

Management Plan
New River Cave Nature Preserve
Giles County, Virginia
National Speleological Society
Adopted by NSS Board of Governors
(2014 Convention)

1. Introduction

New River Cave has been a favorite of recreational cavers for nearly 70 years. The tarnished image of a sacrificial cave gave way in the 1990s to one of a gem in the rough. Beauty and mystery, and a great day's outing, are available for those willing to challenge the darkness. The NSS purchased New River Cave in 2014 to protect New River Cave and its resources, and to ensure perpetual access to the cave. The previous owner, NSS caver Tim Kilby, permitted access to organized cavers by written permission, and his wish in helping to create this new nature preserve was that the cave will be open for recreational, educational, and scientific purposes.

The primary goal of the management plan is to maintain open access to New River Cave for recreation, science, conservation, and training while minimizing impact to the cave's sensitive esthetic, geological, paleontological, and biological resources. The property has a long, only partially documented history of use from prehistoric times to present day. General objectives of this plan are:

- Encourage the responsible recreational and educational use of the cave.
- Support continued documentation and scientific investigation of the geological, biological, paleontological, historical, archaeological, hydrological, and cultural resources of New River Cave.
- Prevent abuse of the surface features and cave.
- Manage natural communities on the surface to provide both recreational and natural value.

- Clean up the cave and restore it as much as is reasonable to pre-major usage condition.

2. Background Information on New River Cave

2.1 Cave Significance and Resources Overview

New River Cave is designated as a state significant cave by the Virginia Speleological Survey for the Virginia Cave Board under the Virginia Cave Protection Act. The Virginia Speleological Survey considers the cave significant in terms of length and depth, and for its historical use, recreational value, esthetic qualities, geological, hydrological, paleontological, recreational, and atmospheric properties.

2.1.1 Physical Dimensions

The ongoing physical survey of New River Cave and production of a modern cave map is being conducted under the leadership of Dave West and Tom Spina. A draft map has been submitted by Dave West to the NSS Preserves Committee. The cave map is based on surveys led by the “Gangsta Mapper” in the 1990s, the VPI Cave Club in the 1970’s, and the “Gangsta Mappers” from 2012 on. Digital copies of the map are available upon request from and at the discretion of the preserve manager. The survey is believed to be near completion, with 6.4 miles of cave passage mapped and a total vertical extent of 332 feet, nearly all of which is negotiable without vertical equipment. The cave extends from its entrance approximately 1 mile to the east-northeast beneath Spruce Run Mountain. Some additional leads remain to be surveyed.

2.1.2 Biological Significance

New River Cave is home to numerous troglophiles and troglobytes. New River Cave is used as a hibernacula by at least 3 species of bat: the Big brown bat (*Eptesicus fuscus*), the Little brown bat (*Myotis lucifugus*), and the Tricolored bat (*Perimyotis subflavus*). Unfortunately, bats in the cave have been affected by White Nose Syndrome since 2010. Cave salamanders (*Eurycea lucifuga*) are common near the cave entrance, and seal salamanders are present in portions of the stream passages

and at the resurgence spring, which is also located on the property. Allegheny Woodrats (*Neotoma magister*) and their warrens have been observed near the cave entrance.

Numerous cave adapted (troglobitic) and cave frequenting (troglophilic and troglonexic) invertebrates are known from the cave as documented in Holsinger et al (2013) and Holsinger and Culver (1978). They are listed in Appendix A. None have protected status under state or federal endangered species acts at this time.

2.1.3 Geological Significance

The cave is one of a handful of caves in Virginia developed in a limestone block bounded above and below by faults. Specifically, the cave is developed in a horst (fault-bounded block) of limestone of middle Ordovician age along the Saltville Fault, overlain by the Honaker dolomite in the upper or hanging wall of the fault, and floored by the Martinsburg formation in the footwall. Strata within the cave are overturned.

2.1.4 Hydrological Significance

The cave contains an active, perennial stream that feeds a spring, part of which flows from a pipe along Goodwins Ferry Road.

2.1.5 Historical Significance

The cave is considered of historical significance by the VSS, but no documentation of this historical significance is in the VSS files and it should be further investigated.

2.1.6 Esthetic Significance

The cave has extensive speleothems, including some formed of gypsum and aragonite. Helictites are well developed and common in some areas. Extensive flowstone deposits fill much of the front section of the cave, and the Forest Room is considered one of the most beautifully decorated rooms in any Virginia cave.

The cave entrance offers a spectacular view of the New River.

2.1.7 Recreational Significance

The cave has a long history of recreational use by organized cavers, scouts, church and civic groups, and unaffiliated local spelunkers. The cave offers a relatively safe caving experience that has inspired many first time cavers to join the organized caving community.

2.1.8 Atmospheric Significance

The cave has significant airflow in restricted passages. It is unclear whether this is due to barometric fluctuations or the possible presence of a second, physically inaccessible entrance.

2.2 Physical Description of the Property

The property consists of two lots: a 13.65 acre parcel bounded by the Norfolk Southern Railroad Right-of-way on the west and Spruce Run Road on the South, and a 0.38 acre lot bounded by Goodwin's Ferry Road to the east, the New River to the west, and private lots to the North and South. The entrance to New River Caves lies within the 13.65 acre parcel, as does the resurgence spring for the cave stream. There is also a power line easement on the property.

2.3 Title History of the Property

Caver Tim Kilby purchased the property from a timber company in 1989. The title search showed recorded mining restrictions placed on the property in 1987 through 2027 (by the timber company from whom he bought the property). The deed going back to 1928 showed reserved mining and water rights in prior deeds. These rights were granted to a company long since defunct. The NSS acquired the property from Kilby in 2014.

3. Specific Management Plan Objectives

3.1 Establishment and maintenance of The New River Cave Preserve Committee.

The New River Cave Preserve committee is made up of members appointed by the Preserve Manager, who in turn is appointed by the NSS Board of Governors. The committee will consist of members of local grottoes and other NSS members. Terms are indefinite. Removal of a committee member may be done by an act of the NSS Preserves Committee. Decisions of the committee may be made by acclamation or by a simple majority vote. In the event that the Preserve Manager resigns or is otherwise unable to continue in that capacity, the New River Preserve committee may elect an interim replacement manager, subject to approval by the NSS Preserves Committee.

3.2 Entrance control - At present, there are no plans to construct a gate for entrance control. The cave will be monitored for disturbance and vandalism. Should significant disturbance to resources, vandalism, or repeated criminal trespass occur, the New River Preserve may by a simple majority vote choose to recommend to the NSS Preserves Committee that the cave be gated. Should construction of a cave gate prove necessary and be endorsed by the NSS Preserves Committee, a bat-friendly gate following Bat Conservation International (BCI) design standards may be installed using NSS volunteers working under the supervision of a project leader chosen by the New River Cave Preserve Committee.

The Preserve Committee shall with assistance from local grottoes develop and maintain signage at the cave entrance stating the NSS Conservation Motto - "Take nothing but pictures, leave nothing but footprints, kill nothing but time."

3.3 Entrance Monitoring

All groups or individuals visiting the cave will be encouraged to complete the cave register, which will be maintained and copied frequently by the Preserve Committee or local grotto volunteers. The register will be maintained in an obvious place in the "register room" of the cave, as identified on the 2014 Cave Map (West and Spina, 2014.)

The Committee will reserve the right to install automated device to monitor cave access, such as motion actuated wildlife cameras, infrared traffic counters, et cetera.

Contact information for local NSS Grottos will be provided at the cave entrance and in the register room to encourage interested individuals to become involved in the organized caving community.

3.4 Entrance Access - At the time of acquisition by the NSS, there is no developed trail leading to the cave entrance. A primary management task is the development and subsequent maintenance of a trail to the cave entrance from Spruce Run Road to the south, including a parking area and signage.

3.5 Recreational use - The cave is open to use by NSS cavers and other responsible, properly equipped individuals and groups. Those deemed inadequately equipped or unsafe will be given a warning by the preserve manager the first time they are caught. If they are observed on premises again either ill equipped or behaving unsafely, the Preserve Manager may inform the individual or group that they are not welcome, and pursue legal action should unauthorized visitation continue.

Under the Virginia Cave Protection Act, cave owners (whether individuals, government agencies or non government organizations such as the NSS) are fully indemnified and held free of liability for damages or injury resulting from visitation to a cave or the property containing the cave provided the owner (in this case, the National Speleological Society) charges no fee for access to the cave or property (Code of Virginia Section 10.1-1008.)

Groups and programs associated with not-for-profit entities including but not limited to churches, scouting, local government parks and recreation departments, et cetera will be allowed to visit the cave provided they are properly equipped and follow conservation and safety guidelines, and that no fee is charged beyond the normal sharing of expenses. Any such non-profit groups will be required to sign an agreement with the

NSS indemnifying the NSS of any and all liability associated with their use of the cave. Leader of such groups will be offered and encouraged to complete orientation trips to the cave preserve led by either members of the New River Cave Preserve Committees or its designees. The New River Preserve Committee reserves the right to ban any group or individual from the cave should they be discovered to be ill-equipped or fail to follow safety and conservation guidelines. The number of trips per year for any group not affiliated with the National Speleological Society shall be limited to four unless specifically authorized by the New River Cave Preserve Committee.

Commercial tours of the cave led by for profit businesses are not permitted to visit New River Cave Preserve.

The New River Cave Preserve Manager is authorized to work with local law enforcement if necessary to prevent individuals or groups that do not comply with the policies in this management plan from visiting New River Cave or being on Preserve Property.

3.6 Scientific use

Scientific studies will be allowed in the cave only upon issuance of a letter of permit by the Preserve Manager. Such a permit will only be issued if a description of the proposed research is submitted to the Preserve Manager, and the Preserve Manager determines with concurrence of the NSS Research Review Committee that the benefits of the proposed research outweigh any potential impacts to sensitive resources in the cave or on the property. All permit holders will be required to also obtain or hold Virginia DCR Cave Protection Act Permits and, if pertinent, state permits for biological or archaeological collections. All permits will have a reporting requirement specific to the project. Such reports must at a minimum include 1) detailed disclosure of locations of data or specimen collection or other disturbance within the cave, 2) results of the proposed research including any data, and 3) copies of any published articles including results from the research. Failure to comply with reporting requirements will result in

denial of any such future permit requests and the failure of compliance will be reported to the NSS Preserves Committee.

3.7 Development and maintenance of New River Cave Archive

The New River Preserve Committee and its designees shall develop and maintain an archive of information pertaining to New River Cave. The goal of such an archive is to gather and preserve into perpetuity, to the maximum extent practicable, any information pertaining to New River Cave. The archive will be developed and maintained in digital format, with updates provided to the NSS Preserves Committee on an annual basis. The archive will include a photo archive. Digitized images of film prints and slides will be at a minimum resolution of 600 dpi unless previously digitized and originals no longer available. The goal of the archive is to catalog the history of the cave as comprehensively as possible, and shall include but not be limited to information on survey and exploration, cultural and historical use, scientific investigations, search and rescue incidents involving the cave, and recreational trips (the cave register). Information from the New River Cave Archive will be made available for display on the NSS website, except in cases in which such information is determined to be sensitive by the New River Cave Preserve Committee.

3.8 Surface land management.

Land disturbance will be limited to that necessary to support visitation to the cave, and may include a parking area, informational kiosk, and trail to the cave from the parking area. In addition, a small parking area may be maintained on the river lot portion of the Preserve along Goodwins Ferry Road. Any additional trail construction will have to be approved by the New River Cave Preserve committee.

The Preserve Manager will work with local naturalists to inventory surface biological resources. If significant resources (e.g. rare plants, animals, or natural communities) are encountered, management decisions will be made in such a way as to minimize impact to these resources. Control of invasive, non-native species on the property will be

encouraged and performed by mechanical means unless expressly approved by the New River Cave Preserve Committee.

4. Management Plan Revisions

The New River Preserve Management Committee may recommend revisions to this management plan by a simple majority vote of committee members. Revisions will be submitted to the NSS Board of Governors for approval.

Appendix A. Invertebrates documented in New River Cave

(from Holsinger and Culver, 1988, The Invertebrate Cave Fauna of Virginia and a Part of Eastern Tennessee: Zoogeography and Ecology, Brimleyana No. 14, 163 p.

and

Holsinger et al, 2013, The Invertebrate Cave Fauna of Virginia, Banisteria No. 42, pages 9-56)

Troglobites

Caecidotea vandeli (Vandel's cave isopod) – a blind, aquatic crustacean

Phanetta subterranea – a cave adapted spider

Pseudotremia sp.- a millipede; possibly cave obligate

Stygobromus adbitus (James Cave amphipod)

Stygobromus mackini – a cave adapted amphipod

Zygonopus packardi (Packard's cave millipede)

Troglophiles and Trogloxenes

Cambala annulata – a millipede

Eidmannella pallida - a spider

Entomobrya social – a springtail (insect)

Euhadenocecus puteanus (cave cricket)

Pseudosinella collina – a springtail

Robustocheles hilli – a mite

Note – there are likely numerous troglloxenes (e.g. daddy long-legs, red-eyed cave flies, cave crickets, cave moths) not documented here. The use of the cave by these species should be documented and incorporated into the cave data archive. Also, common troglobites such as cave beetles and diplurans are not yet documented, but are likely to be present in the cave.