

Salamander Cave Preserve Management Plan

INTRODUCTION

It is proposed that the NCC accept the donation of a 9.5-acre parcel which contains Salamander Cave. The cave entrance is located in an old quarry.

Salamander Cave has about 700 feet of passage. The cave trends generally northeasterly with occasional jogs to the south and north. Eventually a tight, sediment-filled crawl is reached. This marks the historic end of the cave. Beyond this ten-foot muddy squeeze leads uphill.

The cave will be managed as park-and-go caving.

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

The cave was discovered during quarrying operations. It is assumed that this happened in 1864 or before. In 1864 three people carved their initials at what was then the end of the cave. (The quarry shows on the 1870 map of Kingston by Geo. P. Sanford, FW Beers & Co.) The cave was extended in 1996 by an additional 120 feet by Joe Armstrong, Bill Folsom, and Doug Knight by digging through a dip in the passage.

No quarries are shown on the 1903 USGS topo map. This suggests that the Salamander quarry was long abandoned by then. The quarry is shown on 1997 map is on the neighboring property..

Inquiries have been made regarding the history of the quarrying operation. When this is received it will be added to this document.

UNDERGROUND RESOURCES

Biological – No known survey of the cave's biota has been done. Garter snakes have been observed close to the cave entrance. At least one bat was observed on a recent visit. DEC has not done a bat count in the cave. They should be asked to do a survey.

With no flowing water in the cave, the one known species of true troglobite in New York is unlikely to be found. Potential troglaphiles include cave crickets and the cave or herald moth (*Scoliopteryx libatrix*). An inventory of the cave's biota should be undertaken.

Geological – The cave is formed mostly in the Coeymans and Kalkberg. In the back end of the new section there are some shaly beds. These may represent the shaly interval in the middle Kalkberg found in the mid-Hudson Valley. There are nice fossils of crinoids and Gypidual coeymanensis in parts of the cave near the entrance and then chert beds in the Kalkberg near the back. Also, the cave does have glacial lake varves preserved in the muddy floor in places near the entrance (in the first big room off the main passage after the entrance). These may represent flooding of the cave from a stage of Glacial Lake Albany.

The cave is one of the few in New York that has aragonite preserved in it. Alex Bartholomew's hypothesis is that the aragonite is being deposited in an aerosol process along the cave walls and floors. (Sometimes it looks like the walls are covered in powdered sugar and it only goes up to a certain height on the walls.) The cave has restricted air in the back section.

The beds are nearly vertical, hence the tall and narrow passages connected by little 'mouse hole' passages between beds. It is formed on the northwest limb of an anticline. According to Marshak et al (1990) this is plunging to the north 20° to 25°. Based on the passage cross-sections, the rear end of the cave may be approaching the axis of the anticline. The cave should either be remapped to Grade 5 or a leveling survey conducted to add vertical control to the existing map. This vertical control is necessary to

understand the cave's speleogenesis.

Hydrological – There is no permanent water in Salamander Cave. It is about 140 feet above the hydrologic base level. In the tallest room there is sometimes a trickle of water that comes in and just beyond that there may be a pool of water a few inches deep the floor. It does dry up.

Paleontological – No unique resources are known to exist.

Archeological – No unique resources are known to exist.

Historical – No unique resources are known to exist.

SURFACE RESOURCES

Biological – The proposed preserve is a mixed hardwood forest. Sugar Maple (*Acer saccharum*) and Norway Maple (*A. platanoides*) are probably the most common species. The latter is considered invasive in New York. Mixed in there is oak (*Quercus* sp.), Black Cherry (*Prunus serotina*), Tree of Heaven (*Ailanthus* sp.), Black Locust (*Robinia pseudoacacia*), and Sycamore (*Platanus occidentalis*). On rocky outcrops there is Red Cedar (*Juniperus virginiana*) growing.

Wild grape is found in places on the preserve.

In addition to the Norway maple the *Ailanthus* and the Black locust, as well as oriental bittersweet (*Celastrus orbiculatus*), Japanese barberry (*Berberis thunbergii*), Honeysuckle (*Lonicera* sp.), multiflora rose (*Rosa multiflora*), and some Buckthorn (*Rhamnus cathartica*) are all invasive. An Invasive Species Management Plan shall be prepared as an appendix to this document and implemented to start ridding or managing the proposed preserve of these invasive species.

Animals noted or likely to be found on the preserves include, but are not limited to: White-tailed deer (*Odocoileus virginianus*), Garter snake (*Thamnophis sirtalis*), Eastern red-backed salamander (*Plethodon cinereus*), and Red spotted newt (*Notophthalmus viridescens*). A more thorough survey during spring and summer should be undertaken.

Ravens (*Corvus* sp.) have been observed and may nesting on the walls of the old quarry.

Geological – The Coeymans and Kalkberg limestones crop out in the old quarry. The Manlius limestone is visible lower down near Abeel Street.

Hydrological – There are no surface streams or springs on the property.

Paleontological – No unique resources are known to exist.

Archeological – No unique resources are known to exist.

Historical – No 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

Salamander Cave will be managed in a park-and-go caving manner with no required permit except for Special Use groups. (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.) They will need to contact 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.
- 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 this time, visitors must pack a change of clothes in and change into and out of their caving attire near the cave entrance.

Reviewed:

Amended:

Initial Approval: 03/18/2018

P Any accident or incident must be reported to the preserve manager at salamander@necaveconservancy.org.

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

At the end of the cave is a tight, muddy crawl. Visitors are urged NOT to enter this crawl as there are delicate and rare aragonite crystals on the walls.

Until an acceptable route is determined for reaching the cave, discussions of trails will be left for later.

USE CONFLICTS

Besides the difficulty of getting to the cave in the winter, it is recommended that the cave be closed from October 1 through April 30 until a bat count by DEC is done in the cave.

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

There are at least three leads shown on the map. One is in the new section and might be diggable. Another is called a drain and has a question mark at the end. The other is a high lead in one of the rooms in the historic section. Recent digging near the entrance has been performed in an attempt to connect to an occluded potential entrance farther to the west.

1. The exploration party should be explicit in indicating what part of the cave will be explored when they ask for permission to enter the cave.
2. 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 six months shall be considered abandoned and any subsequent work in the same area will require manager approval.

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.

SURFACE MANAGEMENT

A kiosk may be constructed near the cave entrance. At this time no other kiosk may be constructed.

The preserve shall be monitored for invasive species with special attention paid to newly emerging invasives.

RESCUE CONSIDERATIONS

There is one place in the cave that might pose a problem in a rescue. This is at the 1996 dig that extended the length of the cave. It would be hard to get someone in a stretcher into and through this crawl. It might be necessary to take them out of a stretcher and drag them through in the Oregon Spine Splint.

From the entrance, the most logical route to get a stretcher down to the road would be to carry and lower the patient down to Wilbur Ave over the adjoining property.

FUTURE PLANS

- P Ask DEC to do a bat survey.
- P Construct a kiosk near the cave entrance.
- P An inventory of the cave's biota should be done.
- P The owner of the property to the north of the proposed preserve should be contacted to see if a walking easement can be obtained for reaching the cave.
- P Prepare the Invasive Species Management Plan
- P Do a survey of the surface biota.
- P Resurvey the cave to Grade 5 or add leveling data to the existing map.
- P
- P
- P
- P

Appendix Invasive Species Management Plan

Norway Maple (*Acer platanoides*) –

Black Locust (*Robinia pseudoacacia*) –

Tree of Heaven (*Ailanthus* sp.) –

Oriental bittersweet (*Celastrus orbiculatus*) –

Japanese barberry (*Berberis thunbergii*) –

Honeysuckle (*Lonicera* sp.) –

Multiflora rose (*Rosa multiflora*) –

Buckthorn (*Rhamnus cathartica*) –