# The Edmund Niles Huyck Preserve

Connecting people to nature through education, recreation, conservation, and research

Celebrating over 80 years of biological research and conservation!

ACCREDITED™ LAND TRUST ACCREDITATION COMMISSION
Conservation Excellence

FALL 2020

# Myosotis Messenger

# Letter to our Members

## From Anne Rhoads, Ph.D., Executive Director

Dear Members,

The most important sentiment I would like to express here is thanks. Simply put, 2020 has been a crazy year, but you have continued to support us and carry us through, and we are grateful. Like many other non-profits, the pandemic abruptly stopped our programming in March and dramatically impacted revenue streams. We had grand plans for a better-than-ever spring field trip and summer education program, a significant research season for new and returning scientists, a busy season of land stewardship projects, a spring and summer full of engaging public events, and an exciting new initiative for recreational improvements. The year 2020 was going to be a banner one. It will certainly be a memorable year, but not in the ways we expected. Yet, gestures made by our members and visitors kept us energized.



None of us knew what to expect in a pandemic—the Huyck Preserve as an organization did not exist during the 1918 flu. Would people hunker down and isolate in every regard, or would the Huyck Preserve become important in new ways and to new people?

It turns out that this pandemic encouraged people to show up. Those of you in the hamlet know that I mean literally, with record numbers of visitors hiking our trails, but I also mean figuratively. You renewed your membership or joined for the first time. Memberships are the foundation of our organization, and despite our loss of programming, your contributions helped us remain financially solvent during this destabilizing time. You bought swim passes at nearly the same level as last year even with the significant restrictions in place because of state and county COVID-19 regulations. You donated items to our first-ever virtual silent auction, became sponsors or honorary committee members for the event, bought raffle tickets to support the protection of our hemlock forests, and bid generously to make the annual auction our most successful ever. And, finally, you committed to helping the Preserve through volunteerism, responding quickly and resolutely to our call for help and sharing your gifts and time (see p. 4).

Showing up in support of the causes and organizations we value is always important, but this commitment is especially impactful now. We know your time and resources are precious, and we thank you for standing with the Huyck Preserve.

# A Message from Huyck Board President

## Alexandra van Horne

Spring and summer of 2020 tested the Huyck Preserve's creativity and resiliency. The COVID-19 lockdown started just as we were planning a very busy summer of education programs and invasive species management in addition to our recreational programs. Thanks to a dedicated staff working outdoors or remotely, the Huyck Preserve trails stayed open, we had our first and very successful online auction, we continued Thursday Night Lectures virtually, and we added science education quizzes to our social media presence. Even the lake was open for swimming this summer with the necessary COVID-19 restrictions. Despite the lack of revenue from our education programs which could not be run, we did not furlough any of our staff thanks to your generosity and a Paycheck Protection Program (PPP) loan from the federal government. From a financial standpoint, next year will be even more challenging, as we, like many non-profits, rely on grants from New York State which are now uncertain. Your continued support will help get us through this difficult period. Enjoy fall, and don't miss the opportunity to admire the foliage on the Huyck Preserve trails!

# Field research during a pandemic

By Sue Beatty, Ph.D., Senior Research Fellow

In February, we were enthusiastically planning the Huyck Preserve's summer research and education programs. We had selected four excellent undergraduate students for the Odum Internship program, and they were excited to be joining us for a unique research station experience. Our Huyck Research Grant program was about to award funding to several promising new and continuing research projects. We were looking forward to a summer of enrichment for the public via recreation, education, and citizen science activities.

And then March came along. Sadly, we had to cancel all the education programs, including the Odum Internship. We carefully followed the guidelines from the state of New York on how to "do business" during a quarantine. Handling research during a pandemic proved complicated. We have many ongoing research projects that could suffer if data were not collected this year. Some of these projects have been ongoing for decades. On the other hand, the new projects we wanted to fund would never get off the ground if researchers were not able to collect data. Some of these projects were for graduate students who needed to progress in their degree programs, and the loss of a year could be devastating. In field research one needs multiple years to establish a trend, taking into account variations in climate and other environmental factors. If you miss a year, you miss part of the picture.

*The Huyck Preserve's Eldridge Research Station*

In the end, we decided to go forward with modified research guidelines that allowed some projects to proceed. We were not able to provide overnight housing, so any fieldwork had to be carried out via day visits. It was very difficult for anyone needing to travel from afar to do their work at the Preserve, particularly international researchers. In a normal summer, we have our residences filled with enthusiastic researchers and students; with them here, the Preserve practically vibrates with energy. This year, we also preferred if a researcher could work alone. If not, a minimum of assistants all following social distancing and mask protocols would be allowed. Of the seven projects for which we intended to award Huyck Research Grants, only one was able to proceed. Even that project was changed from its original form. Dr. Luciana Guimarães De Andrade's work using environmental DNA in pond and lake water to monitor bird diversity at the Preserve was delayed because of laboratory shut-downs at her home base of Cornell University and our own pandemic-related restrictions. Now, the project is beginning, but it is based solely in the reopened lab at Cornell.

A biological research station is not just a place to stimulate and support research. It is also a community of people who greatly benefit from interacting with one another. As a long-time researcher at the Huyck Preserve, I have met some of the most amazing scientists over the years and made lifelong friendships. Being at a field station with other researchers helps us all be better scientists because we can bounce ideas around and get feedback from others on our work. We become part of a network of scientists that will last for our entire career. We really missed this aspect of the research station this year!

*Ives Lake Field Station, Huron Mountain Wildlife Foundation, Michigan is a peer organization in OBFS that is also navigating COVID-19.*

The Huyck Preserve is not alone in the challenge of how to conduct field research and maintain the vital function of a field station during this pandemic. The Organization of Biological Field Stations (OBFS), in which the Huyck Preserve is a founding member, has hundreds of member stations around the country. Some of them shared with us how they fared during this pandemic.* Research at field stations collectively provides pieces of the ecological puzzle that we seek to solve. Less research means less information to help us be effective stewards of nature.

Overall, most of the field stations were able to conduct some research this summer, although a common theme was a greatly reduced number of people permitted at the stations. For those stations that could support overnight accommodations, they ran at a maximum of half capacity. Resources (money and staff) were strained to maintain cleaning and scheduling to ensure safe spaces for the residents.

# Field research during a pandemic

Continued...

Other protocols such as quarantining researchers before doing fieldwork and isolating research groups were commonly followed. Most stations did not run their education programs, but some were able to have some college interns or REU (Research Experiences for Undergraduates program of the National Science Foundation) students. Those stations that relied on fees paid by station users suffered large reductions in operating funds.

*Cedar Creek Ecosystem Science Reserve, University of Minnesota, is a fellow OBFS organization that supplied information on their COVID-19 restrictions.*

There were a few positive results of reduced capacities at field stations. Some were able to focus on their own long-term projects because staff was not handling both research and education programs. There were also opportunities to facilitate research where a scientist's institution was not able to support it, owing to pandemic-related closures of lab facilities. Finally, many stations allowed researchers to defer their work until 2021 (with funding intact) or use funding to do lab or other work that is part of the overall project. This is the path that the Huyck Preserve has taken.**

This pandemic has certainly changed the life of our field station. We suffered the loss of education programs and a reduced volume of research projects and personnel. Some creative uses of online programs for students and virtual Thursday Night Lectures helped keep our outreach going. However, we will all be very happy to see the return of a normal summer of thriving field station activities!

** Sitka Sound Science Center, Alaska; Ives Lake Field Station (Huron Mountain Wildlife Foundation), Michigan; Hurricane Island Center for Science and Leadership, Maine; Cedar Creek Ecosystem Science Reserve, Minnesota; Rocky Mountain Biological Laboratory, Colorado; Santa Rosa Island Research Station, California; Friday Harbor Labs, University of Washington*

*** We appreciated input from Huyck researchers: Susanne Foitzik, Johannes Gutenberg University-Mainz, Germany; George Robinson, University at Albany; Luciana Guimarães De Andrade, Cornell University.*

Sue Beatty has conducted research at the Huyck Preserve since 1977 and is Emerita Professor of Geography at University of Colorado, Boulder and Emerita Professor of Biology at The Sage Colleges, Troy, NY.

# Introducing the Huyck preserve's adopt-a-trail program

Summer 2020 saw the creation of the Huyck Preserve's Adopt-a-Trail program. After seeing enormous spikes in trail use in the spring as a result of the pandemic, in June we put out a call to create a team of volunteer stewards that would help with the management of our 12-mile trail system. We were looking for individuals who had a connection to one of our trails or simply enjoyed hiking regularly. There was an enthusiastic response from our trail users, and we successfully formed a team of stewards who each adopted one or more of our 12 trails. After a training led by Garrett Chisholm, Stewardship Coordinator, stewards have been tasked with the responsibility of routinely walking their assigned trails and reporting any issues to staff, as well as performing minor trail maintenance projects and light invasive species management. The Adopt-a-Trail program not only helped us navigate our busiest visitation season ever, it has provided helpful information for the management of our 12-miles of trails and the overall management of the Preserve through observations that are part of the required monthly trail inspection reports.

The Adopt-a-Trail program has been a triumph because of the connection our volunteer stewards have to nature and to the Preserve and because of their desire to want to give back. Volunteer Scott Keating, who adopted Lake Trail East and Ordway Trail, explained that "over the past few years, the Preserve has become somewhat of a second home for me. Adopting a trail not only enhances my personal connection to the Preserve, it also allows me to learn more about the different ecosystems that make it so special." Scott's connection to the Preserve was also felt by other stewards. Sarah Nelson shared that "walking and running on the Huyck's trails is an essential part of my physical and mental well-being, and that was especially true during the height of the pandemic last spring. At the time Garrett put out his call for trail stewards, I was not only feeling incredibly grateful for the trails, but also a strong sense of wanting to put some positive work and energy out into the world, so I was glad for this perfect opportunity to serve the community. I love being out in the woods, and I'm happy to help take care of Loop 1 & 2, as in some way, they have taken care of me." The Adopt-a-Trail program serves as an opportunity for our trail users to give back to the land they love, and we are so thankful.

# UPDATES FROM THE LAND

By Garrett Chisholm, Stewardship Coordinator

As a result of COVID-19, the 2020 field season began at a slower pace than expected. For several months, I was the only person monitoring the wide-ranging invasive species at the Huyck Preserve. Although I continued to learn a lot while walking the land, the many porcupines I saw in the woods proved less helpful with land management than the seasonal staff I had hoped to be working alongside. The field season really picked up speed at the end of July when I was finally joined by Seasonal Invasive Species Assistants Gavin Berdan and Alex Stalica. Gavin is a student at SUNY Cobleskill, and Alex just graduated from Ithaca College with a B.S. in Environmental Science. Together, we hit the ground running, monitoring and managing the highest priority invasive species threatening some of the most critical areas of the Preserve for the second consecutive year. These invasives included autumn olive, yellow archangel, February daphne, false spirea, bishop's goutweed, Japanese knotweed, pale swallow-wort, black swallow-wort, common barberry, Japanese barberry, phragmites, purple loosestrife, Eurasian water-milfoil, and water chestnut.

*Garrett combats invasive phragmites.*

Our team used different management strategies depending on the growth and dispersal characteristics for each species. Methods included hand digging or pulling the entire plant, removing aboveground biomass, and solarizing (cutting and covering remaining aboveground parts with black plastic to "cook" what was left and prevent re-sprouting). The solarizing technique was especially useful while managing autumn olive and really let us get our hands dirty. Autumn olive is widespread in our region and has appeared at various new locations at the Preserve, but it has the potential to be eliminated within our boundaries. This species was incredibly persistent, and, although it continued to grow undeterred by the plastic, Gavin and Alex won the battle with frequent monitoring and removal of regrowth. Those who have seen the black plastic evidence along the trails will be happy to know that it will not be there forever. (The voles and shrews who have taken up residence beneath the plastic will be less pleased.) I'll check back to see that the plastic has done its job before removing it.

A significant part of the crew's time was spent monitoring other invasive species populations, especially looking for regrowth following last year's management activity. Several species require multiple seasons of management before eradication. Some of the most heavily monitored species included yellow archangel, Eurasian water-milfoil, Japanese knotweed, and common barberry. Eurasian water-milfoil, when left unchecked, can cause irreversible damage to lakes and ponds, destroying habitats and recreational opportunities. Thankfully, our population was discovered early, and we hope with perseverance to keep it in check. If you spent any time on Lake Myosotis this summer, you might have seen the crew in kayaks surveying the lake and hand pulling Eurasian water-milfoil on a weekly basis. Toward the end of the season, we had eliminated all visible individuals in the lake, which was a real "high-five" moment for the team.

My favorite memory from this field season was getting to know the Bald Eagle that would fly overhead while fishing as we removed Eurasian water-milfoil from Lake Myosotis. Seeing this grand bird reminded us that our work has lasting benefits for wildlife survival as well as human enjoyment.

For more information on many of the invasive species mentioned in this article, see our fall 2019 newsletter. Archived newsletters can be found on our website.

Monitoring and managing invasive species is an enormous undertaking, and even with the help of seasonal staff, there is always more to do. We are looking for dedicated volunteers. If you are interested in invasive species or trail management, including becoming part of our Adopt-a-Trail program, please contact garrett@huyckpreserve.org.

*Our 2020 invasive species management and monitoring work was contracted for a second, consecutive year by the Capital Mohawk Partnership for Regional Invasive Species Management (PRISM) using funds from the EPF as administered by the NYS DEC.*

# Reflections on a Wildlife Ecology and Research Summer

By Fiona Allen, Past WER Student

Science has never been my strong suit in school. From elementary to early high school, I was never drawn to anything. This is still true now, with the exception of ecology. In spring 2019, while looking for something to do with my free time during the summer after my freshman year of high school, I discovered the Wildlife Ecology Research (WER) program at the Huyck Preserve, which is located almost in my backyard. I was a bit nervous on the first day because I didn't know what to expect. When I got to the Preserve's Eldridge Research Center, I was greeted by two exuberant instructors: Dr. Anne Rhoads, who is the Huyck Preserve's Executive Director, and teaching assistant Michaela Fisher, who is now the Preserve's Membership and Outreach Coordinator.

Saying that this program was one of the best things I've ever done is an understatement. I met so many nice people, opened many doors for myself, and met five inspiring people who I will continue to look up to for the rest of my life: Rhoads, Fisher, Dr. Susan Beatty (Huyck Preserve Senior Research Fellow), Meghan Barrett (Drexel University Ph.D. candidate and Huyck Research Grant recipient), and Hannah Stouter (Vassar College undergraduate and Odum Intern). All five have impacted my life so much, and I thank them for helping me find my calling and my future.


*From left to right: Sue Beatty, Ph.D., Fiona Allen, and Hannah Stouter*

The first week of the WER program was somewhat relaxed compared to the second week. We nine high school students spent that first week hiking the trails and getting a feel for the area surrounding the Eldridge Research Center, swimming at Lake Myosotis, having fun conversations during lunch, and figuring out what research topic we wanted to pursue in the second week of the program.

During that first week, the class spent time with Dr. Beatty, Meghan Barrett, and other research professionals. They each had activities and lessons planned for us that showcased their own research and gave us instruction on the field methods they use. The lessons were fun and informative, but two things that I distinctly remember were Dr. Beatty tasting soil to analyze its texture, and Meghan Barrett helping me get over my fear of bees.

*WER students survey Ten-Mile Creek for macroinvertebrates.*

We also met the four undergraduate Odum interns who were spending the summer at the Huyck Preserve working with Dr. Beatty. They were especially helpful with our research, as they were doing their own projects at that time and knew the Preserve pretty well. This is when I met Hannah Stouter. I was immediately struck by the way Hannah thought about science as well as her kind, helpful manner. Her project was researching beech bark disease and its prevalence at the Huyck Preserve. When Hannah explained her work to my research partner, Isabel Kropp, and me, I was excited by the idea of doing our own research on a related subject. We began with the research question "Does Beech Bark Disease Intensity Vary by Forest Type?" The project sailed off from there.

# Reflections on a Wildlife Ecology and Research Summer

Continued...

*WER students collecting data for research on Lincoln Pond*

For most of the second week of WER, we were in the woods doing hands-on research. We measured the diameter of trees and recorded physical variables like relative humidity, soil pH, soil temperature, soil texture—this time Hannah tasted the soil!—soil moisture, and light intensity in plots located in three forest types (hemlock, red pine plantation, and hemlock-hardwood). After finishing our fieldwork, we analyzed our results and summarized our findings. Again, this was possible thanks to Hannah and Michaela, who taught Isabel and me the different computer programs needed to put our information and graphs together. When all the WER students had finished their posters, we celebrated with t-shirt making and a final hike. We became a close-knit group during the two weeks we were all together, and I wanted to savor the little time the group had left together (we were from all over the Northeast, so we weren't sure when we'd see each other again). At the end of the WER program, there was a day when family and members of the community came to see our poster presentations and hear about the work we had done at the Huyck Preserve. It was amazing to educate others on what we had done in our short time at the Preserve, and it felt so good to have people be interested and ask questions. The WER students were invited back to the Huyck Preserve's 80th Anniversary Research Celebration in November 2019, and I was pleased to attend and share our poster with a larger group of scientists and community members. I also presented my work again at a Greenville Central School District board meeting. It was a magical experience to have members of my own community and family members of people I know ask questions about my work and the WER experience.

The Huyck Preserve has opened so many doors for me, and I am thankful. I was disappointed when the pandemic caused the entire education program at the Preserve to shut down for 2020, and I hope that once things are back to normal, WER can resume. It's a fantastic program that more high school students should know about, as it provides a real taste of independent research, exposes students to mentors in the field of science, and provides opportunities for the future such as being invited to special events (not to mention having a significant experience to put on your résumé). I miss the Huyck Preserve and all the friendly faces there. WER is an amazing program, and I can't wait to do it again!

*Fiona Allen is a junior at Greenville High School. She is looking to pursue ecology once out of high school and attend SUNY ESF.*

***Lleyton Emery participated in our Wildlife Ecology and Research Program in 2019 and will be attending Yale University next year.***
*"Being a part of the 2019 WER program allowed me to learn about the wildlife of the Huyck Preserve from experts in ecology, conservation, and invasive species management. I was also able to get a glimpse of what it would be like to have a career as an ecologist when I had the opportunity to work with some of my peers studying the water chemistry of a pond on the Preserve as part of a final project which we presented to friends and family at the end of the program. I was so inspired by the conservation efforts of the Preserve that I decided to apply for a seasonal job so that I could do my part to help, and I am honored to be a part of the Huyck Preserve team!"*

**Calder Schlereth Raio participated in our Wildlife Ecology and Research Program in 2018 and 2019.**
*"Wildlife Ecology Research opened my eyes to the broad range of study associated with ecological research. I've always liked nature, and so I've always thought that I might like to do something with nature as a career. Until WER, though, I didn't understand the full scope of fields that someone like myself could go into that includes ecology, but also includes my other interests, like statistics and computer science. The opportunity to do actual field research as well as work inside on a computer has made me realize that within ecological studies, there is work that I would enjoy doing. Furthermore, WER gave me the skills and opportunity to work for researchers at Johannes Gutenberg University of Mainz collecting ants over the summer."*

# At last, a research history of the Huyck Preserve!

By Lynn Love, Board Member

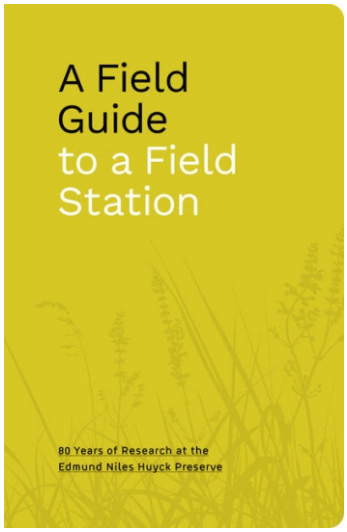
I spent the first months of the pandemic shut-down reading scientific papers published by Huyck Preserve researchers. Due to COVID-19 restrictions, I couldn't go rummaging through the tall file cabinet at the Eldridge Research Center on Pond Hill Road where an archive of those publications can be found. Luckily, the New York Public Library made its JSTOR database—where many of Huyck researchers' published work dating back to the 1940s also can be found—fully accessible online for anyone with a New York City library card.

Scouring through dozens upon dozens of those publications in March and April is the reason I know, for example, that Lloyd Tevis spent many twilight hours of the late 1940s summers noticing what Lake Myosotis beavers were eating and when, and how mother beavers would teach kits individually to forage for food when they were old enough.

It's the reason I know that collecting over a thousand millipedes found under rotting logs and other organic detritus at the Huyck Preserve and "milking" their defensive scent glands in the 1970s lead Tom Eisner to the discovery of polyzonimine, a novel camphor-like substance that was subsequently produced synthetically based on Eisner's early work.

It's also the reason I know that Sue Beatty, our beloved current Senior Research Fellow, created a new notational system in the 1980s to help explain the phenomena and impact of treefalls on forest floors.

Soon, you too will know these highlights from the 80 years of field research at the Huyck Preserve. The purpose of my spring endeavors has come to fruition: we have a research history of the Huyck Preserve in the form of *A Field Guide to a Field Station.* Members are receiving a complimentary copy of this new publication, and additional copies will be available at the Visitors' Center and at future events.




*Cover of the new Huyck Preserve research overview*

The 76-page guide is an outgrowth of our 80th Anniversary Research Celebration last November, and was funded by a grant from the Sappi Foundation—the philanthropic arm of a North American paper company that annually awards funds to non-profit organizations who have paired up with a graphic designer to further their communication and outreach goals. The Huyck Preserve was awarded just shy of $45,000 in partnership with a New York City-based graphic designer, Ann Sappenfield, who specializes in science- and nature-based design work through her firm, Fluora Studio. The grant paid for the book and its digital counterpart (launching soon!), along with the "Scarneck" tote bag and 80th research anniversary commemorative poster distributed at the anniversary event and now for sale at the Visitors' Center. Next season's visitors to the Eldridge Research Center will also view the permanent exhibit that summarizes each decade of field work conducted by Huyck researchers—the final piece of our grant's scope.

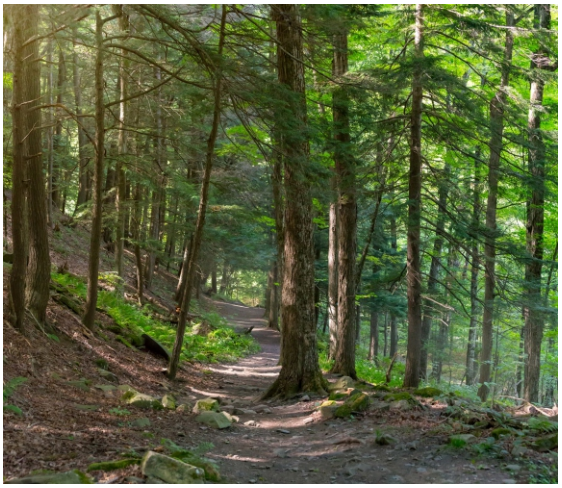
With a set of tools that conveys the history of biological studies over the 80 years of our field station's existence, we are better poised to enrich our research program into the future. Most importantly, we can better explain our accomplishments and the culture of our field station to those who are not directly involved in research. Whether it's new hikers who stop in to the Visitors' Center, local and regional residents who attend our usual Thursday night scientific lectures throughout the summer, young students on field trips and visiting homeschoolers, or members who are curious and want to know more about research carried out here, *A Field Guide to a Field Station* provides a great overview and a foundation for learning more.

Lynn Love is a Huyck Preserve board member who works as a writer, editor, and strategist specializing in science, health, and nature.

# SAVING THE HUYCK PRESERVE'S MAJESTIC HEMLOCKS

By Anne Rhoads Ph.D., Executive Director

Eastern hemlock is so important, it is considered a foundation species, meaning it controls ecosystem processes and helps to structure the ecosystem where it is found. Hemlocks were one of the dominant species of the primeval forest in the Northeast until great swaths fell to the tanning industry. Only fragments of those ancient forests, mostly found on steep slopes and other inaccessible locations, were spared. The species eventually rebounded, though not to pre-European settlement levels. Today eastern hemlock is the third most common tree in New York State, and hemlocks cover 350 acres of the Huyck Preserve's land. These dark, cool forests contain some of our oldest trees and serve many important functions including providing habitat for the Preserve's most charismatic inhabitants (porcupine, fox, coyote, black bear, deer, and Barred Owl) and protecting water quality and fresh water habitat along the shores of Lincoln Pond, Lake Myosotis, Trout Creek, and Ten-Mile Creek (including at the Rensselaerville Falls). Not only does their shade create the cool water needed for cold-water fish species like native trout, their presence along stream banks and reservoirs filter out pollutants and prevent sedimentation of the water. This is an important role at the Huyck Preserve where Lake Myosotis serves as the water source for the hamlet of Rensselaerville. "Hemlock are ecologically critical to our New York streams and forests," says Caroline Marschner of Cornell University's NYS Hemlock Initiative. "They support both our forest and aquatic habitats, and are an essential part of our landscape's character." Many of the hemlock-dominated areas in the Preserve are also some of our most beloved spots, that would forever change without the grand evergreens.



*Hemlocks line the Falls Trail at the Preserve. Photo Credit-Sharon Askew*

*HWA appears as white dots at the base of hemlock needles.*

Hemlock woolly adelgid (HWA) is an invasive aphid-like insect pest that first arrived in New York State in the mid 1980s. These sucking insects feed on young twigs, disrupting nutrient flow to needle buds in spring which prevents the formation of new needles and ultimately leads to tree death. An isolated population of HWA was first found at the Huyck Preserve in 2015. The insect is limited by cold winters, but the warming climate may now be intensifying the expansion of HWA populations, and, in November 2019, a significant population was detected at the Huyck Preserve's Lower Falls. The tell-tale woolly masses were found by University at Albany students who were here attending a public education event held in partnership with the NYS Hemlock Initiative.

The news continued to worsen. In early 2020, Garrett Chisholm, the Preserve's Stewardship Coordinator, discovered HWA in trees in four of the five most significant hemlock stands at the Huyck Preserve. Because of the vastness of our hemlock stands and the expense of treatment, saving all of our hemlocks just isn't possible. Our Invasive Species Management and Monitoring Plan prioritized our hemlock stands according to draft guidelines from the New York State Hemlock Initiative, which took into account a number of ecological variables. "The hemlock prioritization tool helps landowners think through the factors that play into conservation decisions, and make the decisions that fit best with the goals they hold for their property," says Marschner. The formula resulted in the identification of five highest priority stands at the Preserve, whose trees would be the most closely monitored for HWA and the first to be treated when an outbreak occurred. The stand of hemlocks growing along the Rensselaerville Falls was among the areas receiving the highest prioritization because of its proximity to the Ten-Mile Creek, its significant size, its role in protecting high quality habitats, and its importance to the experience of visitors at this gateway to the Preserve.

Early detection and rapid response are key to minimizing the damage of invasive species and slowing their spread.

# Saving the Huyck Preserve's Majestic Hemlocks

Continued...

Left untreated, HWA kills entire hemlock forests within a matter of years, so we knew we needed to take swift action. We applied for funding through the Capital Region Partnership for Regional Invasive Species Management and received the $15,000 award needed to treat the Lower Falls infestation just before New York State was virtually shut-down because of COVID-19. (The award also included funds to hire seasonal invasive species staff – see article on p. 5.) The treatment uses a basal bark spray consisting of dinotefuran, applied to the base of trees which acts quickly against HWA populations, and imidacloprid, which provides long-lasting protection and prevents the spread of HWA to uninfested trees. Imidacloprid injections are used on trees close to water (for more information on HWA and its management see https://blogs.cornell.edu/nyshemlockinitiative/). In June 2020, CGL Arbor Services was hired and treated over 400 hemlock trees, thus commencing the hard work of saving our hemlock forests.

In the future, biological control agents may be a viable alternative, but right now chemical treatments are the most effective against HWA. "Biological control is a long-term, landscape-scale solution to a permanent, landscape-scale problem," says Marschner. "If we want to maintain our hemlocks as a functional part of our forests, this will be an essential tool for New York."

The Huyck Preserve's land is more than just a nice place to hike or a protected habitat for a wide range of plants and animals. The world's forests are increasingly critical in the fight against climate change because of their ability to sequester carbon. Bill Logan, an arborist, author, and Huyck Preserve board member stresses hemlock's role in the climate crisis. "Because they build a soft and springy organic duff on the forest floor, hemlock forests are unusually good at locking up carbon on the ground—the loss of a stand of hemlocks, therefore, releases more carbon than a similar loss of other types of forests." The Huyck Preserve is committed to protecting our forests from forest pests and other threats for the good that they do our community, visitors, and life on Earth.

**Seth Bigelow, Ph.D., is assistant scientist at The Jones Center at Ichauway. With James Runkle, he has studied and published on the effects of climate and competition on the growth of the Huyck Preserve's Lincoln Pond hemlocks.**

*"Ecologists know eastern hemlock as a foundation species, one whose effects on the forest community are greater than expected based on numbers or size. Deep shade and thick, dark organic soils lend an air of mystery and beauty to places like Lincoln Pond where hemlocks thrive. The progressive loss of eastern hemlock to the woolly adelgid is a tragic manifestation of global warming, but, fortunately, concerted action can save targeted individual trees. I am truly glad to know that the Huyck Preserve has a comprehensive monitoring plan and will be treating trees in the critical location of the Rensselaerville Falls. The ancient hemlock groves of the Preserve are a priceless treasure."*

**James Runkle, Ph.D, has been studying hemlocks in several parts of its range, including the Smoky Mountains of Tennessee and North Carolina, where it reaches its greatest size; the Tionesta sites of northwest Pennsylvania; and here at the Huyck Preserve, where he has been sampling the stand at Lincoln Pond every eight years since 1978.**

*"The hemlocks at Lincoln Pond were probably cut in the early 1800s but then let grow. Changes have occurred in that stand. American beech was once common but an introduced fungus has almost eliminated it. A small disturbance in the 1900s allowed northern red oak and red maple to get established and prosper. Deer like the canopy cover in winter and have eaten almost every small stem there. Despite the many years of no effective reproduction, the hemlock trees continue to grow. Hemlock's ability to live for centuries puts this 40-year stop in reproduction that I have seen in perspective. However, the hemlock woolly adelgid is a more dangerous threat than it has faced until now. It can kill mature trees in just a few years unless stopped by cold or people. I personally grieve for the potential loss of hemlock in most of its range and am glad the Huyck Preserve will be working hard to protect hemlock on its property."*

**Mark Whitmore is principal investigator at the New York State Hemlock Initiative and a forest entomologist in Cornell University's Department of Natural Resources**

*"Hemlocks occupy an important place in my heart. There are many scientific reasons why they are important to the ecology of northeast forests, but there is also an intangible feeling they bring to me whenever I walk among them—their coolness on a hot summer day, their welcoming shelter in winter. They are impossible to replace, and I'm not going to stand by and watch them disappear without one heck of a fight."*

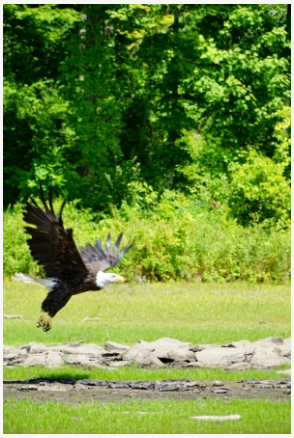
*This project was contracted by the Capital Region Partnership for Regional Invasive Species Management using funds from the Environmental Protection Fund as administered by the NYS DEC.*

# Spring and Summer 2020

*Above: A young hiker enjoys the majestic hemlocks at the Preserve.*

*Above: Alex Stalica, Invasive Species Assistant, uprooting a Japanese barberry bush*

*Above: Raccoon tracks by Lake Myosotis*
*Photo credit-Lynsey Ackert*

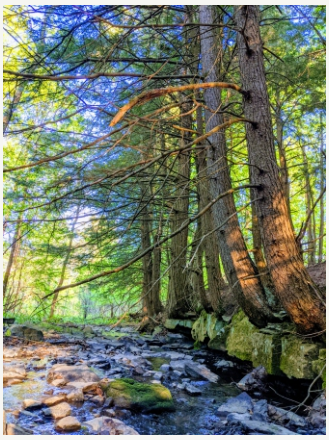


*Above: A bald eagle flying across Lake Myosotis*
*Photo credit-Gavin Berdan, Invasive Species Assistant*

*Right: A large snapping turtle floating in Lake Myosotis*

*Above: Adam, Supervisor of Buildings and Grounds, works to expand the boardwalk on Lincoln Pond Trail.*


*Above: Some of the offerings in our first-ever Virtual Silent Auction*



*Above: A scenic view of our beautiful lake*
*Photo credit-Kelli Gossoo*

*Left: Ten-Mile Creek on a sunny day*
*Photo Credit- Lynsey Ackert*

*Above: Lifeguards watching over a socially distanced beach season*

*Above Left: Garrett, Stewardship Coordinator, working with dedicated volunteers to combat the growth of Eurasian water-milfoil on Lake Myosotis*

*Above Right: A porcupine meanders across the forest floor.*
*Photo credit-Sarah Nelson*

*Above: Anne, Executive Director, helps prepare the beach for the swim season.*

*Right: Gavin Berdan, Invasive Species Assistant, works with a hedge trimmer to combat phragmites.*

# Winter Reading List

The scientists, staff, and Board of Directors of the Huyck Preserve recommend their favorite reads for the coldest season.

***Walking the Clouds: An Anthology of Indigenous Science Fiction* by Grace L. Dillon**
"The first book of its kind, this volume has contributions by Native American, First Nations, Aboriginal Australian, and New Zealand Maori authors." -Sue Beatty, Ph.D. Emeritus Professor and Huyck Preserve Senior Research Fellow

***Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors* by Carolyn Finney**
"Finney does an exemplary job of utilizing environmental history, cultural studies, critical race studies, and geography to examine the racialization of the environment in the United States as a way of providing the reader with a more comprehensive understanding of humankind's relationship with the environment." -Garrett Chisholm, Stewardship Coordinator

***Animal, Vegetable, Miracle* by Barbara Kingsolver**
"This book provides a wonderful narrative of a family who decides to eat locally for a year. It offers insight into the intersection of agriculture and nature. The book is a great introduction for understanding sustainability and working with the natural world." -Michaela Fisher, Membership and Outreach Coordinator

***Civilization and the Limpet* by Martin Wells**
"I highly recommend *Civilization and the Limpet*. I don't know how to describe it, but it's a must read for anyone interested in the natural world. Check out the *Hot Fish* chapter, which I found to be so interesting!"
-Mary Beth Kolozsvary, Ph.D., Huyck Preserve Scientific Advisory Committee

***Where the Crawdads Sing* by Delia Owens**
"This book provides an interesting storyline enmeshed in the natural systems of North Carolina marshland."
-Tom Lyons, Board Member

***Women in the Field: America's Pioneering Women Naturalists* by Marcia Bonta**
"Like many areas of history, we hear most about the pioneering male naturalists who shaped the field of conservation. This book tells familiar stories about one or two well-known female leaders but also reveals the many, often unrecognized contributions of lesser known but significant women naturalists."-Anne Rhoads, Ph.D., Executive Director

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## COVID-19 Updates

-Our 12+ miles of trails continue to be open dawn to dusk.

-Paddling and fishing on Lake Myosotis is available—boat racks close to renters on November 1.

-When visiting, please continue to observe social distancing protocols and wear a mask when social distancing is not possible.

-The Visitors' Center and other Preserve buildings are closed to the public until further notice.

-The Preserve office is staffed Monday-Thursday 8:30-4:30, and we can be reached by phone 518-797-3440.

-Staff can be reached anytime by emailing info@huyckpreserve.org.

-Small, socially distanced, outdoor, in-person events have restarted and will continue as long as it is safe. Look for emails, Facebook announcements, and updates on our website for information on upcoming events and news.

## Huyck Preserve Wish List

We have started a wish list of needed items that will further our efforts with projects and programs. Will you help? This season, we're looking for the following gift cards and new and like new equipment. Please coordinate with Michaela by emailing info@huyckpreserve.org or call the office at 518-797-3440. Thank you!

-Table saw
-Trail cameras
-Trail camera locks
-Amazon gift cards
-Local hardware store gift cards

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## and Biological Research Station

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**Name**_____

❑ **Please update my info below:**

**Address**_____

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**Phone**_____**Cell**_____

❑ Please keep my donation anonymous by leaving it out of Huyck Preserve publications.
❑ Please send Huyck Preserve announcements to my email provided below.

Annual Fund Suggested Donation Levels

❑ $50
❑ $100
❑ $250
❑ $500
❑ $1,000
❑ $2,500
❑ Other $_____

Total Annual Fund donation $ _____

This gift is given in honor of/ in memory of
(please circle)

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*Please make checks payable to the Huyck Preserve.*

*Does your employer have a matching gift program? Find out and magnify your gift to the Preserve today!*

*For donations of stock, please contact the Preserve office at (518)797-3400.*

*Make a paperless contribution by visiting*
***www.huyckpreserve.org/annual-appeal***

***Thank You!***

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