BENTLEYS CAVERNS PRESERVE
MANAGEMENT PLAN

INTRODUCTION

The Northeastern Cave Conservancy, Inc. (NCC) owns and manages the Bentleys Caverns Preserve. The preserve consists of about 5 acres, containing Bentleys and Dry Valley caverns. Bentleys is a popular horizontal cave while Dry Valley is a small (mostly crawling) nearby cave. The preserve is located in the Town of Berlin, Rensselaer County, New York. The preserve includes a parking area easement along NY Route 22 and a 2800-foot access trail easement mostly along existing logging roads.

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. It is an operating manual for the preserve. A plan is not a static document that once written is placed on the self and forgotten. It is a document that is to be used and referenced on a regular basis. The property manager must follow the plan unless there is a compelling and over-riding 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. The NCC requires all of its preserve managers to conduct a thorough review of their preserve management plan every two years and submit a report with their recommendations to the Board. The NCC Secretary issues reminders and puts plan reviews on meeting agendas.

HISTORY OF THE PROPERTY

Col. Caleb Bentley, a Revolutionary War captain who settled on the present property in 1769, learned of his cave through a burglary in Berlin: "There was a well-known textile firm operating in Berlin at that time. One night men broke in and stole several thousands of dollars of valuable cloth. ... For months the burglary remained a mystery. Then an under-sheriff and Mr. Bentley discovered the cave opening and followed it to the cavern where there were evidences that the burglars had used it as a hideout. But the burglars were never found." [17 August 1935, Troy, NY *Times Record*. Anon.]

According to Clay Perry, in his History for *NRO Publication #7* [Perry, 1956]: the "thieves used it as a hiding place for woolen cloth stolen from a mill that stood a short distance from the Bentley farmhouse on the Little Hoosic River. The cloth mill was owned by a man named Taylor who prosecuted the cloth thieves. These incidents led to the popularity of the cave and drew visitors to it in the early time of its discovery."

However, Clay Perry (1956) proposes an earlier discovery: "[A legend places] the cave's discovery to the later years of the Revolution, when captive Hessian soldiers are said to have escaped from their guards and hid in the cave."

"Melancton Bentley did not learn that he was harboring a notorious gambling den on his farm for a long time. ... Two men came to him sometime between 1845 or 1855 and asked to

lease the cave. They said that they wanted to use the cavern ... to 'get out clay.' The particular type of clay [white] in the cave was admirably suited to the needs of the paint manufacturers....

"Bentley became suspicious of his tenants because of the action of 'Big Bill,' a strapping Negro who the gamblers hired to stand at the mouth of the cave and act as watchman. As the gamblers came Sundays and sometimes stayed till the middle of the week swapping small fortunes at cards, it was quite necessary to have a watchman on the lookout for authorities, or irate wives perhaps.

"The cave has two entrances, one about 13 feet wide and five feet high, with a 30-foot vertical drop. This is the one the gamblers used. A ladder was placed inside so the men could span the 30-foot drop." The lower entrance must have been obstructed in some way.

"The [stream crawl] is 50 feet long and difficult to navigate. ... It used to get so wet when they got clay out that they had to lay down boards on which to slide it. A person of ample girth cannot enter the crawl hole. The crawl hole runs into the gambling room." (Anon., 1935)

Perry (*Underground Empire*, 1948) continues the tale: "It is local history—or legend—that this band of gamesters would remain in the cave, squatting on the dry floor of the great chamber, for days and nights, having brought in with them food and drink. But the Negro guard, it is related, became so proud of his position that he bragged about it, and one dull, blue morning as the red-eyed gamesters appeared out of the jackknife entrance above the black pool, the sheriff was there with his posse and the gaming was broken up."

Perry (1956) says the gamblers built a cabin near the cave entrance for the black guard, now called Pete. After the arrests, paint-clay mining took place with Pete as miner and perhaps salesman as well. The cabin was later burned and its ruins have vanished.

Bentley family records show that Big Bill or Pete may actual have been Big Sam who appears in Melancton Bentley's ledger (c. 1850) as having purchased large quantities of supplies. The Berlin, NY area has been linked to the Underground Railroad and some preliminary research has suggested that there may be a connection between Big Sam and slaves fleeing north. This has not yet been verified and further research is necessary.

Newspaper accounts from the 1930s and '40s state that Bentleys had many visitors, mainly students from Williams College and R.P.I. "The first known member of the NSS to enter the cave was Roger Johnson of Hockanum, South Hadley, Mass., with Ernest Knight of Springfield, Mass. in 1935 [but Johnson's photos are labeled Nov. 1934]. In 1937, he guided the writer to it for his first visit with Arthur Palme of Pittsfield, Mass., who took photographs then and again on a later visit with the writer, who has visited it three times, all told (once with the RPI Grotto in the 1940s)." (Perry, 1956)

"A newspaper account [published shortly after World War II at Lebanon Springs, NY] states that ... , it has possibilities for use as an air raid shelter in case of atomic war. ... A man named Stone, from Gardiner, Mass., approached [A.C. Bentley] about five years ago and wanted to buy and develop the cave commercially. Stone said he would bore a tunnel from near the road (NY Route 22) into the hillside and into the cave and would enlarge the 50-foot wet crawl with electrically-driven machinery. This deal was never followed up." (Perry, 1956)

Perry (1948) confesses to "a frightening and comic experience. There were two of us—there always should be at least two on a cave-exploring expedition—Arthur Palme, Pittsfield, Massachusetts, photographer of all outdoors and much indoors, in caves, dragging, pushing, and pulling his little suitcase with his camera and equipment in it. We were awed at the size of this great chamber, which I think is the very largest single room as to length, width, and height in New York State's undeveloped caves. ... An hour later, having explored all we thought was negotiable of the cave, including a washed-boulder brook bed, which later we were told could be squirmed down a long way, we prepared to make our exit. ... [Palme starts out of the big room, but says the passage is blocked; 'A rock has fallen down since we came in!' Perry tries and reaches the same conclusion. The rock sticks down to 'within 3 or 4 inches of the floor.'] "We lit cigarettes and threw our flashlight beams about here and there and calmed down. Oh, we were very calm, indeed—and then suddenly one of us remembered that we had come through a vestibule room. We crept meekly through the vestibule room and into the wet-crawl tunnel and came out just before it was dark."

The September 1942 *Speleological News Letter*, an early NSS publication, announced that Leo Lincoln would lead an October 3 trip to 'Berlin Cave' and nearby Bears Den. Bill Rini mentions in his December 1990 *Northeastern Caver* article: "We also met Leo Lincoln, a cave-crawling companion of Clay Perry and resident of Pittsfield, Mass. Leo, now 96 years old, is in remarkably good shape for a man his age – spry and trim, unencumbered by cane, glasses or hearing aid! Leo was the original Secretary-Treasurer of New England Grotto #1. After relating several tales about Clay, he expressed his regret that he was not 40 years younger, as he would have loved to accompany us ... to Elephants Den."

Perry (1956) adds that references to Bentleys Cavern were in his story "Guides With Wings" in *Boys' Life*. It was republished in *The Children's Hour*, an anthology published at Chicago. "In the anthology, the story is illustrated with drawings in color. While the cave in the story is not actually named, Bentleys ... was the locale of the tale."

Randi Bentley's novel, *Gone by Water*, has a chapter in which two Berlin boys visit Bentleys Cave in 1836. Randi is in the sixth generation of Berlin Bentleys and still lives in the area. She leads occasional trips to the cave and lectures about it to local groups.

In 1949 the Rensselaer (RPI) Grotto used a new invention to map Bentleys Cavern. "The 'spelunkometer' ... is a measuring device used to determine differences in elevation. The meter consists of ... a water reservoir in the form of a nearly filled pint milk bottle, 40 feet of rubber hose filled with water, and a pressure gauge." [June 1949 *NSS News*, reprinted June 1999]

"A SERIOUS AND COMPREHENSIVE study was made, by the Northeastern Regional Organization on May 5 and 6, of Bentleys Cave at Berlin, N.Y. ... Under the leadership of George E. Strickholm, the new chairman of the NRO, the survey began early Saturday morning and was attended by some 30 spelunkers from New York, New Jersey and Massachusetts. Included in the group were veterans of the 'Caves Beyond' expedition and of the Celebrated American Caves editorial staff. Three members from Pittsfield, Massachusetts also attended. They represent the Berkshire Hills Grotto which has just applied for a charter, with 10 members signed up.

"The group camped on the Berlin Rod & Gun Club grounds and dined at the clubhouse on a home-cooked roast beef supper served by the club. After supper, there was an interesting

showing of color slides and Clay Perry gave a brief account of the new history of Bentleys Cave." [*The* (NSS) *News*, June 1956]

Cavers from Boston and Met grottos visited Bentleys Cavern on 13 June 1959. "After leaving, a group picked up their cars parked in neighbor Atwood's yard. Mr. Atwood invited us into his plastic house, the flower-filled rooms of which circle an indoor pool, and demonstrated how his home-made press bonds the strong sheets of translucent plastic to wood." [*Boston Grotto Newsletter*, July 1959] Remnants of this material still remain at the Atwood house site above the proposed easement parking lot. Harry Atwood was an early aviator and entrepreneur who received a gold medal from President Taft after landing his biplane on the White House lawn. Atwood's biography is in *Skylark*, by Howard Mansfield, 1999.

The first NRO Tandem Timed Cave Race was held 4 June 1977. "Cavers started drifting up to the entrance of Bentleys Cavern in Berlin around 9:30 am. First of all, Norman Thompson and Doug Hauser made a trip in to set up markers and checkpoints along the route through the cave. Then at 10:40, the first pair of cavers entered the cave, tied together with a 12-foot section of rope.

"Each team had to quickly negotiate a loop route through the cave about 750 feet long. This route consisted of 180 feet of walking passage, 50 feet water crawl, and then crossing a big room up a slippery mud slope. At the other end of the room is a small drop into small crawling passages (about 75 feet long) leading to a tight squeeze that drops into a 7-foot-deep stream canyon. A short hike upstream and the teams climb out into the big room again. [Thom Engel's cover photo on the May-June 1977 *Northeastern Caver* shows Robert Jefferys and Bruce Robtoy at this place.] From here they follow the same route out—through the water crawl and walking passage.

"Teams were sent in at staggered intervals and timed from when the first caver went in to when the second came out. The teams, in order of finish, with their times in minutes and seconds, follows: 1. Peter Quick and John Irminger—10:00, 2. Steve Reutlinger and Dave Teoste—10:50, 3. Robert Jefferys and Bruce Robtoy—11:11, 4. Tom Cook and Tom Hall—15:400, 5. Emily Davis and Wink Cook—15:20, 6. Ron Morris and Martin Barry—15:25, 7. Doug Hauser and Norm Thompson—15:39, 8. Bru Randall and Doug Soroka—19:31, 9. Steve Jordan and Warren Hall—21:28....

"Toms Smith and his son Erik captured the prize for the large cavers' route (to the end of the big room and out) by default (they were the only entrants). They set a blistering pace, exiting only 31 minutes after they entered (they claim they were sightseeing!). They each received a plastic matchbox." [*Northeastern Caver*, May-June 1977]

"After four hours of easy digging on December 14 [1991] we opened up Dry Valley Cavern ... the next day we explored it and made [a] Grade 2 sketch," wrote Larry Botto in the March 1992 *Northeastern Caver*. The sketch shows about 150 feet of passage, mostly low but with a wide room and digging possibilities at the far end.

A Grade 5 map of Bentleys totaling about 750 feet was prepared by Ken Davis and Peter Haberland and appeared, along with descriptive and historical material, in the Sept. 2005 *Northeastern Caver*.

Bentleys Cavern was owned by the Bentley family from Revolutionary times. Recent generations have allowed people to visit it without restriction, maintaining a long tradition of keeping the cave open to the public since its discovery over two centuries ago. Hundreds now visit Bentleys Cavern each year. To ensure the continuation of this tradition, and with liability concerns growing, Robert and the late Eleanor Bentley, through their daughter Randi Bentley, kindly donated the cave to the NCC on 28 October 2009.

UNDERGROUND RESOURCES

Biological - Nineteen bats were counted in the twilight and dark zones of Bentleys Cavern on 10 November 1996 by David Hunt and Nick Conrad. They included little brown bats (*Myotis lucifugus*), northern myotis (*M. septentrionalis*) and eastern pipistrelle (*Perimyotis subflavus*). A bat count for the NYS Department of Environmental Conservation has been conducted by Jonah Spivak in 2010 and 2011 (see below). Eastern cave cricket (*Hadenoecus subterraneus*) was observed in the twilight zone, and craneflies (Family Tipulidae) were observed in the entrance zone. An undetermined spider (Class Arachnida) was also observed in Bentleys on 17 May 2010 by David Hunt. No biota was observed in the Bentleys stream that day. Scat and quills of the porcupine (*Erethizon dorsatum*) are abundant in Dry Valley Cavern, which is used as a winter den.

The Northeastern Regional Organization survey of Bentleys on 5-6 May 1956 recorded little brown and eastern pipistrelle bats, cave cricket (*Ceutophilus moculatus*), mosquito (*Culex*), Jefferson salamander, sow bug, millipede (*Julidae*), and daddy longlegs.

Annual bat surveys were done in 2010, and 2011. Copies of the survey are filed with the NYDEC and are available from the property manager. In 2010, eleven large brown bats, and one tricolor (pipestrelle) bat was counted. In 2011, eight large brown bats, and one tricolor (pipestrelle) bat was counted.

Geological & Hydrological - The caves on the preserve are developed in complexly-deformed Cambro-Ordovician carbonates surrounded by Taconic clastics and phyllites.

Bentleys Cavern has upper and lower entrances. The upper entrance would require rope to safely descend to the main entrance hall below, so most groups use the lower entrance in a small sink. Both lead into the high entrance hallway, and down to the cave stream. A short crawl through this stream opens up to the Big Room, from which several passages branch off. A sporting loop trip leads from the Big Room, through breakdown and tight tubes, to the continuation of the cave stream. Overall, there is about 750 feet of passage in the cave. Bentleys is developed along two main fissures: the entrance canyon and downstream stream passage, and the Big Room. Other passages are developed along smaller parallel fissures.

Dry Valley Cavern begins with a low crawl to a big room with breakdown blocks and some alcoves to the sides. The Lost River crawl leads, after two squeezes, to the Extension Room. There is a gravel and breakdown filled passage leading from this room. An estimated 150 feet have been explored.

Paleontological - No significant or unique resources are known to exist.

Archeological - No significant or unique resources are known to exist.

Historical - No significant or unique resources are known to exist.

SURFACE RESOURCES

Biological - As of 9 July 2010, Dr. David Hunt has documented 94 vascular plant species, 18 non-vascular plants, six vertebrate animals and one invertebrate. The dominant plants vary within each of six surface-communities: Appalachian oak-history forest, beech-maple mesic forest, calcareous cliff community, maple-basswood rich mesic forest, spring, and sinkhole wetland. Dominant plants of the forest include the trees sugar maple (*Acer saccharum*), red maple (*A. rubrum*), beech (*Fagus grandifolia*), and hop hornbeam (*Ostrya virginian*a); the wildflowers toothwort (*Cardamine diphylla*), herb-robert (*Geranium robertianu*m), waterleaf (*Hydrophyllum* sp.), and pale touch-me-not (*Impatiens pallida*); the graminoid Pennsylvania sedge (*Carex pensylvanic*a); and the fern Christmas fern (*Polystichum acrostichoides*). The shrub alternate-leaved-dogwood (*Cornus alternifoli*a) is dominant on the calcareous cliff community. Clearweed (*Pilea pumila*) and an undetermined green algae is dominant within the sinkhole wetland.

The site abounds in regionally-uncommon plants characteristic of the calcareous to circumneutral soils associated with karst. Besides the plants listed above, other calciphiles include the trees bitternut hickory (*Carya cordiformi*s), and black maple (*Acer nigrum*); the shrub wild gooseberry (*Ribes cynos-bati*); the wildflowers wild leek (*Allium tricoccum*), blue cohosh (*Caulophyllum thalictroides*), bloodroot (*Sanguinaria canadensi*s), roundleaf ragwort (*Senecio obovatus*), spring beauty (*Claytonia caroliniana*), wild ginger (*Asarum canadense*), squirrel-corn (*Dicentra* sp.), miterwort (*Mitella diphylla*), sharp-lobed liverleaf (*Hepatica nobili*s var. *acuta*), and long-spurred violet (*Viola rostrata*); the ferns maidenhair fern (*Adiantum pedatum*), silvery spleenwort (*Deparia acrostichoides*), bulblet fern (*Cystopteris bulbifera*), walking fern (*Asplenium rhizophyllus*), and plantain sedge (*Carex plantaginea*), plus the bryophytes rose moss (*Rhodobryum roseu*m) and twisted moss (*Tortella tortuosa*).

Fourteen to seventeen species on site are rare in Rensselaer County. Two species, walking fern (*Asplenium rhizophyllus*) and Tuckerman's sedge (*Carex tuckermannii*) are known from only two or three other sites in the county. Of the twelve vascular plant species on the county Watch List, walking fern, wild leek, squirrel-corn, sharp-lobed liverleaf, bulblet fern, and American yew are most vulnerable, being situated on the cliff faces surrounding the cave entrances and prone to trampling. But most of these plants, besides American yew, occur in sufficient numbers that extirpation is unlikely. Tuckerman's sedge, in the sinkhole wetland and subject to widely varying water levels, occurs as only one clump and is vulnerable.

Eight of the 94 known vascular plants are non-native to New York. Of these, three are considered invasive: garlic mustard (*Alliaria officinali*s), Japanese barberry (*Berberis thunbergii*), and colt's foot (*Tussilago farfara*). Garlic mustard is the most aggressive of these and should be monitored.

The six vertebrate animals noted include porcupine, black and white warbler, overbird, veery, wood thrush, and red spotted newt/red eft. One invertebrate (Class Diplodoca: millipede) was recorded from the calcareous cliff community.

Geological & Hydrological - Taconic-aged and earlier bedrock is exposed around the knoll and at the cave entrances. A large, often-dry sinkhole lies just southwest of the Bentleys entrance. This apparently feeds water to the cave stream in Bentleys. This stream has been dye-traced to springs further down the mountainside.

Paleontological - No significant or unique resources are known to exist.

Archeological - No significant or unique resources are known to exist.

Historical - No significant or unique resources are known to exist.

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

The caves on the preserve do not require special permission or a release form for normal caving. A kiosk has been constructed on the access parking area near Route 22 but out of sight of the highway. At the request of the town of Berlin, a register has been placed at the kiosk to allow emergency personnel to determine if visitors to the cave have been in the cave(s) longer than expected (an "expected time out of cave" column will be provided on the register and should be used by visitors).

For both caves, standard caving gear will be required. This includes helmet with a chinstrap; three sources of light, one of which is mounted to the helmet; and at least three people in the party. A trail has been constructed permitting access to both caves and will be maintained.

USE CONFLICTS

At present there do not appear to be any use conflicts. Should a conflict arise between recreational caving and digging, the recreational caving shall take precedence.

The caves on this preserve are closed October 1 through April 30 to protect hibernating bats.

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.

EXPLORATION RULES

The main possibility for exploration on the Bentleys Karst Preserve is digging. Any digging projects will have to be approved by the preserve manager. Persons proposing a dig project shall submit a plan to the manager 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 manager. 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 manager approval.

PUBLICITY POLICY

The cave is not publicized in magazines or newspapers of general circulation. 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.

SURFACE MANAGEMENT

There are several old logging roads which have been used for the 2800-foot access trail to the property. The Bentleys log their property every 15 years and after the next logging, in the early 2020s, it may be necessary to reroute the access trail. Natural features, and a reported 18th century lime kiln, should be indicated along the trail.

A gate may be placed at the beginning of the access trail to permit four-wheel drive access in case of a rescue, and for legitimate uses as required by the Bentleys.

The cave property should be posted in accordance with the NYS Penal Law and the NYS Environmental Conservation Law. This will provide the NCC with the ability to better control access to the property. Without this, individuals could hunt on the property without permission.

RESCUE CONSIDERATIONS

Bentleys Cavern - A rescue from Bentleys would appear to be fairly straightforward. The open vertical entrance appears to pose little impediment to removing a patient in a stretcher. Most of the route into the cave is on fairly moderate slopes, and there is a low water crawl just before the Big Room. There are several tight areas beyond this in the cave. Beyond simply getting lost, a rescue would likely result from entrapment in a tight squeeze, where special excavating techniques might be required.

Dry Valley Cavern - This cave is low and tight and the main problem would be hauling a stretcher through it. A rescue would likely result from entrapment in a tight squeeze, where special excavating techniques might be required.

FUTURE PLANS & RECOMMENDATIONS

1. Kiosk posters and signage will be updated per the Ad Hoc Risk Committee's recommendations.