Northeastern Cave Conservancy News Vol. 27, No 2, October 2025

The Northeastern Cave Conservancy, Inc. (NCC) is a nonprofit committed to the conservation, study, management, and acquisition of caves and karst areas having significant geological, hydrological, biological, recreational, historical, or aesthetic features. To these ends, the NCC combines the resources and expertise of affiliated cave explorers, educators, scientists, landowners, and conservation officials. The NCC programs are focused mainly on the preservation of caves and karst. Outreach includes education in schools and local communities, establishment of park spaces on karstlands, and educational messages about the significance of groundwater pollution on this sensitive underground ecosystem. NCC members assist in the exploration, survey, and protection of these natural resources, and manage them so you can explore them yourself.

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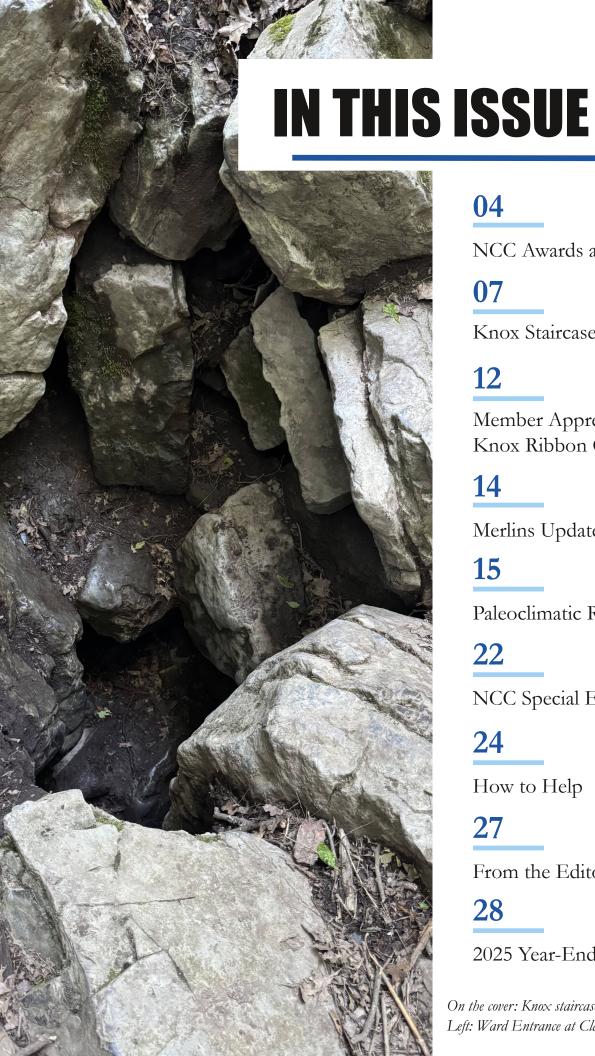
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04

NCC Awards and Achievements

07

Knox Staircase Project

12

Member Appreciation Day and Knox Ribbon Cutting Ceremony

14

Merlins Update

15

Paleoclimatic Research

22

NCC Special Events

24

How to Help

27

From the Editor

28

2025 Year-End Appeal

On the cover: Knox staircase. Photo by Erik Nieman. Left: Ward Entrance at Clarksville. Photo by Erik Nieman.



Awards and Achievements

NCC Recipient of the NSS Group Conservation Award by Leslie Hatfield

At the Awards Banquet at the June National Speleological Society's Annual Convention in Cobleskill, NY, the NCC was awarded the NSS's Group Conservation Award. The award was established to recognize the conservation efforts of an NSS group, typically a grotto or a conservancy, who has consistently "made major contributions to the conservation, protection, or restoration of cave systems or karst areas over a period of years and usually includes a body of work through hands-on action and outreach activities."

The NCC was recognized for a variety of its efforts, to include:

- *Our history of acquisitions
- *Maintaining detailed management plans for each preserve
- *Coordinating with the New York State Department of Environmental Conservation around cave access and bat conservation
- *Prioritizing acquisitions and opportunities for new preserves, often monitoring caves and karst for years before closing an acquisition
- *Our membership base and volunteers who have contributed countless hours over the years, keeping the properties in great shape and even coming together to build a 72 step staircase to stabilize the sinkhole and provide safe access to Knox Cave.

From the NCC President:

Receiving the Group Conservation Award, in many ways, confirms and gives public acknowledgment to the passion and dedication all of our volunteers have for the NCC and its mission. As a 100% volunteer organization, from the Board of Trustees to the Executive Committee, to the Preserve Managers, to the "boots on the ground" everyday volunteers, we have a membership that contributes countless hours, and monetary support, to this organization to ensure the preservation of caves and karst forever. Thank you to all the members who made receiving this award possible through your dedication, enthusiasm, and commitment to the NCC. Congratulations on a job well done! - Leslie



Photo by Ryan Mauer.

2025 Certificate of Merit Award Winners by Leslie Hatfield

Annually the NCC Board presents the Certificate of Merit Award to a member or members that have contributed many hours of service to the NCC, over many years. I am pleased to announce the 2025 Certificate of Merit award winners, Bill Folsom and Thom Engel. Both Bill and Thom epitomize the true meaning of a volunteer, "a person who freely offers to take part in an enterprise" (Oxford), with their indubitable commitment to the NCC. Thank you Bill and Thom!!

Bill Folsom



Bill first became a member of the NCC in 1999, the same year the NCC became a member-based 501(c)(3). Bill was initially attracted to the NCC, "coming to the NCC as a digger/explorer," he sees his membership and participation "...as an opportunity to help preserve caves for future generations and continue[s] to see it as such."

In 1999, Bill served as a Trustee for six months, which was followed by a 7-year stint as Vice President, and then serving as the NCC Treasurer for 17 years. Bill attended every Board meeting since joining in 1999 and every Executive Committee meeting from 2000 to 2025. Wow! That's dedication! Bill can also be seen portraying various characters when he steps into the role of the NCC's auctioneer at the NROs.

When asked what his hope was for the future of the NCC, Bill replied: "I hope that it continues to expand its footprint in the Northeast, eventually into other states. I also dream that more than the normal handful of doers will step up and help with the effort. Expanding the membership base beyond cavers should help with this goal..."

Thom Engel



Thom became involved in the NCC when he first moved back to the area at the end of 1984 and joined the NCC "as soon as membership was offered" in 1999. Thom's involvement goes back even farther, to 1984 or 1985, when he "...had concerns about the management of Knox. People were not getting permits and ignoring the winter closure." Thom then served as the Knox property manager.

In either 1985 or 1986, Thom started managing Onesquethaw Cave, when the NCC was managing the cave for what is now MHLC (Mohawk Hudson Land Conservancy). In addition to his time at Knox, Thom has recently served as the Vice President of the NCC. Currently, Thom serves as a co-manager of both the Onesquethaw Preserve and the Clarksville Preserve; he is the Special Use Coordinator, Thacher Park Liaison, Education Chair, and a Trustee.

When asked what his hope was for the future of the NCC, Thom replied: "To continue to grow and acquire or manage more caves. I have a list."

NSS Convention Donation to the NCC by Mike Warner

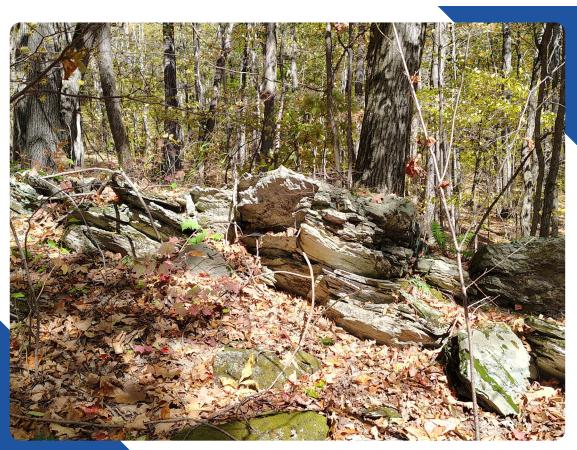
As a final official act, the 2025 National Speleological Society Convention is donating \$2142.74 to the Northeastern Cave Conservancy in support of the Merlins Cave land acquisition project.

The funds come from the stipend given to each convention by the NSS as a small reward for hosting a convention. The funds are unencumbered and may be distributed in any fashion the convention staff desires. The traditional use for a portion of the money is to throw a staff party: Mission accomplished. It was the decision of the NSS 2025 team to donate all of the remaining money to the NCC.

The NCC was a leading supporter of the convention as well as being a working partner. We were pleased to feature the many NCC preserves through the lens of convention activity. The NCC contributed to the overall success of the convention by working seamlessly with the staff to showcase the NCC and its preserves throughout.

Thank you to the NCC as a whole and to the many individual members directly involved in what was by every account an extremely successful and well regarded convention.

Mike Warner Co-Chair Emeritus 2025 NSS Convention



Merlins Property. Photo by Leslie Hatfield.



Knox Staircase Project

Step-by-Step: The New Knox Access Trail by Mitch Berger, Knox Cave Preserve Manager

Many of you know that Knox Cave was once a commercial operation. While a few of our readers had the opportunity to see what the place looked like at the tail end of that era, most of you have not. As you can likely imagine, the steep and eroding sinkhole most of us have become accustomed to traversing in recent years was not what the nearly 1,000 paying customers each week were subjected to when they arrived to see the famous cave. It's also not what the organized caving community experienced in the first few decades that the NCC owned the cave.

In the beginning...

In the commercial era, visitors accessed the cave much the same way many other commercial caves are entered today – via stairs. To get their intrepid guest explorers down the 45-foot sinkhole, the owners of the cave constructed a series of wooden staircases, with a few landings along the way. These stairs actually continued into the cave and down to the bottom of the entrance room (there was no big vertical metal ladder as there is today). Staircases and platforms such as those require care and upkeep, which isn't too hard to manage when you have a steady income stream from visitors near and far. But after the commercial cave shut down in 1960, there was nobody (and no money) left to do that work, and over time, the infrastructure deteriorated.



By the time Emily Davis first saw Knox Cave in the early 1970s, the platform and stairs from the lower half of the sinkhole had completely fallen apart, detached, and were nowhere to be seen. The stairs and platform from the upper part of the sinkhole were still there, but were visibly falling apart as well, and were in no shape to be safely used by visitors. This posed a major problem when the NCC acquired the cave in 1978 and was eager to show it off to NSS members at the following year's Convention, which was to be held an hour and a half away in Pittsfield, Massachusetts.

The trail we all knew and loved

The trail that most of you are familiar with was the answer to that problem, and it came into being surprisingly quickly. It was built by a group named Experiment With Travel, which was a school for youngsters grappling with emotional, behavioral, and other educational challenges. The school tried to help their students through a program that involved many outdoor activities (one of which was caving), and it also did a good deal of community outreach, which sometimes included trail work. Emily had formed a connection with the leaders of Experiment With Travel through caving trips and rescue training and reached out to see if the group would be willing to take on the project. They were, and they did. Over a small number of visits to the preserve, they built the trail that would (at least partially) survive for the following 45 years. It was constructed from wooden railroad ties (which they were able to obtain for free) dug into the hillside and held in place by poles and rebar pounded into the ground flush with the tops of the railroad ties. Trips from the 1979 Convention to Knox were a great success, and this was the NCC's introduction to the broader caving community.



The Experiment With Travel trail was a success – it held up fairly well for the first three decades of its life. This seems fairly impressive, given what you've just been told about its cost, construction speed, and the background and skill level of its designers and work crew. However, many winters of repeated freeze-thaw cycles slowly pushed the pipes and rebar up out of the ground, and being exposed to the elements continually for so long eventually started to rot the railroad ties. By around 2016, many of the railroad ties were gone, and many of the pipes were sticking up, though the trail was still serviceable. As the next few years went by, however, things got worse faster and faster, and by 2019, I and several others involved with managing NCC properties realized that we had a serious problem.

The poles and rebar had become serious hazards – were someone to fall, they could easily and severely injure themselves if they hit or landed on a pole. At the same time, so many of the railroad ties that were the original steps were gone that the poles and rebar offered the only structural things

to grab on to for aid in getting up or down the 45-foot sinkhole. Were we to remove them, people could slip and fall all the way down the sinkhole easily (and that would be even more likely to happen whenever the sinkhole was wet or covered in leaves... in other words, most of the time). With no easy way to "fix" the aging trail, it was time to figure out how to build a new one.

Figuring out how to build a new trail that would last

We turned to several cavers who had trailbuilding experience, and to connections they had, asking for input, initially hoping we'd be able either to find a group interested in building the trail as volunteers (or for food and lodging), or to be able to do it ourselves after getting some advice. One-by-one, these groups all turned us down after taking a look at the sinkhole, for some combination of reasons including that the sinkhole was too steep and that there's essentially no structure (i.e. no rock) on the side of the sinkhole where the trail belongs to anchor to or work with. Essentially, building a durable trail that would resist falling victim to the ongoing erosion and last at least another four decades was something none of the groups we informally consulted with felt was within their level of experience or expertise.

Having finally accepted the reality that we needed an assessment from a true professional trail-building firm, we set out to figure out which ones to approach, and many of our leads ended up pointing in the same direction: Tahawus Trails. Aside from having an impressive portfolio of projects in New York, it so happens that the Kingston Land Trust (our next-door neighbors at the Salamander Cave Preserve in Kingston) had hired Tahawus to design a network of trails at our neighboring properties. Bob Simmons asked if Tahawus would be willing to take a look at the Knox sinkhole, and they agreed. In November of 2022, Bob and I met with a representative from Tahawus, and for the first time, someone who came out to see the sinkhole did not tell us that it was something they simply couldn't take on. In January of 2023, Tahawus sent us a design proposal for a new Knox sinkhole trail (producing this kind of design is usually something they charge a significant fee for, but they kindly developed the Knox design gratis).



Top: Close-up of ties and poles. Above: Lumber lowering. Photos by Mike Warner.

The new trail design called for two main elements – a stone retaining wall at the bottom of the sinkhole, up against the rock wall on the far side of the sinkhole, and a series of timber box steps beginning at the retaining wall and working their way up the sinkhole roughly along the path of the previous trail. Tahawus offered two models for the new trail to be built – either entirely by their professional crews, or as a "hybrid" project where they would build the elements of the trail that they didn't think they could easily train volunteers to do, and they'd spend a few days with some of their crew training volunteers that we would provide to do the rest. Their plan called for Tahawus to build the retaining wall, and, in the hybrid model, for NCC volunteers to be trained to build timber box steps. After the training days, we'd be on our own to complete the project if we went with the hybrid approach. Money was a major consideration – we expected the trail to cost \$45-55k if Tahawus built it. It would be approximately \$15k less expensive if we took the hybrid approach. Still more money than we had available for the project, but a much more approachable fundraising goal.

Finding the money, finding the time

We knew that it would take significant time to fundraise, so we planned with Tahawus to pencil the project in for the Spring or Summer of 2024, and that we'd spend 2023 fundraising for the project. Leslie Hatfield, at the time our illustrious Fundraising Chair, did an amazing job with the campaign. She identified multiple significant grants (and some smaller ones) that we could apply for to support the project, she reached out to several folks highly involved with NCC leadership seeking significant contributions to get the ball rolling, and then took every opportunity via e-mail, personal appeals, and face time at caver events to round up enough donations for the project to become possible. Along the way, she collected lots of information and supporting documents to be able to apply for grant funding. We didn't get all of the grants we tried for (as is to be expected), but we did receive a \$10,000 Stewardship & Resource Management Grant from the New York State Conservation Partnership Program, and our generous donors pledged \$26,444, putting us over our \$36,000 goal.

And then, we had a problem

Since we'd successfully fundraised the money we needed to build the new trail, we thought we were home-free. However, when it finally came time in early 2024 to schedule training dates with Tahawus Trails, we hit an unexpected roadblock – they told us that due to their other commitments that year, they didn't believe that they could fit our project into their 2024 schedule. Since we'd planned this with them an entire year earlier, we weren't prepared for this news, and it presented somewhat of an emergency for two reasons: first, we'd received a grant that had to be used within a year, and second, if we delayed the project an additional year, what remained of the hazardous eroding and rotting trail would still be on display for everyone visiting from the 2025 NSS Convention in Cobleskill (it seems that NSS Conventions have a habit of driving speedy progress on trails at Knox Cave).

Our contact at Tahawus referred us to another organization – the Jolly Rovers Trail Crew. They're a different sort of group; they're an all-volunteer trail crew, but they also offer paid training for trail-building skills that other



Jolly Rovers visit. Photo by Leslie Hatfield.

groups want to learn. They came out for a site visit and met with me, Bob, and Leslie in April of 2024, and concluded that though they couldn't commit to building our trail, they would be willing to follow essentially the hybrid construction model that Tahawus had proposed, and use the existing design for our new trail. We agreed on two training weekends, one in August and one in September, where two of their crew members each weekend would work with and train NCC volunteers in all of the needed skills (this meant that we'd be building the retaining wall as well), and then we'd be on our own. We did a lot of advance planning with them regarding equipment and materials, and Leslie stepped into the Project Manager role to organize the effort and keep us on task.

Finally, the project begins!

The weekend before our first training, a sizable group of us widened much of the trail from the parking lot to the sinkhole because it would be necessary for heavy machinery to get all the way back there to move lumber, gravel, and other items needed for the trail's construction. When the August training weekend arrived, one of the first tasks was a sight to behold: we had to use a skid steer to move the "Knox Rocks" out of the way so that it could drive back to the sinkhole. These enormous rocks, placed at our property line in 1987 to deter vandals and partygoers from driving back to the sinkhole, are immensely heavy, and nearly immovable. They were levered off



the back of a truck with Bill Mobley's prybar, which at one point slipped out of someone's hand and, once a rock landed on it, became "permanently" embedded into the ground...until last year! At various points, it was unclear whether the Knox Rocks or the skid steer would win, but we did ultimately succeed at clearing the path. Just barely, though; Peter Haberland's truck has some scars from its later attempts to fit between the rocks on its way shuttling gear to and from the sinkhole.

On the first weekend, the trailbuilders taught us how to rig, lock off, and operate a Port-A-Wrap, a friction device none of us had ever seen or heard of before, to safely lower lumber down the sinkhole. With some effort, at the conclusion of the weekend, we convinced the trail crew that our racks and bobbins were not toys, and were perfectly suitable and rated for this kind of work – we returned the Port-A-Wrap and used our own gear for the rest of the project. While that was going on at the surface, a rotating group of volunteers was being trained in and working on building the retaining wall. When that was complete, we could finally begin building the timber box steps, though it was already halfway into Sunday at that point. By the end of the weekend, we'd built a whopping two steps (technically three, but the very first one is countersunk into the ground, so it's hard to notice that it's there). Since the plan called for about 70 steps, we jokingly concluded that we simply needed 34 more full work weekends to finish the trail!



Later weekends, and a major design decision

We made much more progress on the second training weekend in September, building either 6 or 8 steps. Still a long way to go, and our training time was over – now it was up to us. As one final complication, at the end of that weekend, the Jolly Rovers confided in us that they had a major concern that we wouldn't be able to complete the project as originally designed, and that due to the amount of rock and roots along the upper half of the path (just after it makes the left turn on the way up the sinkhole), we'd need to change from timber box steps to a traditional staircase at that point. We were rather unhappy with this prospect, both because traditional staircases are far less rugged than timber box steps, and because they're significantly less safe as far as the risk of someone slipping on them (and then falling all the way to the bottom). But at the rate we were going, we had several weekends worth of work before we'd be at that point.

Top: Port-A-Wrap training. Photo by Mike Warner. Above: First weekend results. Photo by Mitch Berger. Erik Nieman, Ben Brown, Lindsey Klinge, Leslie, and I all took turns at organizing work days or weekends over the following couple of months (including a couple of NRO trips). And by the time we were approaching the dreaded turn halfway up the sinkhole, Ben Brown and Mike Danchalski had become convinced that they could do the necessary engineering to steer the steps away from as much of the rock and roots as possible, and to tailor the lengths and bottom surfaces of the upcoming timber box steps' legs to sit flat on top of the remaining rocks that we couldn't remove, enabling us to make an attempt at completing the trail as it was originally designed rather than switching to a traditional staircase. They were right, though it took multiple weekends to find out whether we'd be able to make it all the way past the obstacles with the timber box steps.



Incorporating a piece of history, and the finishing touches

At the end of that stretch of the path, the trail reached the remaining four stone steps from the previous trail, near the top of the sinkhole, that are still in good condition. After some discussion, we decided that even though those steps could easily come out and make way for us to continue, we wanted to try to preserve the one piece of history that we could, and so Ben and Mike arranged for the timber box steps to come right up to the first stone step as a natural continuation of the trail. Above those stone steps, one final segment of timber box steps comes all the way up to the surface. With unbelievable excitement from all those present, at 4:34pm on November 16, 2024, the new Knox sinkhole trail finally reached the surface.



The project took place over approximately 8 weekends (some were single days, one was a four-day weekend over the Columbus Day / Indigenous Peoples' Day holiday, and of course there was the trail-widening prep day in advance, and several other mid-week and off-weekend days to complete other chores that didn't involve actually building a step), involved 41 volunteers who gave over 1,150 hours of their time to build the trail (and drove over 15,000 miles to do it). We raised \$36,444 for the project, and came in under budget at approximately \$23,350 (in large part because we ended up working with an all-volunteer trail crew, and also in part because of how good Leslie is at returning things we decided we didn't want). Through it all, Emily Davis and Mike Warner fed the trail crews home-

cooked breakfasts and dinners, as well as in-the-field lunches under the moniker "Eat Dirt Catering." They also provided lodging for any of the volunteers who wanted it, and so did the NSS at the new cabin at the James Gage Karst Preserve. Erik has been working hard at designing a new interpretive kiosk to tell some of this story at the top of the sinkhole, as it is the largest volunteer endeavor that the NCC has undertaken to date, and it shows that together, we are capable of anything. Seeing the project completed still brings a tear to my eye every time I get to visit the sinkhole, and I don't think I'll ever be able to sufficiently thank everyone who was involved for making it a reality. I can't wait to see what seemingly-impossible thing the NCC decides to take on next!

Top: At the halfway turn.

Above: Incorporating the historical stone steps.

Photos by Leslie Hatfield.



Preserve Updates



Member Appreciation Day and Knox Access Trail (aka Knox Staircase) Ribbon Cutting

by Leslie Hatfield

The weather cooperated with the NCC, providing a beautiful August day for a celebration of both the completion of the new Knox staircase and the annual

Member Appreciation Day. Over 65 attendees, including two attending virtually from Australia, enjoyed a beautiful day on the Knox Preserve with friends and family. Hot off the grill, veggie and beef burgers, dogs, and chicken kabobs were served, along with a variety of homemade salads.

On the schedule for the day, aside from relaxing with friends, and perhaps some caving, was the awarding of the Merit and Good Neighbor awards. The Merit Awards went to Bill Folsom and Thom Engel for their voluminous resumes of volunteer work for the NCC.

2025 was the inaugural year of the Good Neighbor Award, awarded to an individual, or individuals, who have property adjacent to one of our Preserves or who have otherwise been a true neighbor to the NCC.

Darren Bassler received the first Good Neighbor Award of the day, attending with his wife, Lisa. A karst landowner in his own right, owning Two Second Pit, Darren owns the property south of and adjacent to the Knox access trail, from the parking lot almost to the kiosk. Darren mows the area of trail immediately adjacent to his property and overall keeps a watchful eye on the goings-on at the preserve. Darren was very helpful in mowing an area on his property next to the parking area that allowed many vehicles to park during our numerous Knox work days, during Convention, as well as for the Member Appreciation Day.

The next recipients of the Good Neighbor Award, Amy Lauterbach Pokorny and Russ Pokorny, are true neighbors in the broader country sense of the term "neighbor." Amy and Russ own the Octagon Barn in Knox where the NCC holds their annual, 15 years running Barn Dance (except Covid years). The Octagon Barn was constructed, in part, to be used as a community space for gatherings, so the NCC gets use of the Octagon Barn gratis for both the Barn Dance and the fall quarterly Board meeting. When applying for grant funding, including for the Knox stairs, Amy and Russ have written integral letters of support for the NCC.



Russ Pokorny and Amy Lauterbach Pokorny. Top: Leslie Hatfield and Mitch Berger. Photos by Bonnie Pease.



The final event on the schedule for the day was the Ribbon Cutting for the new Knox staircase. Mitch Berger, Knox Preserve Manager, and Leslie Hatfield, NCC President, with a couple of false starts and dull scissors, performed the ribbon cutting duties. The ribbon cutting was the culmination of many hours of labor, over 1,500 hours, put in by over 40 individual volunteers starting in the summer of 2024 and most recently in September of 2025. Kudos and thank you to all of the volunteers for a spectacular job on a beautiful staircase! I would be remiss if I did not also thank all of our donors who made this staircase a reality with their very generous monetary gifts in support of this project. When asked, many of our donors felt strongly enough about the mission of the NCC to show their support of this project in a very generous way.

The Knox Access Trail Project was supported with funding from the New York State Conservation Partnership Program (NYSCPP) and New York's Environmental Protection Fund. The NYSCPP is administered by the Land Trust Alliance in coordination with the New York State Department of Environmental Conservation.

Additional funding was provided by the Honorable Daniel P. McCoy, Albany County Executive, with funds made available through the American Rescue Plan Act of 2021 (ARPA). ARPA funds were provided to eligible nonprofits to help mitigate the effects of Covid-19 on fundraising efforts.



Top: Darren and Lisa Bassler. Photo by Amy Lauterbach Pokorny. Left: Leslie Hatfield and Bill Folsom. Right: Thom Engel and Leslie Hatfield. Merit photos by Bonnie Pease.





Parking and Bathrooms at Clarksville

by Thom Engel

Before 2004 when the NCC bought Clarksville Cave, the landowners wanted cavers to park in the area above and behind June's Diner. When the NCC bought Clarksville Cave, we did NOT buy that parking area. It was not even part of the parcel that was subdivided. Nevertheless, over the years through different owners, we have had access to that upper lot. But we NEVER owned it. Last November, an individual parked up there and illegally entered Clarksville Cave using only his cellphone light. He quickly became lost and his phone died. Because of where he parked, the owners of Son's Deli simply could not see his vehicle was still there. Then, earlier this year, we had a lot of rain which caused some washout of the road to the upper area. These two combined to lead the owners to decide they didn't want cavers parking there. So, park in the lower area. If there isn't room, the NCC owns a 50-foot wide strip of land out to the road. It is delineated by the telephone pole and a drainage grate. Feel free to park in there. Additionally, Please do not use the bathroom in Son's Deli unless you are a customer.

Merlins Cave Preserve is expanding!

The time is **now** to assist the NCC in protecting **two small caves** and **an additional 35 acres** at our Merlins Cave Preserve. We are a quarter of the way to our fundraising goal of \$107,000.

Be a part of the Merlins expansion by donating today!







Latest Research

Paleoclimatic Research in a Southeastern New York State Karst Terrain

by Jeremy Shakun, Calen Rubin, Michael Griffiths, and Paul Rubin

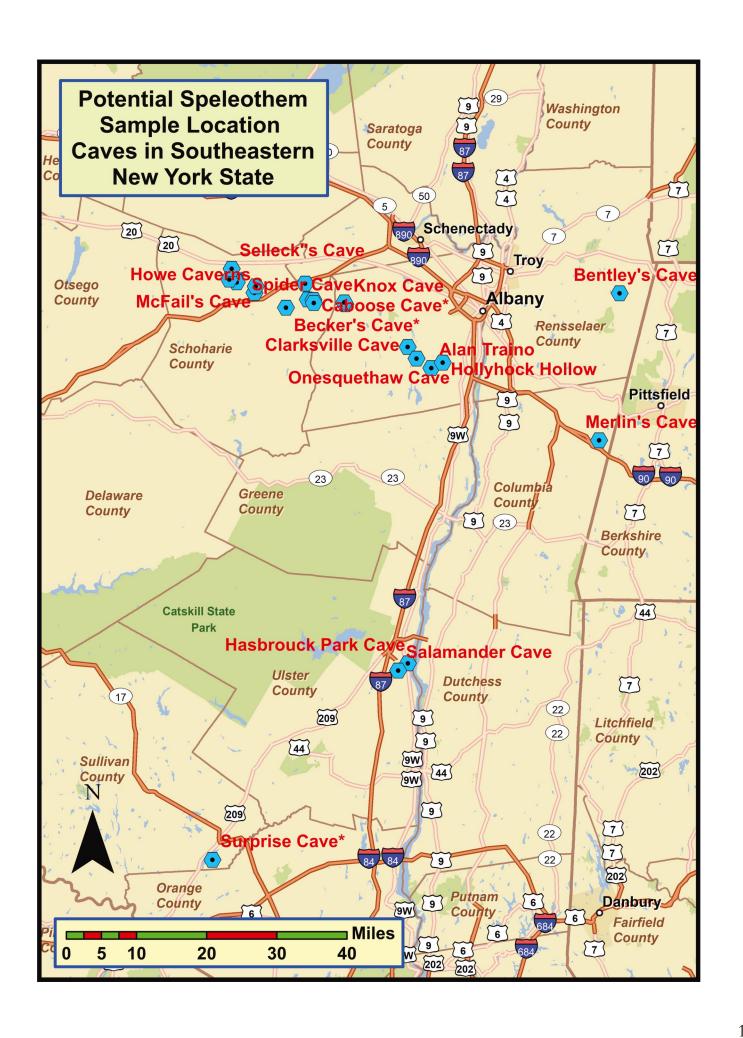
Analysis of speleothems and cave sediments will provide valuable data for terrestrial paleoclimate reconstructions. This research is now underway in southeastern New York State. This article provides an overview of work being conducted, in part, under a Northeastern Cave Conservancy (NCC) scientific research permit, as well as under a National Science Foundation grant. Boston College, MIT, and William Paterson University researchers are working to document terrestrial paleoclimate variations in eastern New York State during ice age cycles over the last 600,000 years. This is being accomplished through chemical analysis and uranium-thorium age dating of speleothems collected from caves and sinkholes. New data determined from analyses of broken speleothem samples collected from Northeastern Cave Conservancy caves are contributing to currently limited knowledge of how ice sheets respond to climate changes, how climate-tipping points work, and how sea levels rise in a warmer world.

Historic Dating of Cave Materials

Only relatively recently has absolute dating of geologic media via uranium-series disequilibrium dating (U/Th), optically stimulated luminescence (OSL), infrared stimulated luminescence (IRSL), cosmogenic nuclide, and other dating methods been conducted. The relative superposition of cave sediments and materials, and their subsequent alteration, allow interpretation of glaciogenic sequences, events, associated climatic conditions, and hydrologic conditions. Cave deposits (e.g., speleothems and lacustrine clay, sands, and other sediments) provide material that can be used to further refine cave age and geologic events. Gascoyne (1979) dated a stalagmite collected from the downstream end of McFail's Cave using U-series spectrometry. In support of Kevin Dumont's master's thesis (1995), Peter Smart dated a stalagmite collected from the Barrack Zourie Cave System, a short distance west of McFail's Cave. Stein-Erik Lauritzen and John Mylroie (2000) provided additional cave-related dates using U/Th to date speleothems collected from 1982 to 1996. At that time, the limit of the U/Th dating technology was 350,000 years. Van Beynen et al. (2004) further analyzed Gascoyne's stalagmite collected from McFail's Cave and produced a high resolution paleoclimatic record for the region spanning from 7.6 to 0 ka.

Modern Dating of Cave Materials & Biogeochemical Tracers

Ongoing karst research in Northeastern Cave Conservancy and other area caves by Boston College, MIT, and William Paterson University researchers is expanding the speleothem dating work of Stein-Erik Lauritzen and John Mylroie. PhD graduate student, Calen Rubin, working with Professor Jeremy Shakun at Boston College and Professor David McGee at MIT, is advancing U/Th processing of speleothems collected throughout the Hudson Valley region. The areal distribution of potential speleothem sample locations is shown on Figure 1. Interestingly, some of the same speleothem samples dated by Stein-Erik Lauritzen and John Mylroie have been reanalyzed with modernized equipment (e.g., Caboose Cave, Onesquethaw Cave, Barrack Zourie Cave). The age of speleothems analyzed by Stein-Erik Lauritzen and John Mylroie (2000) in 1995 and 1996 was limited to 350,000 years based on the limits of technology at that time (e.g., alpha counts). Since then, the technology has advanced to allow speleothem dating to about 600,000 years. This analytical work is ongoing and is already yielding superb results. Michael Griffiths from William Paterson University in New Jersey is collaborating with Boston College researchers. His work entails using biogeochemical tracers to reconstruct hydroclimate changes based on speleothem oxygen (818O) and carbon (813C) isotopes, elemental ratios (Mg/Ca, Sr/Ca), and initial 234U/238U activity ratios.



Marine Oxygen Isotope Curves

Marine oxygen isotope curves (Figure 2) were plotted by Lascu (2005) using data from Shackleton (2000) and Waelbroeck et al. (2002). The left Y-axis refers to Relative Sea Level (RSL) and the right Y-axis refers to mean water Oxygen-18 (18O). In this figure, the lower the 18O values, the lower the sea level. Generally speaking, glacial times have lower sea levels and higher ocean 18O values because ice sheets are isotopically light (more 16O). The assorted peak numbers refer to Marine Isotopic Stages that represent alternating warm (odd numbers) and cool periods (even numbers) in the Earth's paleoclimate (e.g., MIS 5e; a warm interglacial period). These curves are based on marine data derived from deep sea sediment core samples.

The Hudson Valley region is significant because it is located relatively close to the physical limit of area glaciation where glaciers attained thicknesses of thousands of feet, once covering all of Manhattan Island, upper New York Bay, and the northern half of Long Island. Research being conducted in area caves is significant on a global scale because it will help fill the current gap in terrestrial paleoclimate knowledge. Shakun and McGee (2022) received a National Science Foundation grant that supports this work.

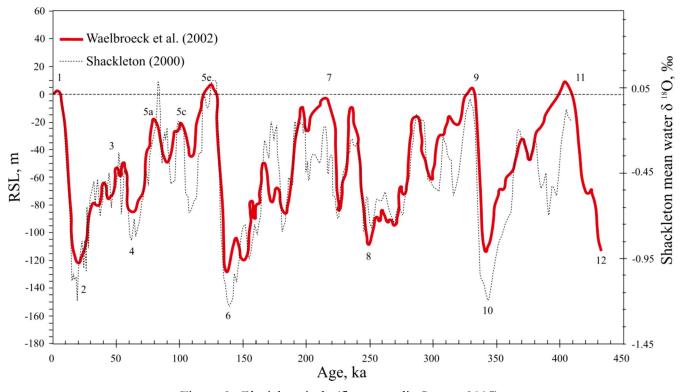


Figure 2: Glacial periods (figure credit: Lascu, 2005).

Speleothem Samples & Dates

To date, samples either already analyzed or yet to be analyzed have been collected from Clarksville Cave, Salamander Cave, Knox Cave, Ella Armstrong Cave, Howe Caverns, McFail's Cave, the Hollyhock Hollow Preserve, Schoharie Caverns, and some Feura Bush area caves.

Speleothem samples currently being analyzed by Jeremy Shakun, Michael Griffiths, and Calen Rubin fall into three categories. These are broken fragments found scattered within caves and sinkholes, core holes drilled into thick flowstone deposits (with permission and resealed holes), and broken, largely intact, stalactites or stalagmites.

Flowstone core samples collected from Howe and Schoharie Caverns represent the best long-term paleoclimate data sources because of the continuous record they provide. Figures 3 and 4 are Schoharie Caverns' examples, some of which extend up to four feet in length. Once coring is complete, core holes are backfilled with an epoxy resin mixed with flowstone fragments (Spötl and Mattey, 2012) or quick-dry cement and cave mud, making core holes indistinguishable from the surrounding matrix (Figure 5).



Figure 3. Flowstone core.



Figure 4. Flowstone core.

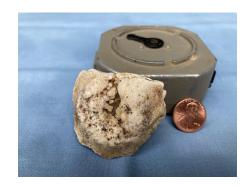


Figure 5. Core hole restoration within a large flowstone deposit within Schoharie Caverns.

Speleothems that exhibit numerous depositional layers provide the best, most continuous, paleoclimate record. However, where caves were vandalized and few or no intact formations are present, dating of numerous broken speleothem fragments can yield important paleoclimate and age date information. An excellent example of this situation is found in the NCC's Clarksville Cave where only scattered speleothem fragments remain (Figures 6, 7, and 8). Here, preliminary analysis of sediment age via optically stimulated luminescence (OSL) and radiocarbon dating of charcoal flecks indicates sediment infilling more 100,000 years ago, providing evidence that sediment influx into Clarksville Cave predates the most recent deglaciation. While valuable for dating of sediment influx during deglaciation, these methods do not extend far enough back in time to date the initial development of the cave. It is possible that one or more of the Clarksville Cave speleothem fragments will greatly improve our understanding of the cave's age and the number of glaciations it has survived.







Figures 6-8: McNab Hall

Corkscrew Area

Corkscrew Area

Speleothem dating is actively underway, and preliminary results have been determined for samples in many area caves. For example, the stalagmite sample depicted in Figure 9, found buried in cave mud, grew between 190,000-and 285,000-years BP and is punctuated with significant hiatuses. The oldest date documented thus far is about 624,000 years BP, documenting Schoharie Caverns' formation and survival through multiple glaciations (Jeremy Shakun and Calen Rubin, unpublished research), extending the cave's age back to at least Marine Isotope Stage 13 interglacial time (far right just off Figure 2 above). This ongoing work already indicated that several area caves in addition to Schoharie Caverns have survived multiple glaciations.



Figure 9. Schoharie Caverns stalagmite.

Chronologic Interpretation of Cave History

Another important aspect of dating cave speleothems is the ability to elucidate the chronology of events that occurred during a cave's developmental history. For example, many people are familiar with the glowing heart-shaped flowstone present in Howe Caverns' Bridal Chamber. This heart was almost certainly carved from a two-inch thick calcite layer present near the Silent Chamber at an elevation of approximately 915 feet above mean sea level (Figure 10). This deposit provides evidence that at one time portions of Howe Caverns had ponded, calcite-saturated, water present above glacial lake clays (Rubin, 2009). The banded calcite fragment shown in Figure 11 may be from the Silent Chamber calcite deposit. There is no other location in the cave with a similar deposit. Its presence, as well as other nearby calcitic pool deposits (Figure 12) may reflect calcite saturated cave and/or glacial lake water at a time when glacial Lake Schoharie (1170 feet msl) was starting to lower as the Delanson outlet (879 to 820 feet msl; Kozlowski 2024) became available.

A small stalactite found embedded within thick lacustrine clays below the Long Bridge in Howe Caverns (Figures 13 and 14) was U/Th dated to an age of 58,600 years BP, documenting subaerial speleothem formation prior to cave inundation by Glacial Lake Schoharie water.



Figure 10. Jones photo.



Figure 11. Possible fragment of Figure 10 deposit.



Figure 12. Jones photo.



Figure 13. Stalactite.



Figure 14. Stalactite in glacial lake clays.

The Future

Caves serve as important repositories of paleoclimatic and geomorphic data. Speleothem dating and geochemical analyses are exciting tools that allow new interpretation and understanding of earth dynamics. New information is being gleaned through assessment of conduit geometry, sediment provenance, hydrologic setting, and dating of speleothems and sediments via uranium thorium, optically stimulated luminescence, and radiocarbon methods. Modern speleothem and sediment dating technologies are being used to highlight the interaction between glaciation and karst. Past and current research documents that some southeastern New York State caves have survived multiple glaciations, and ongoing future work will document variations in climate and hydrologic conditions through time. Many are familiar with the quote: "The present is the key to the past." A variant of this might be: "Speleothems are the key to the past and the future."



Proglacial lake with upland forest.



Massive flowstone in Schoharie Caverns.

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Special Events

2025 Barn Dance by Kevin Dumont

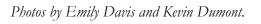
On September 20, about 100 people gathered at the Octagon Barn in Knox for our (nearly) annual Barn Dance — the 15th celebration of this beloved fundraising event. Guests enjoyed the lively calling, humor, and storytelling of Paul Rosenberg, accompanied by his band, Tamarack. During intermission, prizes were awarded through a bucket raffle, adding excitement to the evening. The venue once again proved nearly perfect; the only thing it lacked was a bit more elbow room — but cavers are generally fine with close quarters. We extend special thanks to the owners of the Octagon Barn, Amy Lauterbach Pokorny and Russ Pokorny, for their generosity.













CaveSim Comes to Thacher Park by Thom Engel

CaveSim was sponsored by the NCC to be at Thacher State Park on 6/28 and 6/29, the weekend after 2025 NSS Convention in Cobleskill, NY. For those of you unfamiliar with CaveSim, it is a 150-foot long artificial cave in a trailer. The object is to observe certain formations and cave animals but NOT to touch them. A person entering the cave wears a special helmet which allows them to be tracked in the cave. Each person starts with 100 points. Points get deducted for touching things they shouldn't. They were open from 9AM to 4PM. Daily numbers were as follows:

	Complete trips	Partial trips	Total Trips
Saturday 6/28/2025	371	184	555
Sunday 6/29/2025	278	94	372
Total for both days	649	278	927
Percent	70.0%	30.0%	100%

For those of you inclined towards numbers, 927 trips in 14 hours (9 to 4 over 2 days) averages one trip every 54.4 seconds. Sunday seemed busier despite the lower numbers. At one point, all 25 of the special helmets were in use. Thanks to Dave Jackson of CaveSim. Thanks to Carley Kiernan and her staff for helping with the set-up. Thanks to Leslie Hatfield for volunteering 6/28 and to Val Hildreth-Werker and Dave Hamer for volunteering on 6/29. We got one new membership using the QR code. Some minor donations. Many asked if it cost to go through. I explained that the NCC was sponsoring. A number of brochures were taken.



Photos by Erik Nieman.







How to Help

Join the NCC!

Annual membership levels:

Regular \$20 Regular + 1 Family \$25 Regular + 2 Family \$30 Regular + 3 Family \$35 Benefactor \$50 Institutional \$100 Life Membership \$400

Family Life Membership \$125

All checks made payable and sent to:

Northeastern Cave Conservancy, Inc. P.O. Box 254 Schoharie, N.Y. 12157 www.necaveconservancy.org







Giving to the NCC at Work

Many employers offer the opportunity to have donations deducted directly from your paycheck. Some even offer a corporate match of employee donations.

The NCC can be found on multiple corporate giving platforms. For businesses in the private sector, Benevity is commonly used. For New York State employees, donations can be directed to the NCC through the United Way campaign. Check to see if your employer offers directed donations and especially if they offer matching. It's a great way to support the NCC!

If you find your employer offers a directed donation option where the NCC doesn't appear, please reach out to treasurer@necaveconservancy.org to see if we can get us added.

Volunteer Opportunities



The NCC is seeking volunteers for the roles of Fundraising Chair and Membership Chair. For more information, contact Leslie at l.hatfield@necaveconservancy.org.

The Fundraising Chair will coordinate annual fundraising events, manage donor communications, maintain records of fundraising activities, and seek out sources of grant funding. The Fundraising Chair will report regularly to the Treasurer and collaborate with other committees to align fundraising goals with organizational priorities.

The Membership Chair recruits and retains members, manages membership records, ensures timely renewals, and promotes long-term commitments. The Membership Chair also organizes the Member Appreciation Day and encourages participation in NCC activities.

Volunteer Value by Vince Kappler

The VV reporting form on the website has been glitchy the past few reporting cycles and has been discontinued. In its place is a reminder to send an email with your data to me at volunteervalue@necaveconservancy.org or my personal email vkappler@ptd.net. All submissions received will be acknowledged by return email.

NCC volunteer work reported by members this year through June 1st are:

59 data point entries 5,383 miles traveled for work projects and meetings Total value of \$19,254



Northeast cavers have a 50+ year history of working to understand and preserve karst features in the region. More recently, the NCC has taken the lead in the protection, exploration, scientific investigation, conservation, and preservation of cave and karst resources in our area. Besides owning several properties, the NCC manages property for other agencies, has made presentations to local governments concerning land use, contributed to environmental impact studies, and advised local property owners on living with their karst properties. All of this work has and continues to be done by volunteers. By assigning dollar values to our volunteer work and adding up the sums, we can create the documentation that can be used for cave management proposals and karst protection battles. This documentation will also add support for any applications the NCC my make for federal, state, or private grants. The documentation may also be of value

when used to calculate charitable contributions for income tax purposes.

What Volunteer Value?

Nominating Committee Seeking Candidates for President and Secretary of the Northeastern Cave Conservancy



At the December 7, 2025 NCC meeting, the Trustees will elect the President and the Secretary, each for a two-year term. If you would like to be considered for either of these positions, would like to nominate someone for a position, or would just like more information on the process and requirements, please contact the NCC Nominating Committee at nominating@necaveconservancy.org.

The last day to submit nominations is November 22, 2025. Then the Nominating Committee will present the submitted candidates' information to the Trustees.

A summary of the election process and terms can be viewed at https://docs.google.com/document/d/1ss-IJ4LfCXbCuopMyMYE6h0kJcYIPcaiEum-MxnSyDo/edit?usp=sharing.

President:

The President is the Chief Executive Officer of the NCC and supervises the activities of the NCC within the scope detailed in the bylaws of the NCC. The President presides at meetings of the Board of Directors and meetings of the Executive Committee. Various committees report to the President as well as any ad hoc committees established for specific purposes.

https://docs.google.com/document/d/1kxXNoELOXjbiCeTWtrDI4sqWcBCsUlr9LhRIGeWJPkU/edit?usp=sharing

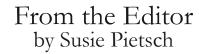
Secretary:

The Secretary keeps the minutes of the meetings of the Board of Directors and the Executive Committee, and prepares the agenda for these meetings. The Secretary is responsible for all organizational correspondence, sends out notices of meetings, and edits the Board Manual.

https://docs.google.com/document/d/1nXrs85cuetEjm8w2TUAQdUOqlV1zurEhmWlk0wVcu7E/edit?usp=sharing

Norm Berg

NCC Nominating Committee Chair nominating@necaveconservancy.org Northeastern Cave Conservancy, Inc. (NCC) http://www.necaveconservancy.org





Hi everyone! I'm Susie Pietsch, your new editor of the NCC newsletter, Northeastern Cave Conservancy News. I'd like to share a bit about myself and my relationship with caves, caving, and conservation for those who don't know me!

My caving journey started nearly two decades ago, though it wasn't until 2018 that I explored my first wild cave in the United States. I got turned on to caving while taking an undergraduate course in art history and learned about the Lascaux cave paintings in Montignac, France. I was very fortunate to visit Lascaux II while living in France in 2008 and I have since been to other decorated prehistoric caves there, including Chauvet II and Cosquer.

Some years later, in 2015, I co-led a student trip to Belize that included a visit to the Actun Tunichil Muknal (ATM) cave, a Maya archaeological site with stoneware, ceramics, and skeletal remains. Appealing to my previous studies in anthropology, this opened another window into caving that I

hadn't yet experienced. Then, in 2018, I went on my first "wild" caving adventure in Florida before I ever learned about the NSS, local grottoes, or that my home state of New York has some 700+ caves. I've since added a couple dozen more caves in a handful of states to my caving resumé and I try to stay as active as possible in the local caving community.

I live in Syracuse, NY with my partner and fellow caver, Tom Beasley (NSS #68777), and our hearty collection of rescue cats. Aside from my underground adventuring, I'm an amateur ceramic artist and a middle & high school French teacher. I have a passion for prehistoric cave art, especially in the decorated caves in southern France. I am also an animal advocate, vegan, and nature enthusiast, so preserving natural spaces and protecting flora and fauna are very much part of who I am. Cave conservation is no exception, and some of my favorite critters live underground!

I am extremely grateful for the caving community and the wonderful people I've met and friends that I've made. I consider it an honor to have been asked to take on the role of newsletter editor and I am thrilled to be doing something meaningful for the NCC. I look forward to bringing you volumes that are professional, informative, and exciting!

Susie Pietsch NCC Newsletter Editor NSS #68837

Photo by Craig Cantello.



The Northeastern Cave Conservancy News is published quarterly by the Northeastern Cave Conservancy, Inc. The Northeastern Cave Conservancy promotes the study and preservation of speleologically significant properties in the northeastern United States. The Newsletter editor accepts submissions via editor@necaveconservancy.org.

2025 Year-End Appeal

Are you interested in making a year end donation to support the work of the NCC? Please consider making a contribution toward the expansion of our Merlins Preserve. Our fundraising goal is to reach our target of \$107,000 which would enable the NCC to close on the additional 35 acre parcel at the start of the new year. What a great way to ring in 2026!

We embarked on this acquisition when the investment waters were a bit calmer, however, in these uncertain times land conservation is more important than ever. With this addition, the NCC would own the parking area and all of the land around our access trail. The gate by the road will be removed to allow for easier access for hiking, snowshoeing, and of course caving.

What: Merlins Preserve Expansion - Target \$80,000 to reach our \$107,000 goal.

Why: Protect two caves and expand Merlins to 71+ forested acres.

How: There are several ways to donate!

Donate via check: Northeastern Cave Conservancy, Inc.

Mail to: Northeastern Cave Conservancy

PO Box 254

Schoharie, NY 12157

Memo line: Merlins

Via Credit or Debit Card: Click here to donate now!



Merlins Preserve. Photo by Leslie Hatfield.

Benevity: Does your employer participate in a matching gift program through a platform such as **Benevity**? The NCC would love to receive the added bonus of an employer matched gift.

Are you a NYS State Employee? Donate through the NY State Employees Federated Appeal.

Give Directly from an IRA: (Taken from Merrill - Smart Ways to Give)



If you're age 70½ or older, you can donate to a qualified charity directly from a traditional IRA — or in limited circumstances, a Roth IRA, SIMPLE IRA or SEP IRA — without being subject to income tax on that distribution. The maximum amount you can donate — as much as \$108,000 in 2025 — is indexed each year for inflation.

If you're age 73 or older, donating money directly from your IRA to a qualified charity can count toward your annual required minimum distribution (RMD) and generally is not included in your taxable income.

— Kevin O'Neil, managing director, Investment Solutions Group

For further guidance with this type of donation, please consult with your financial advisor. For more information, reach out to Ben at treasurer@necaveconservancy.org.

