARD SPOTLIGHT

## Meet Lloyd Gerry

Lloyd Gerry finds a hike in Mianus River Gorge Preserve to be a unique and awe-inspiring experience. It's hard to believe this beautiful natural resource is in the midst of such a populated area. Lloyd is inspired by the living history of the ancient hemlocks found in the old-growth forest and admires the work being done by Mianus River Gorge staff scientists to protect them.

Lloyd grew up in big cities like Houston, San Francisco, and London and later lived and worked in New York City. Once he and his family moved to Bedford over 12 years ago, Lloyd never looked back. As a board member and a community member, he is happy to support Mianus River Gorge and, as the host of last year's fundraiser, sees a great opportunity for future support.

Lloyd describes himself as a family man who enjoys a long list of outdoor activities, including fly fishing, skiing, and hiking, but when he has to be indoors, he enjoys cooking and is an avid reader of history and biographies. Thank you, Lloyd!



## FORMER INTERN SPOTLIGHT

## Meet Tim Morris

Fierke Lab, Department of Environmental and Forest Biology SUNY ESF

In the summer of 2016, I was lucky to intern at MRG where I was exposed to the basics of conducting field experiments and hands-on research regarding invasive species. That experience helped shape my academic trajectory.

The work with invasive species lead me to join Dr. Kirsten Prior's invasion ecology lab at Binghamton University. I later studied the spread of Allegheny mound ants as they traveled from their normal edge habitats into the campus nature preserve's forest interior via human trail systems.

In graduate school, I sought out projects managing invasive insects. I began working with Dr. Melissa Fierke at SUNY ESF in Syracuse, studying the biological control of the invasive emerald ash borer (EAB). This beetle is native to Asia and was accidentally transported to North America in the 90s. EAB has since spread to 36 states, killing hundreds of millions of ash trees along the way.

Biological control involves identifying highly specialized



“natural enemies” of an invasive pest that may include pathogens, parasites, predators, or parasitoids. Only those that won't harm non-target species are considered for release. Three parasitoids – small parasitic insects who lay their eggs in/on a host – have been released in New York: *Tetrastichus planipennisi*, *Spathius*

*galinae*, and *Oobius agrili*.

Over the past six years I've conducted research on the impact of these parasitoids and their spread throughout New York. Last summer brought me back to MRG to study the dispersal of two biocontrol agents from a release area ~25 km away. Both species were found at the Preserve, indicating they self-dispersed ~5 km / year. Hopefully, the presence of these biocontrol agents will protect regenerating ash.

I never expected to include MRG in my own research seven years after my internship, but I remain grateful for the Preserve's continued support and contributions to many studies.