

Clarksville Cave Preserve Management Plan

INTRODUCTION

Clarksville Cave is likely the best-known and most-visited, undeveloped cave in the Northeast. People routinely visit the cave from New York, New England, New Jersey, Pennsylvania, Ontario, and Québec. It is visited by experienced cavers and unescorted, poorly-equipped neophytes.

Clarksville Cave has about 4800 feet of passage and three usable entrances: Thook, Ward, and Gregory. (A fourth entrance between Gregory and Osborn was opened by digging.) The former North entrance has been filled in by the current owner. The Osborn Entrance on the same parcel as Gregory provides access to over 25 feet of passage. To reach the rest of the cave requires diving.

The cave is generally divided into five sections. From the extreme upstream end of the cave to the upstream end of the sump leading from the Lake Room is Pauley Avenue. From the Lake Room downstream to where the water sinks near the Big Room is Perry Avenue. The area from the Big Room to the Bathtub is unnamed. From the Bathtub to Brinley's Sump are Upper and Lower Cook Avenues, and from Brinley's Sump downstream to the Gregory entrance is called Colvin Avenue. The Thook Section comprises the Pictograph Crawl and passages leading to the Thook entrance.

The Northeastern Cave Conservancy (NCC) owns a 11.3-acre parcel containing the Ward Entrance (hereafter referred as the Ward parcel) and the related, but unconnected Ladder Cave. It also owns a contiguous parcel of 2.9 acres containing the Gregory and Osborn entrances and overlying much of the Gregory section of the cave (the Gregory parcel). The total preserve is 14.2 acres

PURPOSE OF A MANAGEMENT PLAN

The purpose of a management plan is to describe what is on a property and how it should be managed. A plan is not a static document that once written is placed on the shelf and forgotten. It is a document that is to be used and referenced on a regular basis. The property managers must follow the plan unless there is a compelling and overriding reason for doing otherwise. Unless there is an immediate need, nothing should be done at a property that is not in the plan. If something new is desired, the plan should be amended only after careful, complete, and thorough analysis of the proposed changes or additions. Then, the amendments must be approved by the NCC board. Think of the management plan as an operating manual for a preserve.

HISTORY OF THE PROPERTY

Clarksville Cave has one of the longer histories of any New York cave. The earliest datable petroglyph in the cave is from 1811. An early description of the cave comes from a letter authored by Teunis Houghtaling in 1818. (There were at least two Teunis Houghtalings living in the area at the time, so it is unclear which one wrote the letter.) The descriptions given are very specific indicating that Houghtaling in some way measured the Gregory and Ward sections of the cave. The letter first describes the Gregory section of the cave giving its length as 348 to 350 feet. Next, the Ward section was described.

An early description by an individual writing under the pseudonym of Viator, suggests that the Gregory end of the cave was commercialized. Viator's description matches Verplanck Colvin's image from his 1869 article. This suggests the cave may have been commercialized for at least 50 years.

About the same time the cave was visited by the Reverend Sylvester Eaton, the brother of Amos Eaton, geologist and one of the founders of Rensselaer Polytechnic Institute (RPI). In the second edition of *An Index to the Geology of the Northern States* published in 1820, Eaton noted:

The largest of these caverns is the great cave at Bethlehem [New Scotland was not yet a separate town], twelve miles southwest of Albany. This is a few feet more than a fourth of a mile in length. Throughout its whole extent we can trace the fissure overhead; though the edges of the rocks above have pitched in against each other so as to close it.

The cave was described in the 1824 *Gazetteer of the State of New York* by Horatio Gates Spafford. He writes:

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In the limestone of this Town, there have been discovered some extensive Caverns, one of which has been explored for a quarter of a mile in length, and the other about 40 rods. [40 rods = 660 ft.] The principal one is at Bogardus's, or Mrs. Ludlow's, 12 miles SW from Albany, where people, fond of such excursions, may go a great distance underground, and see a long, dark, crooked, dirty, great hole, where the water once ran, perhaps see some toads, and bats, spiders, and so forth, get comfortably tired, dirty enough, and make a good escape in getting out of it. I have explored some of these wonderful Caverns, and, excepting now and then a stalactite, have found nothing worth the trouble. A gentleman tells me he can perfectly recollect seeing a smart stream issue from one of these Caves, some years since, and well remembers the time, though not the year, when it ceased to flow out of it, having probably found some other passage, underground.

Recently, a local using a metal detector near the Ward entrance found a 1824 penny. It is clear visitors have been losing change at Clarksville for about two centuries.

The cave was shown on David Burr's 1829 map of Albany and Schenectady Counties.

Amos Eaton and his students inspected the cave on the 4th of July 1831, after traveling nearly 20 miles, and stayed in a tavern. Below is from Eaton's journal account for that day:

Mon., July 4, 1831: Troy, Albany, Bethlehem Set off for the Helderbergs. My son, Wm. B. Eaton [age 12], and myself in our carriage. We carry the students' clothes. They go on foot. [List of 11 students.] We arrive at Bethlehem Caverns at about 4 pm. Students collected petrifications and examined the nearest cavern to Celuck's [Clark's ?], where we put up.

The earliest known, published "lengthy" description we have of the caves at Clarksville comes from an anonymous article entitled "The Clarksville Caves" and printed in the September 17, 1842 issue of the New York State Mechanic. The editor of the Mechanic at this time was Ephraim George Squier who went by E. George Squier. This description is likely his work. In fact, his reference to the "cave mania" at the beginning of the article slyly refers to his own article describing Balls and Howes Caves that appeared in the September 3, 1842 New York Tribune.

The caves were briefly described the following year in 1843 by William Mather, an early New York State Geologist and author of Geology of New York - Part 1 comprising the Geology of the First Geological District:

The cave at the village of Clarksville...had a current of air passing out of its mouth at the time I explored it, so strong as to make it difficult to enter it with a lighted candle.

Later he writes:

Small objects that would remain suspended in the water, and that were left in the water of the cave, are stated to come out of the spring [at the Mill Pond.]

From the beginning visitors to the caves at Clarksville have quite literally left their mark on the caves, by carving their names or initials in the walls. This sort of defacement is frowned upon today, but the petroglyphs provide a record of 19th Century visitation to the cave. (Squier says his group, "traced our names in the rock.") There are many of these. A few notable examples are:

Year	Petroglyph	Notes
1811	G W L	earliest known carving
1816	John Mann	
	Amos Eaton	updated and in script (possibly done in 1831)
1832	S W Williams	possibly Stephen Williams, a local resident then between 40 and 50
1839	E Brinley Amboy NJ	at Brinley's Sump – Edward Brinley II – 1839 RPI Graduate
11/22/1844	JJ Sherman / E P	either Joseph or Josiah Sherman – both lived in the

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		area and were of an appropriate age
11/15/1850	M E Blodget / AAC / JJS	Mary E Blodget (one of only 2 women known to have left their names in the cave) – the JJS is in the same style as JJ Sherman (1844)
May 1862	Joel Y Bloomingdale	of New Salem, was a house and carriage painter
1863	Oscar Sager	an Oscar Sager of Clarksville married Margaret Pangburn of Unionville 5/12/1872
8/12/1864	D C Gould	general merchant and fish & fruit peddler in Clarksville
June 1869	William Osborn	for whom Osborn Cave is named
8/18/1887	J McIntosh	John McIntosh – carpenter in Clarksville
8/17/1890	Maggie Houck	the 2 nd woman – Houck is still a common local name.
1888	W C Bailey N Lebanon	possible Rev. William Bailey, the temporary pastor at the First Reformed Church of Bethlehem
7/29/1890	Lewis Van Etten	

French's 1860 Gazetteer of New York also briefly describes the caves at Clarksville:

Near Clarksville are two caves, extending respectively 1/8 and 1/2 mi. under ground. Streams flow through each of them.

Verplanck Colvin probably visited the Clarksville Caves many times. He describes them at length in his article about the Helderbergs published in Harper's Monthly Magazine in October 1869.

At Clarksville, twelve miles from Albany, and eight or ten miles southeast from the Indian Ladder, are more caves. Two of these are well known; the entrance of one is in the backyard of one of the village houses. The subterranean river is the house well; a pair of steps lead down into a crevice in the rock. They have no other water. For drinking it is unsurpassed but it issues from lime rock, and is therefore hard and unfit for washing. This same river bursts forth near by in the bed of the Oniskethau, and aids that stream to run a saw and paper mill. Chaff thrown upon the river in the cave is soon found floating on the mill-pond.

Colvin seems to have been the first, at least in writing, to surmise that the two caves in Clarksville are, in fact, a single cave:

These two caves are said to be respectively one-eighth and one-half a mile in length. They should not be called two caves however, for the "river" seems to flow from one to the other and forms a connection which a person who likes ice-water baths might explore. Taken as one cave they may exceed a mile in length.

In the early 1900s there, may have been a fatality in the Gregory section. An older resident of Clarksville explained that as a result of this, the Gregory entrance had been closed by piling debris against the entrance. This has not been verified, but it does explain the change in the appearance of the entrance from Colvin's 1869 drawing to that of the latter 20th century. A thorough online newspaper search for the circa 1900 fatality yielded nothing about a fatality and a conversation with Steve Crooks, local Clarksville historian, also revealed nothing.

The illustrations in Colvin's 1869 article are based on Colvin's own drawings. However, these drawings, although aesthetically pleasing, exaggerate and romanticize greatly. Dimensions are more than doubled in 'The Styx' – the present Lake Room.

Sometime during the 1930s or earlier, the McNabs ran pipes into the Ward Entrance to draw water for his strawberries. (Clay Perry mentions this on page 44 of Underground Empire.) The pipes are still in the Big Room in the cave.

An Aug. 14, 1951 article in the Schenectady Gazette describes how the Gregory entrance, "lost" some years ago when the entrance was closed" was opened by Northeastern Regional Organization chairman Duane Featherstonhaugh and Boston Grotto chairman Tom Barr. "After talking to residents

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who recalled the second cave, they found and opened the entrance." This "small entrance, about two feet wide, is located on the side of a hill. A 10-foot drop leads to large passages ... Featherstonhaugh and Barr mapped the cave completely and filed a report with the State Museum in Albany."

Until 1962, there were two caves in Clarksville. Colvin had conjectured that they were really a single cave, but no one had proven it. That summer, drought conditions lowered the level of Brinleys Sump. In mid-June a group from Boston Grotto consisting of Marlin Kreider, David Gandle, Dan Hoyt, Joe Lanza, and Warren Stranahan were perhaps the first to push through. That same summer an Albany Speleological Club group with Tom Grant, Rich Guarriello, and Mike Nardacci also passed the sump. However, some accounts suggest that the sump had been passed in previous droughts by Duane Featherstonhaugh in the early 1950s or even in the 19th century.

On July 4, 1963 Marlin Kreider, Dan Hoyt, and Warren Stranahan from the Boston area and Chuck Porter then living in Knox dug out a crawlway near the entrance to Wards Cave and got into a downstream extension of the cave.

About the same time Tom Grant had mapped the back section of Gregory and realized it ran near the Ward entrance. On July 5, he, Bill Waycie and neophyte caver Joe Guy "immediately found the connection area Marlin had dug out" and toured the back section of Gregory. While they were in there, Marlin Kreider decided that his group should not have left the crawl open, returned, and sealed the crawlway entrance with rocks. (The back section of Gregory was well decorated.) When Grant's group returned to the crawl, they weren't sure if the way was blocked or if they were just disoriented. Either way, they exited the Gregory entrance and thus became the first people to do a through trip from entrance to entrance.

In February 1977, Malcolm Baker and Thom Engel were skiing the area north of the Ward entrance. They came upon a shallow fissure blowing out a column of warmer, moist air that condensed in the cold. Returning in April with Bill Ritz, they started to dig in the fissure. (Engel was unable to interest any cavers in the dig and recruited co-workers.) After going down 11 feet they broke into open cave. It was named Thook Cave.

In 1980, Shawn Veltman was in the south corner of Thook. He heard voices and smelled cigarette smoke. He heard the scraping of someone crawling. One voice said: It ends. Another asked: Are you sure? Yes, said the first voice and the two crawled away. Shawn waited for a while, moved a few rocks, and crawled into the end of the Pictograph Crawl.

In the mid to late 1980s Paul Rubin and Engel started a study of the hydrology of the cave. Much of this was based on an aborted plan by the Town of New Scotland to use the cave as a water supply for Clarksville. (It was during this time that the Bathtub Feeder and the nearby Orifice Passage were first found and entered.) The study demonstrated that the stream in the cave was coming from the Lake Room at the upstream end of the cave. This prompted a group of cavers – including Norm Channing, a cave diver – to excavate the floor of the Lake. After several sessions a tight entrance to an underwater passage was revealed.

Norm Channing dove the sump, but only reached an air bell near the far end. A short time later, John Schweyen dove the sump and after about 200 feet surfaced in air-filled passage. On subsequent dives he explored this with Jim Brown and discovered 1000 feet of passage. The upstream end of the cave terminates in a breakdown pile.

It was with the hope of eventually re-entering this passage that four RPI students and graduates started removing breakdown from the Lake on February 26, 2001. When done digging for the night, Rob Svensson decided to enter the sump for a quick look. Entering the sump with a nearly empty pony bottle, he became disoriented, quickly used up his air, and drowned.

Other minor discoveries have added to the cave. In the 1970s Warren Hall used dive gear to explore the Pinch Passages near the upstream end of Perry Ave. In the 1980s, Engel and Rubin discovered the Bathtub Feeder. Clayton Pauley found and pushed the Orifice Passages "downstream" of the Slickenslide Block Room.

Heavy rains from Tropical Storm Irene in late August 2011 caused noticeable changes throughout the cave system, as reported in the Dec. 2011 Northeastern Caver. The most striking change was at Gregorys Cave, where a few feet of fill constricting the entrance were removed, large blocks of limestone were shifted, and trees were uprooted. A large amount of water flowed from a normally-dry gully west of the Gregory parcel. This obliterated the approach trail to Gregorys nearly washing out NY Rte 443. This

might have been the surge which drowned a Clarksville woman not far downstream. The entire area from the highway to the Gregory entrance became a wasteland of boulders, mangled trees, and debris up to several feet thick. Several NCC cleanup efforts have cleared much of this away. Post-Irene debris-clearing at the main Gregory entrance opened another tight entrance just to the south.

The Ladder Cave was originally a grike or fissure-depression about ten feet deep. Thom Engel and Doug Hauser began the dig in the 1970s and they got down around three feet before giving up. A Connecticut group (possibly led by Gordon Burritt) then continued with the dig.

In the early 1990s Jim Kapusta, Mike Myers, and Jason Scheen took on the project and removed lots of old bottles, cans and goat bones from the hole. A ladder was installed, and Dave Waters began helping out. They hoisted out massive amounts of material with a big green garbage can and a mechanical-advantage pulley system. Dirt around the top was removed to bedrock, and excavated rock slabs were laid up in a stone wall around the dig.

Bill Cox, the old-timer known as Popeye who hung out at Clarksville, also "provided moral support," according to Dave. Others, including Tom Ebert, Ed Lucas and Tom Rider, took over the dig later on.

Ed Lucas remembers that once the entrance shaft got down to cave passage, the first digging effort was to the southwest. Then the diggers worked northeast, with exciting finds of ribbon formations there. Finally they returned to the southwest passage and were rewarded with flat crawls requiring minimal digging and abundant small formation grottoes. Most of these formations were subsequently looted from the cave.

The northeast and northwest ends of the Ladder Dig could connect to existing mud-plugged passages in Clarksville Cave. A caver's young son once went past the flowstone barrier at the mapped northwest end of the Ladder Dig. That heads toward a plugged passage near the Thook entrance.

After the fatality in 2001, the owners of the Ward entrance, three sisters, asked the NCC whether it would be interested in purchasing the cave. The original parcel was about 22 acres. It was subdivided and the Conservancy bought the western parcel. The closing was 23 September 2004. The following month the Albany County legislature voted to give the original 0.46-acre Gregory parcel to the NCC. On 9 December 2018 land overlying much of the Gregory section was purchased. This made the preserve a single, larger parcel.

UNDERGROUND RESOURCES

Biological – White Nose Syndrome was noted in the cave in 2008. Before that heavy visitation had left it unused as a bat hibernaculum, though bats are still occasionally seen. In 2008 a Northern Long-eared bat was identified during a bat count. A 2018 bat count in the cave counted 3 little brown bats, 2 tri-color bats, 1 big brown bat, and 1 unknown *Myotis*. A 2020 count found 2 little brown bats and 1 tri-colored bat. They were unable to count in the Gregory section due to high water at the entrance.

The invertebrates found in the cave are not endangered and do not appear to have been affected by human visitation. These include: *Stygobromus allegheniensis*, an aquatic, troglitic amphipod; *Scoliopteryx libatrix*, the cave or herald moth; and *Ceuthophilis maculatus*, a cave cricket. The cave also seems to be a location where mosquitoes over-winter.

Geological – Clarksville Cave is formed in the middle Devonian Onondaga Limestone. It is developed on the strike of a system of faults that can be followed throughout the entire cave and outside as far south as Onesquethaw Cave and as far north as Thacher Park. (The fault can be seen in several places in the cave, most notably in the Slickenslide Block Room and near the south end of Perry Ave.) The result of this fault has been to thrust the underlying Schoharie sandstone up into the east side of the cave. (This is best seen at the Waterfall Passage where it intersects Lower Cook Avenue. The broad ledge over which the water flows is the Schoharie.)

In several parts of the cave there are hints that the original passage was a phreatic tube. This is best seen in parts of Perry Ave. At some point the water drained from the system and the tube was altered by vadose water. This passage was subsequently filled by significant amounts of glacial material. (The pebbles in the fill are imbricated implying deposition by water.) In places on the top of this fill there

are varved clays and sand. These were likely deposited at a time when the cave was flooded, probably from a proglacial lake formed as the glaciers were receding, at the end of Pleistocene. (The lake may have filled the upper valley of the Onesquethaw west of the east side of Bennett Hill.) As the glaciers continued to recede, the lake drained, and water started to flow in the cave. It is possible that some of the potholes seen in the ceiling of the cave were formed at this time. Much of the fill in the cave was removed, but in places the water found a new route rather than using the old passage. Two examples are seen just downstream of where the Pictograph Crawl enters Perry Ave. and downstream of the Lake Room where one can either crawl over the fill or walk through the water.

Hydrological – The water in the cave comes from two sources: Onesquethaw Creek, which sinks in several places, and a recharge area generally bounded by Stove Pipe Rd, NY Rt 85, and NY Rt 443. There is compelling evidence that the stream seen in Diddy Cave is the same stream in Clarksville Cave. Flows can be as low as 2 to 3 gallons/second to as high as 60,000 gallons/second.

Where the Onesquethaw Creek comes off the Union Springs shale onto the Onondaga limestone, the Town of Bethlehem maintains the Wolf Hill Dam. The function of the Wolf Hill Dam is to shunt most of the water in the upper Onesquethaw to the Vly Creek Reservoir via a pipeline. (The outlet of the pipe is near Airport and Overhead Caves.) This redirection of the water which was approved by the state in 1964 seems to be the primary reason why Brinley's sump now generally has air space whereas it didn't historically. The dam is supposed to be maintained to permit a minimum of 2.5 cubic feet/second (1.6 million gpd) to pass under the dam through a small pipe. Due to shale washing down from upstream, this pipe frequently gets plugged. So, depending on the status of the pipe, the flow regime in the cave might vary.

Another issue with the diversion relates to the timing of its use. When the reservoir is full, the Town closes the valve which has resulted in flooding in the downstream end of the cave. For example, after Tropical Storm Irene, Osborn eventually stopped flowing. It then started again without any additional precipitation. This was caused by closing the diversion. This unexpected flooding has been noted at least four times since Irene.

The speed with which water can rise in the cave in response to rain events or snow melts is dependent on a number of factors. The most significant seems to be how saturated the ground is to begin with. A frozen or saturated ground results in a fairly quick response in the cave. Dry soil in the cave's watershed leads to a slower, lesser rise. As the water rises in the cave it takes different routes in that part of the cave between the downstream end of Perry Ave and the Waterfall Passage.

- P At low flow the water flows off to the east side at the downstream end of Perry Ave and then is next seen at the upstream end of the Waterfall Passage.
- P As the water rises, it overflows the bedrock "chute" at the extreme downstream end of Perry Ave. This water is next seen at the upstream end of the Bathtub Feeder.
- P As flow increases, the water splits in the Bathtub Feeder and some of it flows into the Slickenslide Block Room. This water flows down into the Orifice Passages and is next seen in the Waterfall Passage.
- P At the highest flows, the water flows two directions from the Bathtub. Most of the water flows into Lower Cook Ave, but some of the water flows back toward the Slickenslide Block Room. This runs into the Orifice Passages before getting there.

As the result of flooding there are several areas of concern in the cave. These are, from north to south: the Big Room, the Bathtub, Brinley's Sump, and Gregory entrance area. The Big Room can flood with four feet of water. When this happens the downstream end of Perry Ave can also sump. There is an upper crawl that bypasses this sump.

The Bathtub can also sump. A more serious concern than the sump is the power of the water flowing out of the Bathtub and down into the upstream end of Lower Cook Ave. Passing through the Bathtub at high flow can be dangerous. The north end can act as a stilling pool and it isn't until one is halfway across that the current is encountered. A rope and use of ascenders are recommended during these conditions.

Brinley's Sump typically has several inches of air, though it readily sumps shut. When shut the passage is still passable, however, there is evidence that water can back up the Chutes a significant

distance. There have been two rescues here caused by individuals diving the sump when there is no air. These were the Simon Yee rescue in 1984 and the rescue of two Berkshire Community College students in 1988.

The lower end of Gregory also floods. When water is overflowing out of Osborn, the Gregory entrance is flooded. (This is especially true since the concrete was placed in Osborn to stabilize the lip of the entrance and even more so since Irene.) At times the water in this part of the cave can get deep enough to rise up and flow out of the Gregory entrance.

Paleontological – The cave contains large deposits of Pleistocene-aged fill. While no bones have been found in the cave, it is possible that some bones may turn up. The hydrologically-related Diddly Cave has yielded significant deposits of a Pleistocene micro-fauna including deposits that have been carbon-dated to interstadial periods – periods of warmer conditions during glacial periods. Diddly is the northernmost fossil location of the pack rat (*Neotoma floridana*).

The bedrock contains no unusual fossils. The lower part of the Onondaga, the Edgecliff member, where most of the cave is located, is a reef limestone and has many coral fossils.

Archeological – No archeological resources are known from the cave.

Historical – Clarksville Cave contains many 19th century petroglyphs documenting visitation to the caves from 1811 to the turn of the century. The best of these exist in the Gregory and Osborn sections of the cave, but they are found throughout the cave. (See table on pages 2 & 3.)

SURFACE RESOURCES

Biological – The predominant tree on the property is the sugar maple (*Acer saccharum*). Hemlocks (*Tsuga canadensis*) are common on the ridge along the east side of the parcel around the Ward Entrance. Elsewhere oaks (*Quercus* sp.), cherry (*Prunus serotina*), and shagbark hickory (*Carya ovata*) are found among the maples. There are some trees of significant size along the west edge of the Ward parcel and in the northwest part of the Gregory parcel. Much of the northwest section of the Ward parcel is relatively young forest.

Near the parking area along with the maple, staghorn sumac (*Rhus typhina*) is dominant. This is also the area where invasive garlic mustard (*Alliaria officinalis*) is found in the greatest concentration, though it is found in places all over the property. Buckthorn (*Rhamnus cathartica*), another invasive species, has been found on the property. Most plants have been cut and they are being monitored. Since 2006 Oriental bittersweet (*Celastrus orbiculatus*) has become a problem near the beginning of the trail by the upper parking area. The bittersweet has become a significant problem and is spreading. Also there is a small patch of Japanese knotweed (*Fallopia japonica*) on the Gregory parcel.

Native ground cover includes ferns and wild sarsaparilla (*Aralia nudicaulis*). Wild flowers include wild columbine (*Aquilegia canadensis*) and both the round-lobed and sharp-lobed hepatica (*Hepatica americana* and *H. acutiloba*).

The preserve is used by a variety of animal species ranging from the sharp-shinned hawk (*Accipiter striatus*) to the red eft (*Notophthalmus viridescens*). The most common animals are the red-backed salamander (*Plethodon cinereus*), chipmunks, (*Tamias striatus*), the eastern gray squirrel (*Sciurus carolinensis*), and the northern flying squirrel (*Glaucomys sabrinus*). There is evidence that porcupines (*Erethizon dorsatum*) are on the preserve.

Geological – Most of the two parcels are underlain by the middle Devonian Onondaga limestone. This is a reef limestone. The limestone is generally covered by a thin layer of soil derived from forest duff. Along the west side of the property there is a small area where the soil is not present revealing a bedrock pavement with clints and grikes. There are deeper soils near the kiosk and toward the parking area. These may be lacustrine sediment possibly deposited in a proglacial lake.

A small segment of the northwestern corner of the property includes part of a 20-foot limestone cliff continuing onto neighboring parcels, with deep fissures and cedar trees above.

Hydrological – Excepting the overflow channel from Osborn Cave, there is no surface water on the property. All rain water and snow melt sinks into joints and sinkholes. During Tropical Storm Irene in 2011 an unprecedented flood pulse came down the normally-dry gully west of the Gregory parcel and deposited approximately a meter of rocks and debris over about a third of the parcel and as far as the Gregory entrance. The floodwaters overtopped the box culvert leading under Rt. 443 and eroded the shoulders of the road.

Paleontological – No paleontological resources are known to exist. Some filled grikes or shafts may contain such resources.

Archeological – No archeological reconnaissance has been done on the property.

Historical – No historical resources have been found on the property.

ASSUMPTION OF RISK STATEMENT

Cave exploration and hiking on karst terrain may involve risk or injury, even death from various hazards, both obvious and obscure, including, but not limited to, slippery and uneven ground, open pits, injury by acts of other people, falling, being struck by falling objects, becoming lost, the presence or sudden appearance of water, and hypothermia. All cave visitors will abide by the normally accepted rules of [safe and conservation minded caving](#) as outlined by the [National Speleological Society](#), 6001 Pulaski Pike, Huntsville, Alabama 35810-1122.

ACCESS POLICY

Clarksville Cave is managed in a park-and-go caving manner. At the present time the cave is closed from October 1st through April 30th as it serves as a potential hibernation site for the Northern Long-eared bat, *Myotis septentrionalis*.

Groups where any money has exchanged hands including but not limited to cave-for-pay, camps, schools, colleges, and outdoor education programs, as well as churches and scouts must contact the Special Use Coordinator for information on access to the cave at specialuse@necaveconservancy.org.

Other access requirements are:

- P Visitors must be properly equipped. Each individual must have a helmet and at least three (3) independent sources of light.
- P No groups of more than 15 individuals shall be allowed in the cave except by special written permission. This is both for the safety of the group and of the cave issue.
- P The cave and property shall be closed during rescues and at the discretion of the managers.
- P All visitors entering the cave must have a change of clothes and commit to post-caving WNS decontamination. See: <http://whitenosesyndrome.org/topics/decontamination>

At the discretion of the preserve managers, the property boundaries may be posted.

Based upon winter entrance monitoring we should determine the number and degree of winter visitations. If deemed necessary, a gate may be constructed at the Ward Entrance. If this is done, the gate would be locked open on May 1 and locked closed on October 1.

USE CONFLICTS

The listing under the Endangered Species Act of the Northern Long-eared bat, *Myotis septentrionalis*, as threatened creates a conflict between bat hibernation and cave visitation from October 1 through April 30. Federal and state law require that the cave be closed during this period.

RESEARCH RULES

All research carried out on the NCC preserve must meet the following criteria:

- 1) Researchers must initially contact the NCC science coordinator.
- 2) The goals and objectives of the research must be clearly defined.
- 3) There must be a clear beginning and end to each project, with the exception of long-term monitoring studies.
- 4) The work must not cause permanent damage to any caves, natural features, native biota, or historical resources nor interfere with natural hydrologic or chemical processes.
- 5) The research plan must assure the maximum safety of all concerned.
- 6) The work must not interfere with the "experience" of other property visitors.
- 7) Unless specifically authorized by the NCC Board, researchers must operate within the confines of the established management plans for each property.

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EXPLORATION RULES

The potential for expanding the cave exists upstream through the sump in the bottom of the Lake Room. Special written permission from the preserve managers for diving anywhere in the cave is required. Any person wanting to dive anywhere in the cave must be certified in cave diving by the NSS-CDS or an equivalent organization.

Any digging projects must be approved by the preserve managers. Persons proposing a dig project shall submit a plan to the managers detailing where they plan to dig, how long they plan to dig, and where they plan to dispose of the spoils. Plans should also include how the diggers plan to remediate the dig should it be abandoned. Projects that include potential passage modification require specific approval from the preserve managers. Any dig that is not worked on for more than one year, excluding cave closures for bat hibernation, shall be considered abandoned and any subsequent work in the same area will require the managers' approval.

Results of exploration trips will be conveyed to the preserve managers. All new exploration will be map-as-you-go.

PUBLICITY POLICY

Regarding publicity about the cave itself, except as noted below, the cave is not to be publicized in magazines or newspapers of general circulation nor on radio or television. Cavers' publications like The Northeastern Caver and the NSS News may contain information on the latest discoveries. Some grotto publications may also have information, but again these have limited circulation and usually do not give locations.

Clarksville Cave is unique among NCC preserves in that it is located in a relatively populated area. NCC should consider, when possible, participating in the annual Clarksville Day.

SURFACE MANAGEMENT

The two contiguous parcels comprising the Clarksville Cave Preserve have about 14 acres (11.27 around Ward and about 3 acres at Gregory). The well-known nature and the small-town setting of the preserve create unique challenges in managing the surface and the cave.

- P No camping shall be permitted on the property.
- P No parties shall be permitted on the property except by special written permission of the preserve managers.
- P No parking between 11PM and 7AM. The Albany County Sheriff does check the property.
- P A kiosk has been constructed and maintained near the parking area. The kiosk provides a list of rules, a well-secured map of the cave, and other material deemed appropriate. When the karst nature trail is constructed, this kiosk will serve as a source of information on the trail.
- P Quiet time is from 9:30PM to 7AM.
- P A roofless, two-part changing area near the parking area is available and visitors should be encouraged to use it.
- P Property is managed as "Carry it in. Carry it out" facility.
- P No Hunting or trapping.
- P No wood cutting without written permission.

The Gregory parcel was damaged during Tropical Storm Irene in August 2011. Some of this has already been remediated. The storm also deposited 15 to 18 inches of clay and stones in the Osborn overflow channel. This should be removed. A steep slope of eroding glacial drift is slumping down over the Gregory entrance. This will need to be mitigated if it becomes problematic in the future. Possible options include excavation, retaining walls, or a culvert entrance. With an increased likelihood of severe storm events due to climate change, plans should be considered towards reducing the impact of another flood pulse upon the Gregory entrance area.

RESCUE CONSIDERATIONS

Clarksville Cave has one of the longest records of rescues in the Northeast. (Only Knox Cave may be longer.) Most rescues have resulted from visitors using extremely poor judgment. These fall into two

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categories: inexperienced individuals showing their inexperience, and poorly equipped visitors. This seems to be changing. Since 2001 there have been only two rescues. (One of these was right at the Ward entrance.)

There remains one area of concern. In the Beverly Schwartz rescue and the recovery of Rob Svensson rescuers relied on the small opening at the base of the former North Entrance to run wires and hoses. With this entrance now filled in, rescuers will need to resolve problems at the upstream end of the cave in a manner different from the past. It is 1100 feet from the Ward entrance to the Lake Room. Telephone lines have been run this distance before, but due to the shallow depth of the passage, small portable 27 MHz CB radio transceivers work well here and in an emergency would establish communications quickly and easily. A test should be conducted with more modern 450 MHz FRS radios, or with cell phones, to see if they work equally well. Ham radios might also be used.

Running hoses or extension cords this distance would not seem to be especially practical. Another exercise that should be considered would be to see if the downstream end of the cave could be made accessible during a flood by pumping the water in Osborn Cave. The pumping would have to be done by the Onesquethaw Volunteer Fire Company and checking the Gregory end of the cave beyond McNab Hall would be done by cavers.

FUTURE PLANS

- P A karst nature trail on the surface should be constructed to educate the public about karst.
- P Remove the flood debris from the Osborn overflow channel.
- P Seed or plant with native species the slope above the Gregory entrance.
- P A steep slope of eroding glacial drift is slumping down over the Gregory entrance. This will need to be mitigated if it becomes problematic in the future. Possible options include excavation, retaining walls, or a culvert entrance. With an increased likelihood of severe storm events due to climate change, plans should be considered towards reducing the impact of another flood pulse upon the Gregory entrance area.
- P Conduct a test with more modern 450 MHz FRS radios, or with cell phones, to see if they work from the surface to the Lake Room.
- P Analyze the need for a gate at the Ward Entrance.