



INSIDE A BAT CAVE—

Winter survey at Hailes Cave

By Emily DeBolt
Photos provided by author

Adorned with helmets, headlamps, backpacks and layers of clothing we didn't mind getting dirty, we clambered down the icy slope one step at a time, being careful not to lose our footing. We were there in the February chill to do what any intrepid biologist would do in mid-winter: count bats, of course; what else?

I'm going to hazard a guess you didn't know NYS Parks has bat counters on staff. Neither did I, until I became one. While

working for the Saratoga-Capital District Region last winter, I was fortunate to join Parks Regional Biologist Casey Holzworth and NYS Department of Environmental Conservation (DEC) biologists to survey bats hibernating in Hailes Cave in Thacher Park, near Albany. Both the cave and the path to its entrance are closed to the public—so this was maybe my only chance to see the bats there, unless I waited for them to awake in spring.

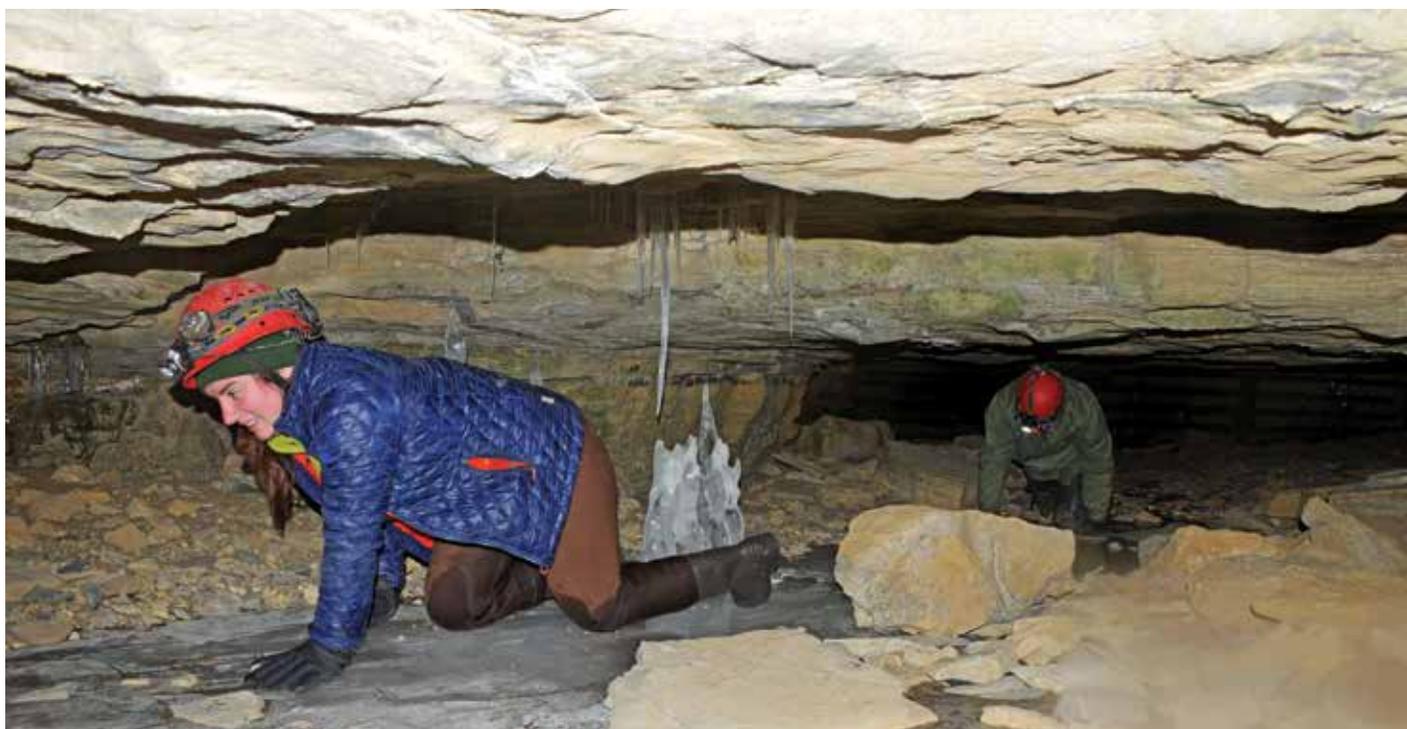
Hailes Cave is located at John Boyd Thacher State Park, which is about 15 miles southwest of Albany. Situated along the Helnderberg Escarpment, one of the richest fossil-bearing formations in the world, the park safeguards six miles of limestone cliff-face, rock-strewn slopes, woodland and open fields; providing a marvelous panorama of the Hudson-Mohawk Valleys and the Adirondack and Green Mountains. The escarpment was formed more than 100 million years ago, when layers of limestone, sandstone and shale were uplifted and eroded by wind, water and other elements. As softer rock wore away, limestone broke off along vertical cracks, leaving a jagged, perpendicular wall.

The longest of approximately 40 caves found in the Park, Hailes Cave has long been recognized as the most significant bat hibernation site in the NY Capital Region, and one of the most significant in the state. It houses all six species of bats that hibernate in NY, including three that are very rare and are protected by either state or federal law. The cave is the site where the devastating bat disease known as white-nose syndrome was first discovered in 2007. Following this discovery, bat numbers there plummeted from approximately 16,000 individuals to 1,000 over the next two to three years. Since then, that number has climbed to 3,700, however, that appears to be mainly the result of bats from other hibernation sites consolidating into this popular cave. The increase is only in one species, the formerly common little brown bat. Three other severely affected bat species continue to decline as best as biologists can determine. Keeping tabs on the populations is why a bat survey is conducted each year.

A few days before the survey, Casey and I visited the cave site to do some reconnaissance and check the route. It was a good thing we did. There was snow: lots of it. There is a narrow crack in the escarpment called Helm's Crevice (also lovingly known as 'Fat Man's Misery') that you climb down, or should I say squeeze through, to get to the cave, and the top of the opening had been filling in with feet and feet of snow. Needless to say, we had to do a lot of digging. (Okay, I'll admit it—Casey did the lion's share of the digging, but I did help.)

When we made it through Fat Man's Misery, we had to hike down along a narrow trail skirting the edge of the cliff face before reaching the bottom of the escarpment and the cave entrance. I was expecting to see a big, looming opening, but this was not the case. Due to the geology of the bedrock of the escarpment, the caves at Thacher are short and stout—this means no walking. Instead, the only way into this cave is by crawling on your hands and knees. But we didn't explore the cave that day; we just checked that we could get down to it, and peeked at the water levels just inside to make sure it would be accessible. Yup, that's right: a low cave where you have to crawl through water. These bats sure know how to pick 'em.

Now you might be wondering, as I did at first, about the water. I mean, its winter—isn't everything frozen? Well, right at the cave entrance the water was frozen. But once you got into the cave, it was actually much warmer. The heat from the ground keeps the cave well above freezing, and that means water—even in the dead of winter.



Researchers must crawl on their hands and knees to reach the part of the cave where the bats hibernate.



In 2013, biologists installed a gate to protect hibernating bats from inquisitive people. The gate is made from 20-foot-long steel pieces, each weighing 200 lbs, hand carried, and welded into place (see bottom photo).

After assessing the water levels and cave entrance, Casey and I retraced our steps back up. A longstanding regional biologist for Parks, Casey had done this trip a number of times. I, however, was having second thoughts about voluntarily making this venture back down again the following week. Maybe I could wait for a warm summer day... But I knew those bats wouldn't be there in the summer; they only congregate in caves for the winter and I sure wanted to see them.

So, the following week, Casey and I went back to Thacher and met up with NYS DEC staff including Carl Herzog, the state biologist in charge of bat conservation and management. Back down through 'Fat Man's Misery' we went: skirting along the edge of the cliff, and down to the cave entrance.

The cave entrance was even lower than I remembered. You had to do a belly

crawl for the first bit before the ceiling gradually rose enough to allow you to get on your hands and knees. The five of us in this venture crawled in single file. As we broke through the thin layer of ice

atop the water, it looked like a vast bed of broken glass. Luckily, with all the winter clothing we were wearing, we didn't feel the shards of ice. Beautiful icicle stalactites hung just inside the entrance on the sides of the cave where the temperature regularly vacillates above and below the freezing point.

About 75 feet in, we came upon a locked bat gate. The barrier is made of more than 4,000 pounds of steel, all carried in by hand and then built and installed in place. Casey was part of the team of NYS Parks staff, volunteers from the Northeastern Cave Conservancy, and staff from DEC who installed the gate in 2013 to help protect the bats from cavers and other interested explorers. The bats can still get out of the cave—but it keeps people from getting in. Staff and volunteers carried 20-foot-long pieces of steel weighing 200 lbs. each down through the crevice, along the cliff face, and into the cave. Having traversed this path with just a backpack—and finding it not very easy—I could not imagine how they did it. It is truly an amazing feat and really shows the commitment these folks have to protecting the bats and managing the park in a way for people and bats to co-exist.





Biologist Casey Holzworth checks cracks and crevices for bats. Some bats, like the ones pictured on the right, were easy to spot.

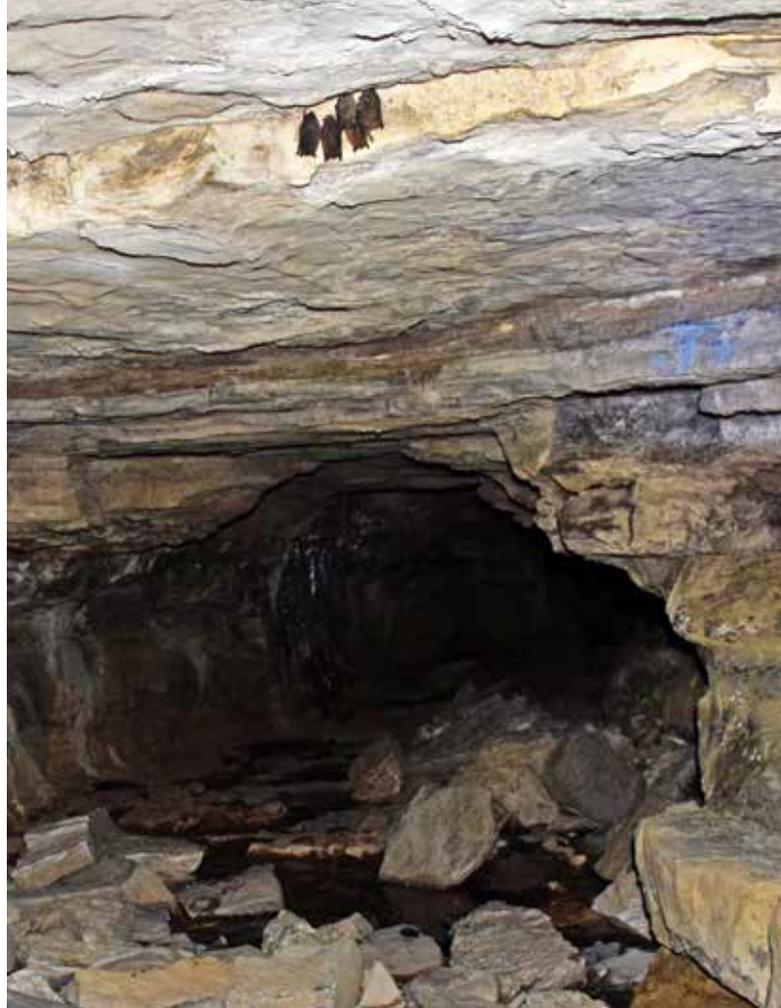
Once past the gate, the ceiling rose up again a bit so that I could walk hunched over in some places. It felt spacious. Here is where we really started looking for bats. It was obvious the folks I was with had done this before. They immediately spread out, looking in the tiniest of cracks and crevices for these hibernating mammals. We saw small groups here and there throughout the cave; the DEC biologists kept count. The further into the cave we went, the deeper the water got. The biologists had on waders. I did not. Like I said, they'd done this before. So I stayed put for a bit while they finished surveying the back part of the cave, where the water was deeper than I thought wise to venture.

During the survey, everyone was very careful not to disturb the bats. There was no unnecessary talking and no loud noises. Just crawling and counting.

Being part of this bat survey was an amazing experience. I got to tour a cave that few people get to see. And I felt I was part of something special—keeping track of the state's bat populations.

I cannot imagine a world without bats. I, for one, am not all that fond of mosquitoes.

Previously with the NYS Office of Parks, Recreation and Historic Preservation, **Emily DeBolt** currently works at her family's plant nursery in Fort Ann, NY.



Do Not Disturb

DEC urges outdoor adventurers to suspend all winter exploration of cave and mine sites known to contain bats so as not to disturb them. Human disturbances are harmful to the state's bat populations since the arrival of the disease known as white-nose syndrome, which has killed more than 90 percent of bats at most hibernation sites in New York.

Research shows that white-nose syndrome makes bats highly susceptible to disturbances and even a single, seemingly quiet visit can kill bats that would otherwise survive the winter. Experts believe that when bats are disturbed during hibernation periods, it forces them to raise their body temperatures, which causes their fat reserves to be depleted. This affects their energy levels and places the bats in a compromised state, which can often lead to death. To prevent this, people need to stay out of bat caves completely.

For more information about white-nose syndrome, check out DEC's website at:

www.dec.ny.gov/animals/45088.html