



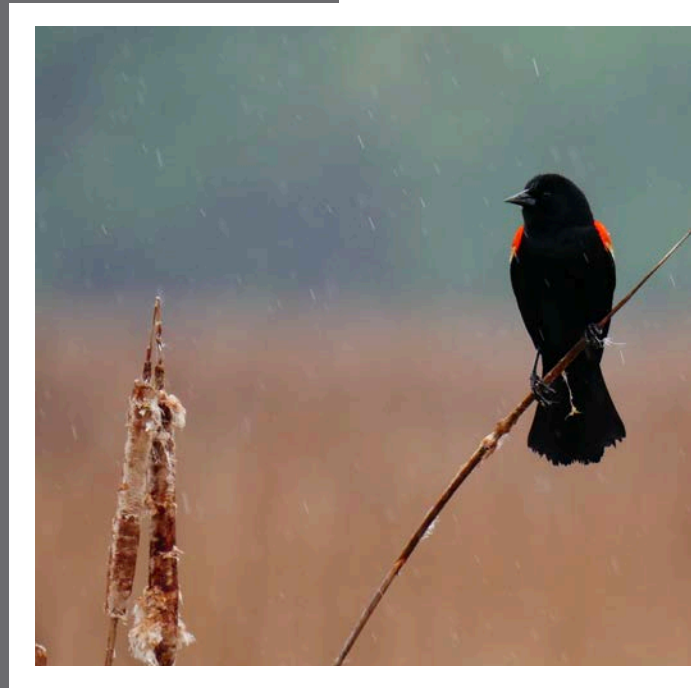
Great Hollow
Nature Preserve & Ecological Research Center

Annual Review

2019

CONTENTS

- 2 From the Executive Director
- 4 Science in Action
- 10 Scientific Publications
- 12 Student Spotlight
- 14 Environmental Education
- 15 Eco-discovery Camp
- 16 Seasonal Research Staff
- 17 Meet Our New Educator
- 18 Community Engagement
- 19 Planting for Pollinators
- 20 Special Event Setting
- 21 Acknowledgements



**Right: Icy waters of Quaker Brook's lower falls, along Great Hollow's Yellow Trail.
Above: A red-winged blackbird rests in the rain in Great Hollow's wetland**

STAFF

Chad Seewagen, Ph.D.
Executive Director

John Foley
Naturalist & Preserve Steward

Maggie Cozens, M.S.
Incoming Education Coordinator

Sena Rasun-Mahendra, M.Ed.
Outgoing Education Coordinator

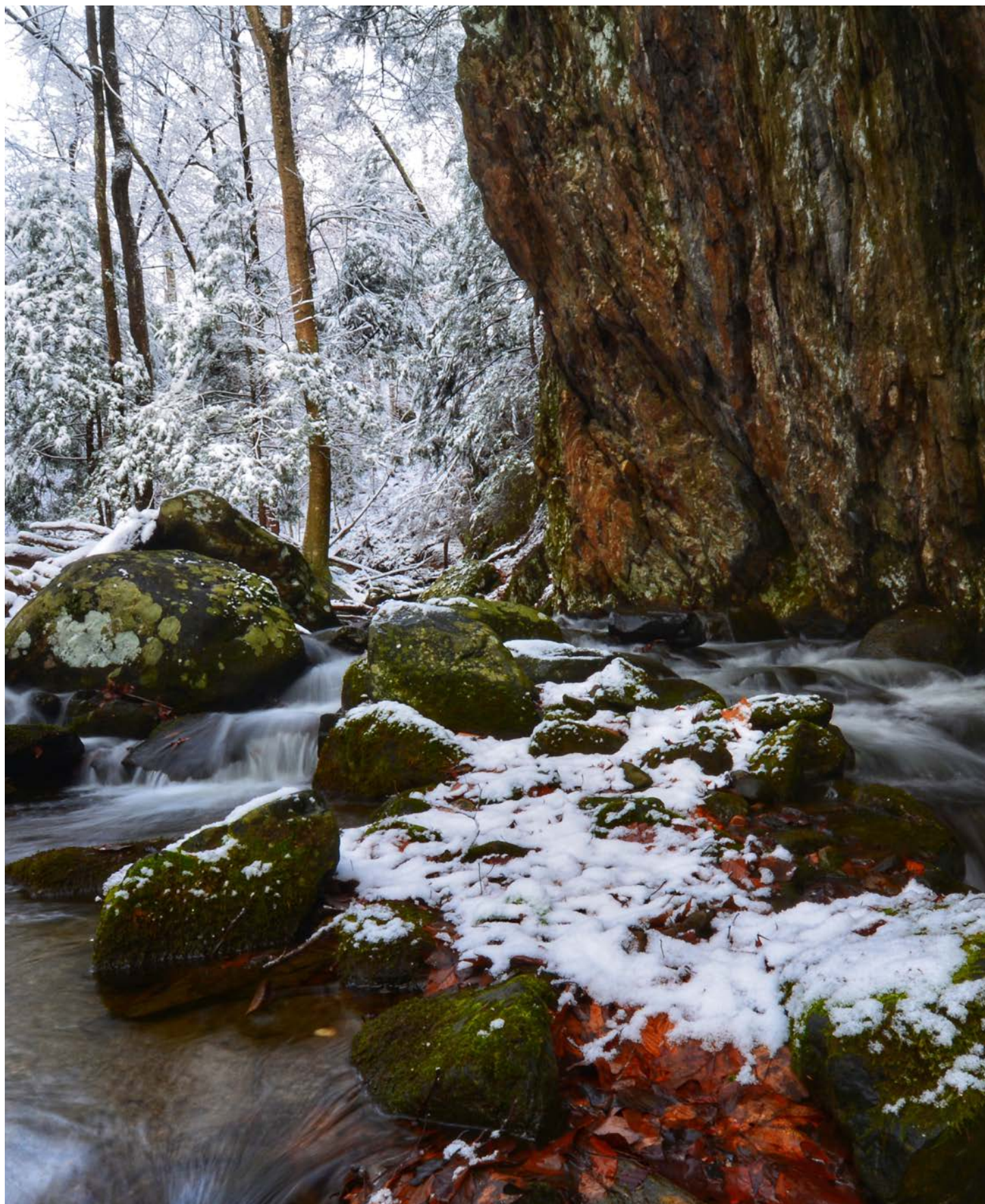
BOARD OF DIRECTORS

Gary Goldring
Chair

Meredith Cleary
Secretary

Eric St. Jean
Treasurer

Chad Seewagen
Executive Director



FROM THE EXECUTIVE DIRECTOR



It is sometimes hard for me to believe that more than three years have passed since our organization's founding and yet I am equally amazed to see everything that Great Hollow has come to be in such a short period of time. Our growth and achievements thus far are attributable to nothing but the fact that many people - from our staff,

volunteers, collaborators, and donors, to the community members we serve - deeply and genuinely care about Great Hollow and its mission. It is a common appreciation of the outdoors and dedication to protect it for future generations that drives us all to do what we do. This theme of working together can be seen across the broad spectrum of our activities in 2019. There is little that we have done without the involvement of academic institutions, state and local governments, other non-profit organizations, and of course, our fellow community members who are always there to lend a hand. This is perhaps most apparent in our conservation science program, which involved collaborations with several different institutions across multiple projects this year. Along with these partners, we proudly published three studies



© JOHN BOAS

in peer-reviewed science journals in 2019 that each uncovered previously undocumented impacts of environmental pollutants and invasive plants to our local wildlife. Many of our community events this year, from a mushroom walk to Hollow Fest, were done in tandem with other organizations to bring together both shared and unique areas of expertise that can create a better experience than only one of us could achieve on our own. Turnout for these events continues to grow year after year, and much of that we owe to the contributions of our partners in science, education, and conservation. This year we established a highly successful counselor-in-training program in partnership with New Fairfield High School that provides students with leadership training and environmental education skills while helping our Eco-Discovery Camp provide campers with

personalized instruction and a low camper to staff ratio. It is with this kind of teamwork that Great Hollow will continue to flourish as a leader in environmental research and education in the region, and provide a one-of-a-kind resource for our local communities. There is no Great Hollow without you. Thank you to all who are a part of the Great Hollow family and helped make 2019 another great year.

Chad Seewagen
Executive Director

SCIENCE IN ACTION

One of the things that makes Great Hollow special and differentiates us from many other small environmental organizations is our focus on, and direct involvement in, rigorous conservation science. We lead studies along with other scientists from academia, government, and non-governmental conservation organizations to better understand human impacts to the environment and support science-based decision-making about the protection of natural resources. Our research spans the fields of ecology, physiology, and ecotoxicology, all under the broad umbrella of the scientific discipline known as conservation biology. We integrate these fields to provide novel information about the effects of land use change, pollutants, and invasive species on wildlife that can then help guide conservation action.

Since 2016, Great Hollow has been studying the impacts of the invasive shrub, Japanese barberry, on habitat quality for forest wildlife. One thing we have learned already is that the diversity of invertebrates, which are a critical food source for other wildlife and the foundation of forest food webs, is significantly lower in barberry-invaded areas than among native vegetation (see Scientific Publications on page 10). This could have important ramifications for insectivorous animals higher in the food web

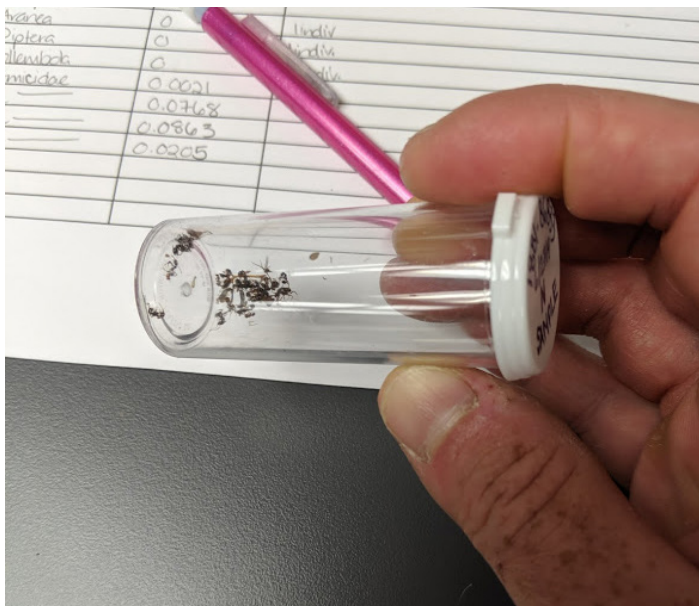
“Our research spans the fields of ecology, physiology, and ecotoxicology, all under the broad umbrella of the scientific discipline known as conservation biology. We integrate these fields to provide novel information about the effects of land use change, pollutants, and invasive species on wildlife that can then help guide conservation action.”

that depend on healthy, intact invertebrate communities with which to feed themselves and their young. So, this summer, we turned our attention towards the effects that these impacts from Japanese barberry might be having on the diet composition of a common forest songbird, the





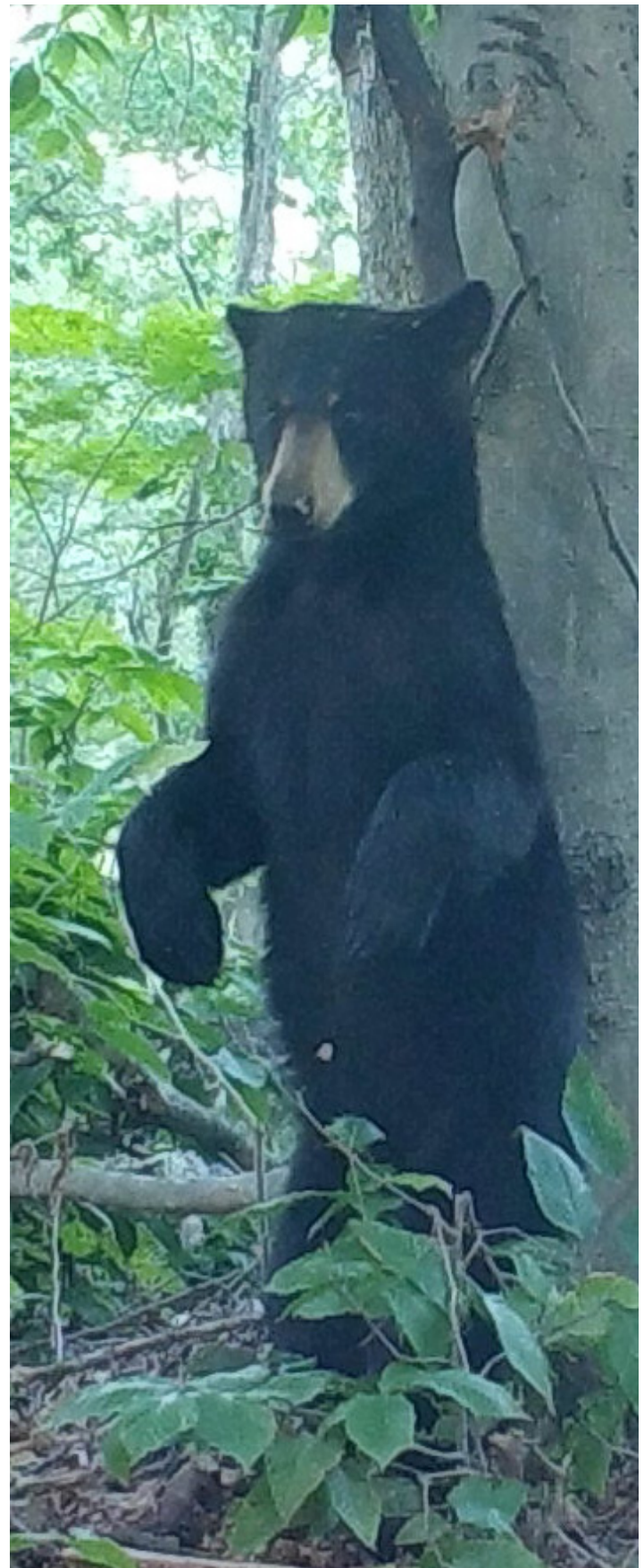
ovenbird (pictured on page 8). We are investigating this by comparing the nitrogen and carbon isotope signatures of blood samples that we safely collect from ovenbirds living in barberry-invaded habitat to those of ovenbirds living in areas of the forest that are still largely composed of native plants. The isotopes in the birds' blood can then be matched to the isotopes in various invertebrates that we collect from the same habitat to ultimately determine the relative proportion of each species of invertebrate in each bird's diet. We will be analyzing the data over the coming months, so stay tuned! Any differences in diet composition between birds living in barberry-invaded and bar-



berry-free habitat would indicate that Japanese barberry is having cascading effects up the forest food web, with potential negative consequences for wildlife health, reproduction, and survival. Such a finding would add to growing evidence that more aggressive action needs to be taken to combat Japanese barberry invasions in our region.

(Left) Collecting morphological data from birds breeding in Japanese barberry-invaded forest. (Above) Invertebrates collected from Japanese barberry awaiting identification and isotope analyses.

(Right) Trail camera photo of a black bear at Great Hollow Nature Preserve. We are assisting researchers at the Mianus River Gorge Preserve in New York to use a large network of these cameras across the lower Hudson Valley to study black bear distribution and land-cover associations.



SCIENCE IN ACTION

This summer we also kicked off a new study in collaboration with Dr. Neeta Connelly of Western Connecticut State University's Tickborne Disease Prevention Lab to help track down the newly introduced Asian long-horned tick. This species was first discovered in the U.S. in 2017 and has now been documented in 11 states, including Connecticut and New York. In its native range in Asia, the tick is a vector of hemorrhagic fever and Japanese spotted fever in humans, and is a devastating pest of livestock. It is uncertain what threat the Asian long-horned tick presents to people, domestic animals, or wildlife in the U.S., or how far and fast it will spread. Its rapid invasion through the eastern U.S. has led some scientists to think that migratory birds might be transporting the ticks across the landscape, but it is currently unknown whether North American bird species can be suitable hosts for this Asian species of tick. Along with Dr. Connally, we have begun a new multi-year project to collect ticks from various species of migratory and resident birds to investigate whether birds are hosting and possibly facilitating the spread of Asian long-horned ticks.

Beyond these and other projects that are led by Great Hollow (see page 9), our staff also frequently collects data for or otherwise supports projects that are led by researchers at other institutions. Such projects to which Great Hollow is currently contributing include:

- ▶ **Black Bear Distribution and Land Cover Associations in the Lower Hudson Valley (Lead institution: Mianus River Gorge Preserve)**
- ▶ **Black-legged Tick Population Monitoring in Western Connecticut (Lead institution: Western Connecticut State University)**
- ▶ **Monitoring of the New England Cottontail and its Invasive Competitor, the Eastern Cottontail, at Great Hollow Nature Preserve (Lead Institution: Connecticut Department of Energy & Environmental Protection)**
- ▶ **Evaluating the Quality of an Urban Estuary, Jamaica Bay, New York City as Stopover Habitat for Migrating Shorebirds (Lead institution: New York City Audubon Society)**
- ▶ **Connecticut Bird Atlas Project (Lead institutions: University of Connecticut and Connecticut Department of Energy & Environmental Protection)**



© PEGGY STEWART





“ It is uncertain what threat the Asian long-horned tick presents to people, domestic animals, or wildlife in the U.S., or how far and fast it will spread. Its rapid invasion through the eastern U.S. has led some scientists to think that migratory birds might be transporting the ticks across the landscape.”

(Above) Executive director Chad Seewagen, Western Connecticut State University (WCSU) associate professor, Neeta Connally, and WCSU student, Jacob Bethin, checking a yellow-bellied sapsucker for Asian long-horned ticks. (Left top) Collecting a tick from a Carolina wren for identification at the WCSU Tickborne Disease Prevention Lab. (Left bottom) "Drag-sampling" ticks along Great Hollow's forest floor for annual black-legged tick population density monitoring with WCSU.

Collaborating with and combining the unique expertise of researchers from this broad spectrum of institutions allows us all to most efficiently conduct impactful science that can guide management decisions and public policy towards successful conservation outcomes. We are looking forward to working on current and new projects with our partners in academia, government, and non-governmental organizations in the year to come.





CURRENT PROJECTS

- Effects of light pollution on the foraging activity of eastern North American bats
- Home-range sizes and movement patterns of the imperiled wood turtle in Connecticut
- Impacts of mercury pollution on the endurance physiology of migrating birds
- Effects of invasive plant-driven alterations of forest arthropod communities on the diet composition of ovenbirds (pictured left)
- Physiological indicators of habitat quality for ovenbirds breeding in forest invaded by Japanese barberry

Great Hollow is pleased to be collaborating on these studies with researchers from the University of Massachusetts-Amherst (Drs. Alex Gerson and Derrick Groom), Western University, Canada (Drs. Christopher Guglielmo and Yanju Ma), Columbia University (Jason Hagani), Texas A&M University and Bat Conservation International (Dr. Amanda Adams), Rochester Institute of Technology (Dr. Susan Smith Pagano), and American Museum of Natural History (Dr. Suzanne Macey).

SCIENTIFIC PUBLICATIONS

Great Hollow is proud to have published three articles in peer-reviewed journals in 2019. Two of this year's publications concern the impacts of mercury pollution to wildlife – a focal area of our conservation science program. Mercury pollution is a global problem that is caused primarily by coal combustion and gold mining, and reaches even the farthest corners of the world, such as Antarctica. Global mercury emissions are currently 400 times pre-industrial levels and scientists are only beginning to understand the myriad impacts that this is having on both wildlife and human health.

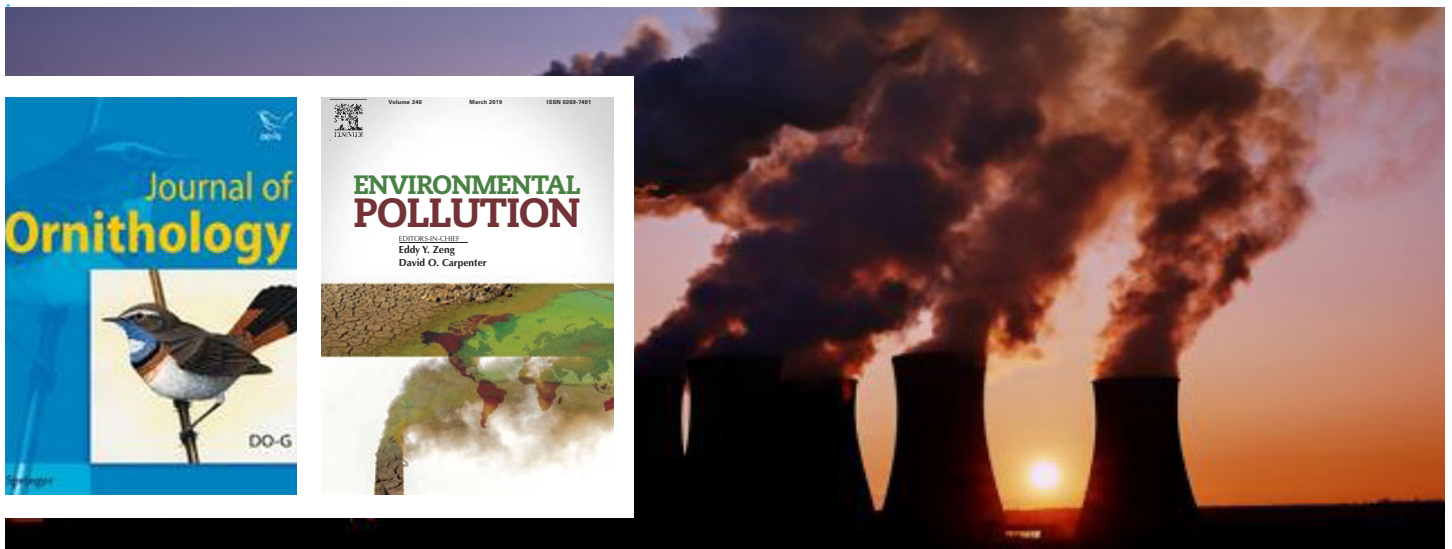
In the first study, published in early 2019 in the journal *Environmental Pollution*, we investigated the effects of mercury pollution on the metabolic rates of songbirds at rest and also while engaging in high-intensity activity. Mercury has the potential to interfere with many of the physiological processes that regulate energy use in birds, but this has not been studied before. The ability of birds and most other living things to efficiently manage energy is critical for reproduction, health and self-maintenance, and even their overall survival. For example, when temperatures are cold and food is scarce, a bird's ability to conserve energy can easily mean the difference between life and death. At the same time, the ability to rapidly exert energy for behaviors like predator escape and long-distance flight is also of critical importance. What we found was staggering. Our study showed that birds exposed to

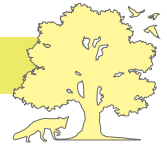
high levels of mercury pollution had a nearly 20 percent higher than normal resting metabolic rate and a 23 percent lower than normal peak metabolic rate. The substantial increase in resting metabolic rate, which represents the energetic cost of maintaining basic bodily functions while at complete rest, is likely due to the energy required to detoxify and eliminate a toxin like mercury from the body. This is energy that could otherwise be put towards beneficial processes like reproduction or put into storage, but is instead wasted on the elimination of the toxin. The drastic decrease in peak metabolic rate that we observed is likely due to a suppressive effect of mercury on the en-

“Global mercury emissions are currently 400 times pre-industrial levels and scientists are only beginning to understand the myriad impacts that this is having on both wildlife and human health.”

zymes and other proteins that enable birds to rapidly burn fat for energy. What all of this suggests is that birds living in areas where mercury levels are high, like many aquatic

(Below) Great Hollow's research published in *Environmental Pollution* and the *Journal of Ornithology* showed for the first time some of the harmful effects that exposure to mercury pollution from coal-fired power plants and other sources can have on migrating birds. (Right) Japanese barberry-invaded forest, where our research published in *Environmental Entomology* this year shows invertebrate communities to be negatively altered by this non-native shrub.





and montane ecosystems throughout the northeastern U.S., may have a compromised ability to both budget and rapidly expend energy, which might ultimately impact their reproductive output and survival.

For the second study, published in the *Journal of Ornithology*, Great Hollow's executive director, Chad Seewagen, traveled to Ontario to collaborate with other ornithologists from Western University to examine the impacts of mercury pollution on the migration behavior of birds - something that had never been studied before. Using miniature radio-tags and a continental network of radio-telemetry receiver towers throughout eastern North America, the team tracked the spring migration of yellow-rumped warblers that had differing degrees of mercury exposure. This new technology allowed the researchers to investigate for the first time whether birds living in mercury-contaminated areas can navigate properly and otherwise exhibit normal migratory behaviors.

The data revealed starkly different behavior between birds with low and high levels of mercury exposure, with the more highly exposed birds remaining for significantly less time at a migration stopover site than the others. Also, only half as many birds with high levels of mercury exposure were ever detected along the migration route, which could mean that the survival rate of these birds was lower. However, of the warblers whose migration paths the researchers were able to successfully track, all flew in the proper northern direction regardless of the mercury levels in their bodies. This suggests that the birds' orientation abilities were not disrupted by mercury exposure. "We believe that the rapid departure of birds with high mercury levels away from the stopover site indicates an important and yet-unknown impact of mercury pollution on the neurological and/or physiological mechanisms that control the migratory behaviors of birds," said Dr. Seewagen. Much more research will be needed to advance the very limited understating of the threats posed to migrating birds by global mercury pollution. Uncovering the impacts of mercury pollution to fish and wildlife has been, and will continue to be, a critical driver of improved mercury emissions regulations around the world.

Our latest publication from 2019 concerns the ecological impacts of one of our region's most invasive plants, Japanese barberry, which Great Hollow has been studying for the past three years. Since its introduction from Asia in the late 1800s, Japanese barberry has spread uncontrollably throughout Northeastern forests with largely unknown consequences for wildlife and ecosystem function. We began our work by examining the effects of Japanese barberry on arthropods (invertebrates such as beetles,

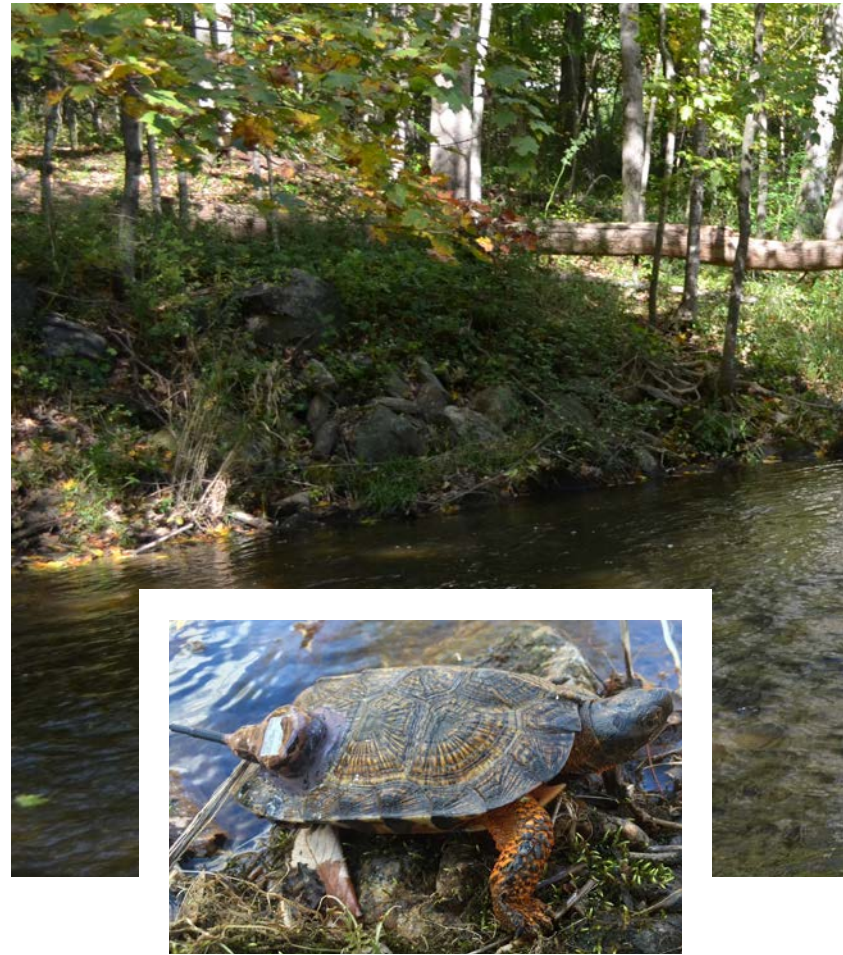


ants, spiders, and caterpillars), which play incredibly important roles in the forest ecosystem and form the foundation of the food web. The study, published in the journal *Environmental Entomology*, found that arthropods were significantly less abundant and diverse in areas of the forest where Japanese barberry is dense than in areas where native vegetation is still dominant. The number of arthropod species on Japanese barberry was only 77 percent of that on native shrubs, while the number of species on the forest floor in barberry-invaded areas was only 72% of that in areas composed of mostly native vegetation. The significant shifts in invertebrate abundance and community composition that we observed raise concerns about potential rippling effects up the food web to other wildlife. How those shifts affect food availability, and the composition and quality of the diet of insectivorous wildlife is something we don't know yet but have begun studying. Much more work will be needed to understand the ecological impacts of this non-native plant that has overtaken so many forests in Connecticut and other northeastern states.

STUDENT SPOTLIGHT

Great Hollow often supports student researchers through mentorship, small grants, and direct inclusion in our research program to help them gain the hands-on experience needed to become the conservation practitioners and scientists of tomorrow. For the past two years, we have been fortunate to work with a talented undergraduate student from Columbia University, Jason Hagani. Along with his academic advisor, Dr. Suzanne Macey of the American Museum of Natural History, we have been working with Jason to study the home-range sizes, movement patterns, and habitat fidelity of wood turtles in Connecticut.

The wood turtle is a freshwater turtle that has declined sharply in recent decades and is currently listed as a Species of Special Concern by the states of Connecticut and New York. While wood turtles have been well-studied in some parts of their geographic range, which extends from Virginia up to maritime Canada and west to the Great Lakes region, biologists know much less about their populations in southern New England and New York. Studies of the movement patterns and spatial requirements of wood turtles in this geographic area have been identified as a top research priority for the development of effective wood turtle conservation plans. To help fill in these knowledge gaps, Great Hollow's naturalist, John Foley, with additional support from the Friends of the Great Swamp (FrOGS), radio-tagged and tracked numerous wood turtles at study sites in Fairfield County, Connecticut and Putnam County, New York for six years, amassing a huge dataset from several individual turtles. For his honors thesis, completed this year, Jason used John's tracking data to study the home-range sizes and area requirements of wood turtles in this part of their geographic range, and examine year-to-year fidelity to their core breeding habitats. The results show that these wood turtles have smaller average home-ranges than wood turtles studied elsewhere in North America. Jason also found that each turtle's home-range in a given year overlapped with its home-range in the previous year by an average of only 53%, with ranges shifting an average of 69 meters per year. Importantly, many turtles' home-ranges spanned one or more major roadways. Vehicle collisions are one of the largest sources of mortality for wood turtles and a major contributor to their population declines. The take-home results are that habitat acquisition and protection efforts for wood turtles in Connecticut and adjacent areas should consider that they require a minimum of seven acres each, and habitats that are not in close proximity to roads should be prioritized. We are currently working with Jason and Dr. Macey



to publish these findings in a peer-reviewed journal in the near future.

Jason graduated with a B.S. in Environmental Science in the spring and has stayed at Columbia to begin a master's degree in Conservation Biology. We sat down with Jason to learn more about what drew him towards this project and into the field of environmental conservation in general.

Q: How did you develop an interest in nature and conservation?

A: It originated from my passion for nature photography. When I was in high school, I spent a week hiking in Banff National Park in Canada. I brought a camera along the way, as any casual tourist does, but through its lens developed a newfound appreciation for the natural world – and a hobby that would change my life. The incredible beauty of Banff inspired me to protect the remaining wild landscapes on Earth and all of its inhabitants.



Columbia University undergraduate student, Jason Hagani, tracking down a radio-tagged wood turtle.

Q: What drew you to study wood turtles for your senior thesis?

A: As a native Connecticuter, I was eager to conduct a senior thesis project that helped conserve the natural heritage of my home state. Turtles are a staple of New England wetlands and forests, so when I discovered Great Hollow's ongoing project tracking wood turtles, I knew it was the perfect opportunity to get involved with something that can help benefit a declining species.

Q: What do think are the most significant results you found?

A: I found that males have significantly larger core home ranges than females. This suggests that males travel greater distances during their day-to-day lives, but females will move exceptionally far on more isolated occasions, such as to nest. I also determined that the majority of the turtles spend a lot of their time in close proximity to major roads – a cause for concern due to the vulnerability of this species

to mortality from motor vehicles. Finally, the breadth of our dataset allowed me to determine that previous studies of wood turtles have used sample sizes that are likely too small for accurate measurements of home-ranges. They didn't track the turtles for long enough, essentially. I am now attempting to create a standardized method for determining the optimal amount of tracking data needed to accurately measure wood turtle home-range size, which will help improve similar studies of this species in the future.

Q: What are you planning to do next?

A: After my Master's, I hope to continue my education by pursuing a PhD in human-wildlife conflict in the tropics. My goal is to eventually work in a research position at a university or NGO, studying the complex dynamics that define the intersection between the human and natural worlds, and to find creative ways to combine conservation and photography.



It was another big year for our kids' environmental education programs which have continued to grow steadily in scale, popularity, and attendance. These science-based programs are central to what Great Hollow is all about by providing children with unique opportunities to explore the natural world while increasing their science literacy and understanding of the environment on which we all depend. It is through these experiences that we hope to foster deeper connections with nature and inspire future generations of environmental scientists, educators, and conservationists.

This year, we expanded and enhanced our catalog of programs that we offer to schools and other visiting youth groups. This comprehensive catalog is aligned with state and federal science standards, and covers a diverse array of natural history and life science subjects with which local teachers can use field trips to Great Hollow to supplement the science curricula of their classes. We had

our largest ever school field trip this year, with the entire Second Grade of the New Fairfield Consolidated School joining us over a four-day period for our Life of Plants program! We hosted trips from various other organizations this year as well, including community groups, Scout troops, day camps, and municipal parks and recreation departments. We are proud to serve as a community resource for these other important institutions in our area.

Our School Break Adventures, Kids' Nature Night, and Homeschool programs continued to be a huge success in 2019, loved by kids and parents alike. The topics covered this year ran the gamut from vernal pool amphibians, predator-prey dynamics, and the secret life of bats to the night sky, snow science, problem-solving with STEM, and much more. More than 500 children discovered how fun learning can be by participating in our education programs and camps in 2019, and we look forward to seeing many familiar faces again over the coming year!

A school group learning about the recovery of the eastern bluebird thanks to nest boxes



ECO-DISCOVERY CAMP



Great Hollow prides itself in providing a nature camp experience like none other in our area. Our campers have fun-filled, active days exploring all that our 825-acre preserve has to offer, all while receiving close, personalized instruction about everything from watershed ecology to wilderness survival. We think one parent summed it up perfectly when she said “You know you picked the right camp when you pick your kid up muddied and with two sets of dirty clothing! My son is having a blast and every time I pick him up, he is so excited to talk about what he did that day. This camp was made for a little guy like him!” Another parent said,

“You know you picked the right camp when you pick your kid up muddied and with two sets of dirty clothing! My son is having a blast and every time I pick him up, he is so excited to talk about what he did that day. This camp was made for a little guy like him!”

“Our son talks about camp ALL THE TIME! He is always telling me something about nocturnal animals, crayfish, or something else he learned that week. He’s so proud to be a Great Hollow camper.” Nothing makes us feel better

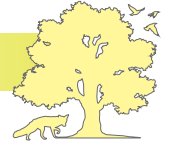


than knowing that we are fostering a child’s love of the outdoors which we believe to be the best way to inspire a lifelong appreciation of, and commitment to protecting, the natural world.

We had more than 100 children attend Eco-Discovery Camp this summer to enjoy weekly sessions like Creek Quest, Enchanted Forest, H2Whoa, and At Home in the Wild. A key part of our success this year was a new counselor-in-training (CIT) program that we began in partnership with New Fairfield High School. The program provides leadership training for rising 9th-12th graders who enjoy spending their days outdoors and are interested in working with children. Functioning as junior members of the camp staff, CITs gain valuable work experience while simultaneously satisfying their high school community service requirements. We could not have been more pleased with and proud of our first cohort of CITs, and greatly look forward to continuing this successful program with the high school next year.



SEASONAL RESEARCH STAFF



An important element of the research that we do at Great Hollow is our staff of seasonal interns and field assistants. Usually college students or recent graduates who are pursuing careers in conservation biology, these summer staff members work tirelessly and often in not-so-pleasant outdoor conditions to help collect the data on plants, bugs, birds and whatever else we need to answer our current research questions. In 2019, we were pleased to welcome two outstanding field biologists in the making, Hannah Miller and Heidi Faulkner. Both had previous field experience working with birds and were brought on to help with our research on the effects of Japanese barberry on the prey base and diet composition of ovenbirds, as well as our surveys of birds for the Asian long-horned tick. They also conducted bird surveys as part of Great Hollow's contribution to the Connecticut Bird Atlas Project, a multi-organization effort to inventory and map the distribution of birds across Connecticut. We could not have been more pleased with the professionalism and dedication they both displayed towards their work at Great Hollow. As importantly, Hannah and Heidi gained valuable professional experience to help advance their careers while also having loads of fun being part of the Great Hollow team. "Working at Great Hollow gave me

experience in areas I greatly wished for and gave me the opportunity to learn and grow," said Heidi after finishing up her 10 weeks at Great Hollow. "Not only was the work fun every day, but the position gave me a big step toward my future aspirations as a field biologist." After leaving

“Working at Great Hollow gave me experience in areas I greatly wished for and gave me the opportunity to learn and grow.”

Great Hollow, Heidi went on to work at the Cayuga Nature Center in Ithaca, New York while Hannah took a seasonal field assistant position with the University of Southern Mississippi's long-running and renowned migratory bird research program on the Gulf Coast. We are certain that they have bright futures in the field of environmental research and conservation ahead of them, and wish them great success.



MEET OUR NEW EDUCATOR



This year we were pleased to welcome Maggie Cozens to the Great Hollow team as our new Education Coordinator. In this role, Maggie has begun to further develop and strategically lead all of Great Hollow's environmental education programming and summer day-camp, and strengthen our relationships with area schools and other youth organizations. Maggie emphasizes field research techniques and exploratory learning in her teaching methods, and comes to us with a variety of experience teaching environmental and STEM education to students ranging from Pre-K all the way up to college. Prior to joining Great Hollow, she most recently worked for the Living Classrooms Foundation in Baltimore

where she developed and instructed marine and coastal science curricula for middle-school students on two-week sailing expeditions between Maryland and Cape Cod. Before that, Maggie led the graduate teaching assistant program for the University of North Carolina-Wilmington's Environmental Science Department, which involved teaching introductory and advanced environmental science classes and labs to undergraduates. She holds an M.S. in Environmental Science from the University of North Carolina-Wilmington and a B.A. in International Sustainable Development from Appalachian State University. Originally from Ridgefield, Maggie is happy to be back home in Connecticut as she works to take Great Hollow's environmental education initiatives to the next level.

COMMUNITY ENGAGEMENT

We always love to see people enjoying our preserve and using Great Hollow as the community resource that it is intended to be. In 2019, we were happy to hold more than 30 community events that were attended by a total of nearly 1,000 people! Guided hikes led by our naturalist, John Foley, never disappoint and continued to be extremely well-attended this year. Nobody leaves these hikes without learning several interesting things about the long history of the Great Hollow property and numerous fascinating tidbits about the species of plants and animals that make it their home. Further afield, we introduced people to some other outstanding preserves in our area with naturalist-guided hikes at Pootatuck State Forest, the Herrick Preserve, Great Swamp Wildlife Management Area, and Towner Hill Preserve. We also began offering guided paddles through the Great Swamp in neighboring Patterson, New York, which have so far been tremendously popular. If you have never explored this amazing and regionally significant wetland, be sure to join us next time!

We welcomed several experts from other organizations to provide outreach presentations and programs on a variety of subjects concerning our local environment. Dr. Amanda Cheeseman of the SUNY College of Environmental Science & Forestry gave a great seminar about her research on the ecology and behavior of the elusive New England cottontail rabbit, naturopathic physician, Dr. Shawn Carney of Northeast Natural Medicine, spoke about the ecology and treatment of Lyme Disease, Dana Goin of the Wolf Conservation Center discussed the natural history and public perception of the eastern coyote in our area, and Dr. Hannah Reynolds of Western Connecticut State University led a fascinating interpretive walk about mushrooms and other fungi found on our preserve. Outreach is a critical part of science and conservation, and we are always pleased to host experts from various backgrounds and fields to share the important work that they do.

Other events this year featured everything from maple sugaring, plein air painting workshops, jewelry crafting with recyclables, and weaving and wine to an invasive plant walk and talk, winter tree identification workshop, vernal pool exploration, full moon hikes, and so much more. The Great Hollow Photographers Club was very busy, leading several workshops and teaching people how to discover and enjoy nature through the camera lens. The Club also put on another fantastic juried art show, led by Club member and Great Hollow volunteer, Linda Hubbard. The second annual juried art show featured more than 100 beautiful paintings, drawings, and photographs

by dozens of professional and amateur artists from all over Connecticut and New York, and was attended by more than 200 people. Congratulations to first-place painting and photography category winners, Vivian Haberfeld and Carol Gibson!

We continued the annual tradition of Jazz Night on the Patio and once again enjoyed the company of our neighbors and friends over some wine, great music, and a roaring fire. Another event of ours that has now become a tradition is Hollow Fest, our annual celebration of the fall. More than 200 people turned out for Hollow Fest this year for a day of cider pressing, face and pumpkin painting, games, and lots of other activities for the family. We thank all of our partner organizations who joined us in making Hollow Fest a huge success again. We hope to see everyone who participated in our events this year back for more fun in 2020!





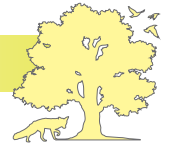
PLANTING FOR POLLINATORS



With the help of some fantastic members of our community, we installed our first pollinator garden at Great Hollow this summer. It is estimated that pollinators are responsible for producing one out of every three bites of food that we eat! Habitat loss and pesticides have caused steep population declines in many ecologically and economically important pollinators, such as butterflies and bees, so they need all the help they can get. Comprised entirely of native, pollinator-friendly plant species, our garden provides high-quality habitat for pollinators at Great Hollow while also serving as a new tool for us to use in our environmental education programs. Interpretive signage has been installed so the public may also visit the garden and learn about the natural history of monarch butterflies and the overall importance of other pollinator species. Be sure to check it out the next time you visit!



SPECIAL EVENTS SETTING



Many happy memories were made at Great Hollow this year by those who chose our preserve to be the site of their wedding or other special event. The historic buildings and grounds of Great Hollow offer a beautiful setting for sharing special occasions with friends and loved ones while surrounded by nature. We recently renovated one of our historic barns to also provide a unique and rustic indoor space for ceremonies, private parties, and other functions. We are impressed with the many creative and tasteful ways in which people have so far decorated the barn for their special event. Come check it out any time and be sure to consider Great Hollow as a one-of-a-kind venue for your next special occasion!



Become a Part of Our Community

Pledge your support for Great Hollow by becoming a member or making a tax-deductible donation at greathollow.org today.

call: 203-546-7789 | visit: GreatHollow.org | email: info@GreatHollow.org

ACKNOWLEDGEMENTS



We sincerely appreciate the donors, members, volunteers, and program participants whose support was responsible for so much of our success in 2019. Thank you for being a part of our community and making Great Hollow what it is. We hope you will continue your support and involvement in 2020 to help our young organization continue to reach new heights.

Generous donations to Great Hollow were made this year by the Goldring Family Foundation, Ada Howe Kent Foundation, Amy McIntosh and Jeffrey Toobin, Julie Burnett--Toscano, Dianna Delohery, Andrew M. Wallach, Linda Rohatsch in loving memory of SSgt Todd James "TJ" Lobraico Jr., and the Fairchild family in loving memory of Lester Fairchild.

Great Hollow is honored to have received a grant from the Eastern Bird Banding Association in support of our research on the effects of Japanese barberry on the diet composition of ovenbirds. We are also thankful to the Environmental Professionals' Organization of Connecticut for a grant to fund the installation of a pollinator garden at our preserve. Additional materials and equipment for the pollinator garden were generously donated by Claire's Garden Center, Timberwolf Tree Work, and Linda Gould.

Friends, neighbors, and community partners who volunteered their time and energy to Great Hollow this year include Greg Baird, Kim Botelo, George Buck, Connecticut Audubon Society-Deer Pond Farm, Debbie Corcione, Angela Dimmitt, Tom Doyle, June Falk, FRoGS, Justin and Kelly Goodhart, Green

Chimneys, Steve Grens, Amanda Griswold, Yuliya Gilshteyn, Claudia Henry, LL Bean, Naromi Land Trust, Kathy Nelson, Donna Noonan, Dawn O'Creene, John and Masumi O'Donnell, Tom Philbrick, Helder and Dorothy Prata, Preserve New Fairfield, Eric Slayton, and Beverly Steiger.

The following local businesses kindly donated prizes for the winners and runners-up of the 2019 juried art show: Bank Street Theater, Barn Gallery & Frame Shop, Claire's Garden Center, The Cue, Fairwood Wines & Liquors, Haviland Hollow Wine & Spirits, Locust Glen Garden Center, Lucia Ristorante, The Painted Lemon Restaurant, Sacred Grounds Coffee, Safari Collective, Visual Impact, and Zaragoza Restaurant.

This year, Great Hollow continued to be a fortunate recipient of numerous group service projects from New Fairfield Scout Troop 137. For his Eagle Scout Project, Griffin Flower created and installed several directional signposts at trail intersections to make it even easier for visitors to find their way around our nearly five-mile trail network. Jack Buck built boardwalks over muddy segments of the Green Trail for his Life Project, so now there will be much less slipping and sliding to worry about on this narrow trail of ours that runs along the wetland at Great Hollow's southern end. Matthew Gilshteyn also built boardwalks for his Life Project, along some wet and muddy sections of our Orange Trail. Paul Riter installed a much-needed railing along the bridge on the Green Trail for his Eagle Scout Project. Thank you, Griffin, Jack, Matthew, Paul, and the rest of New Fairfield Troop 137 for your craftsmanship and hard work! Finally, we want to thank our members for their ongoing support and commitment to keeping Great Hollow going strong!

2019 MEMBERS



Merritt Club | \$5000+

Gary Goldring | Henry and Sabine Renard | Amy McIntosh and Jeffrey Toobin

Family Level | \$200

Fleur Fairman | Winsome Jeffries | Barbara Kenney | Tara O'Brien | Helen Ostrosky | Marianne Trombetta | Andrew Wallach

Individual Level | \$50

Allison Brion | Julie Burnett-Toscano | Valerie Christie | Christa Giesecke | Karen Golden | Justin Goodhart | Michael Grover | Cathy Hagadorn | Claudia Henry | Becky Hrdy | Luke Howard | Cliff Jensen | Margery Josephson | Jeffrey Kilberg | Richard Korol | Gary Kraft | Keith Landa | Barbara Lobeck | Donna Magnoli | Maryjane Magoon | Francisca Matthews | Christina McCartney | Robert McWilliams | Michael Missailidis | Holly Murtha | Sharon Nakazato | Cynthia O'Connor | John O'Donnell | Masumi O'Donnell | Kathleen Peck | Lynn Purtle | Steven Purtle | Adrienne Qui | Mary Ann Raph | Alice Rodman | Peter Rostenberg | Nancy Russell | Mark Savoia | Susan Seeger | Christine Sheppard | Susan Manimg | Suzanne Telsey | Tee Vozella | Cari Weizenecker

Photographers Club | \$20

John Boas | Jeff Ginsburg | Justin Goodhart | Kelly Goodhart | Linda Hubbard | Susan Manning | John O'Donnell | Masumi O'Donnell | Peter Rostenberg



Great Hollow

Nature Preserve & Ecological Research Center



The land known as Great Hollow was originally protected and generously left for others to enjoy by Walter Gordon Merritt, pictured above c.1960. Established in 2016, the Great Hollow Nature Preserve & Ecological Research Center is a non-profit organization that is dedicated to upholding Mr. Merritt's wishes that the land be used to support biodiversity conservation and research, environmental education, and the public enjoyment of nature.