

Cave Owner's Newsletter

A publication of the Virginia Department of Conservation and Recreation — Cave Board December 1991 No. 9

So, you own a Cave.....

A cave is considered to be any naturally occurring void, cavity, recess, or system of interconnecting passages beneath the surface of the earth. There are many caves located in the United States, with Virginia alone boasting nearly 3000. People have utilized caves throughout the centuries for shelter, saltpetre mining, water supply, exploration, burial places, commercial attractions, and many other purposes.

When many forms of Nature's resources are used or destroyed by man — a flower picked, an icicle broken, a tree chopped down — nature has a way of replacing them in a relatively short period of time. Mineral deposits which occur in unique and often times beautiful formations in caves cannot be replaced once destroyed, since it takes thousands of years for nature to create them. Caves are non-renewable resources to be protected by man. You, as a cave owner, could be considered the care-taker of this resource.

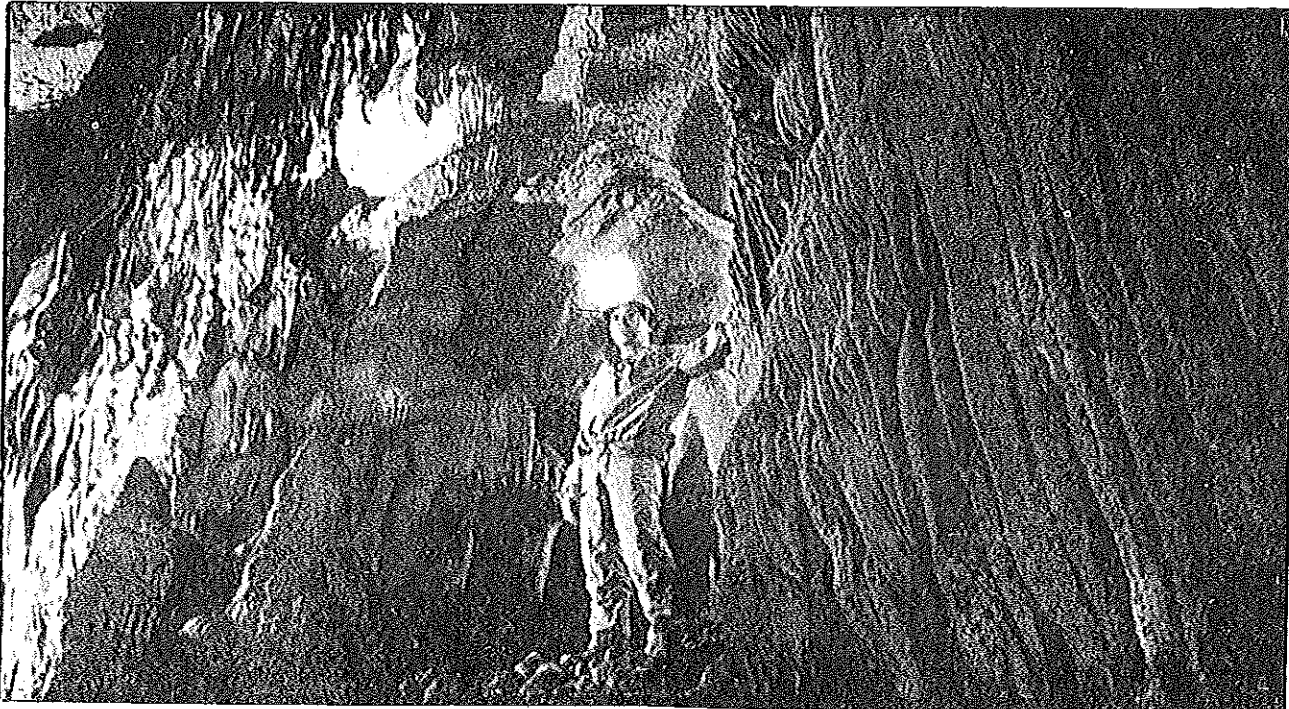
Many cave owners have experienced problems with unwanted visitors leaving trash in their caves, possibly marking the walls with spray paint, and/or destroying formations. Unless you give them permission to do so, this is against the law. As a cave owner, you have the right to limit access and should be selective of whom you allow into your cave.

Information about Virginia's caves has been collected and is housed by the *Virginia Speleological Survey*, a non-profit organization located in northern Virginia. Your name and address were obtained through a search of the records in each Virginia county courthouse several years ago. We would like to update the files containing the information about the cave(s) you own.

We would appreciate it if you would take just a minute to complete the enclosed **Cave Owner's Survey** card. This information is confidential and is provided only for scientific purposes — protection of cave life, survey data, conservation — and will not be released for any reason if you request.

If you would like more information about caves, contact any member of the Virginia Cave Board whose names are listed on the last page of this newsletter, or:

Virginia Department of Conservation and Recreation
Division of Natural Heritage
1500 E. Main Street, Suite 312
Richmond, VA 23219



Photograph by Chip Clark

Virginia's Caves are Protected by State Law

Most laws are written so that they are very difficult to understand by the average citizen. The following interpretation of the Virginia Cave Protection Act (Code of Virginia Section 10.1-1000 to 1008) has been simplified by a lawyer for our understanding.

1. Who is a cave owner?

You are a cave owner if you hold title to land where a cave is located.

2. Rights of a cave owner...

Trespassing— Like the owner of any other type of property, you have the right to forbid others from using your property, and in this case, from going into a cave which is on your land. Like any owner of real property, you have the right to "post" your cave, and you have the right to lock or obstruct an entrance to a cave if the entrance is on your property.

Should anyone enter a cave after you have forbidden him to do so or after you have posted the cave, he is guilty of a misdemeanor and can be fined up to \$500. The same fine can be given to anyone who defaces or destroys any part of a cave, or destroys or tampers with any signs near a cave.

Pollution— You have the right to have your cave free from unnatural pollution, and it is against the law for anyone to place any refuse, garbage, dead animals, sewage or toxic substances harmful to cave life in your cave without your prior written permission. It is also against the law to burn anything in a cave which produces smoke or gas which harms any organism in the cave. Anyone violating these laws may be fined up to \$500.

Archeology— While it is against the law for anyone else to remove, destroy or disturb any prehistoric or historic burial grounds or archeological site in or on your property, this Act does not make it illegal for you to do so.* However, since bones and artifacts from caves are of great scientific importance, it is strongly suggested that a trained archeologist or paleontologist be contacted to evaluate your finds before removal of any material. The Virginia Cave Board can furnish information on those scientists who are qualified.

The State sometimes issues permits to qualified persons to remove certain archeological items from caves for scientific or scholarly purposes. If such a person wishes to excavate areas of your land, he must obtain your written permission before he can get a permit from the State. He must also carry his permit while doing the work he was authorized to do.

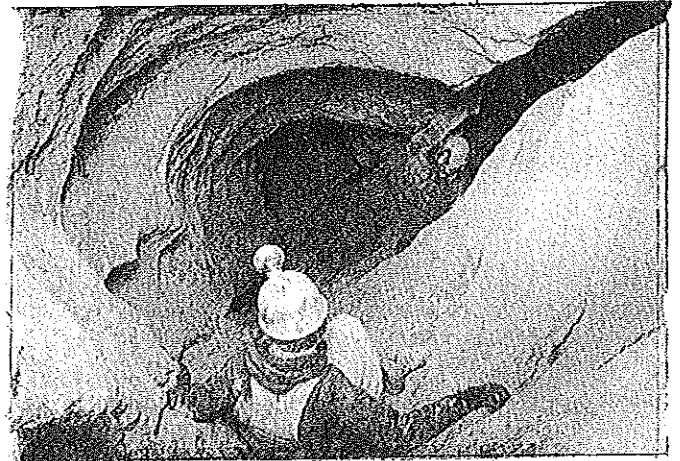
3. Liabilities of a cave owner....

If you give permission to someone to use your cave for recreational or scientific purposes but do not charge him for the use of the cave, then you are not liable for any injuries which may occur to that person. If you do charge the person a fee, then you may be liable for his injuries should any occur.

4. Sale of mineral formations from a cave.....

It is against the law to sell any mineral formations from a cave or to export the formations outside the State for sale, even if you own the cave from which these formations came. Anyone violating this law could be fined up to \$1000.

*Disturbance or removal of human burials, however, is strictly prohibited by the Virginia Violation of Sepulture laws. Such removal by anyone, including the property owner, requires a court order or separate permit.



Photograph by Chip Clark

There are many organized caving groups throughout Virginia, called grottos, most of which belong to the National Speleological Society located in Huntsville, Alabama. Members of these grottos value cave owner relations and strive to respect the wishes of each individual cave owner. Surveys of the caves located in many counties in Virginia's "cave country" are presently underway to update the maps and information about Virginia caves. Many cavers have established *working relationships* with cave owners and work hard to educate those interested in visiting our underground wilderness. The caver's motto is:

*Take nothing but pictures,
Leave nothing but footprints,
Kill nothing but time.*

Please take the time to return the **Cave Owner's Survey** card which is included with this newsletter.

Cave Life — by Chris Pague, Virginia Department of Conservation and Recreation, Division of Natural Heritage

It may be a surprise that more than 330 species of animals are known to live in Virginia's caves - 125 of which may be restricted to caves. The animals that depend on caves are quite different from those that live in above-ground habitats. Cave animals are usually pale or unpigmented, eyeless or have reduced eyes, and have enlarged or enhanced sensory systems (other than eyes). What is it about cave life that causes such unusual adaptations? The lack of light is the most obvious cause. Except near surface openings, adaptations such as cryptic patterns and bright breeding colors are useless, as would be the eyes to see such patterns. Therefore, true cave animals, called troglobites, are unpigmented and lack (or have greatly reduced) eyes.

Another characteristic of caves is the limited amount of food. Because there are no photosynthetic plants in caves, all foods in the cave ecosystem originate from the outside. Food webs are short and uncomplicated. This makes an interesting system for ecological studies. The most apparent food resources in caves are cricket and bat guano (feces), microorganisms, dead animals, and washed-in plant material (detritus). Of course, predatory animals in caves, such as salamanders, feed on other cave animals. In fact, spring salamanders are often the largest and most effective predator in caves, completely eliminating the foods from small pools. Because the food originates from outside, there is usually more food near the cave openings, and consequently a higher density of animals are supported there. In this twilight zone, many species from the surface dwell, feeding on resident animals or individuals that, accidentally wander into the cave.

Many of the animals most typically associated with caves are actually using the caves for only part of their lives. For example, bats feed and often roost outside of caves but may depend on caves for hibernation sites, maternity roosts, or migration resting areas. The cave salamander actually spends significant amounts of time outside of the cave feeding at night; and cave crickets actually feed outside of the cave, returning to the cave to spend the day. Nonetheless, caves are usually critical to the lives of these species. Many cave animals are aquatic species - amphipods, isopods, flat worms, and salamanders. In caves having stream riffles, stream pools, and drip pools, these animals may be moderately abundant.

The low-food input of typical caves has caused adjustments in the life histories of its inhabitants when compared to relatives that live in surface habitats. Most of these reflect the need to conserve energy and to increase the probability of success of each egg or offspring. Cave animals often have delayed maturity, longer lives, fewer and smaller clutches, larger eggs, and a higher proportion of females in the population. Most notably, population sizes are generally low, a direct reflection of scarce resources.

The unusual conditions under which cave animals live, combined with the isolation caves have from one another, has allowed for the development of many very rare species. Individual species are often found in only a few caves; however, many are known only from a single cave! This makes cave inhabitants among the rarest animals in the world. It also makes them highly susceptible to extinction. The pollution or destruction of a single cave may eliminate all or most of the world's populations of as many as five species. And because some bat species congregate in only a few caves, large proportions of their populations can be lost by impacting even one cave.

These facts make the protection of caves a high priority to conservationists in Virginia and around the world.

Groundwater Contamination in Limestone Terrane

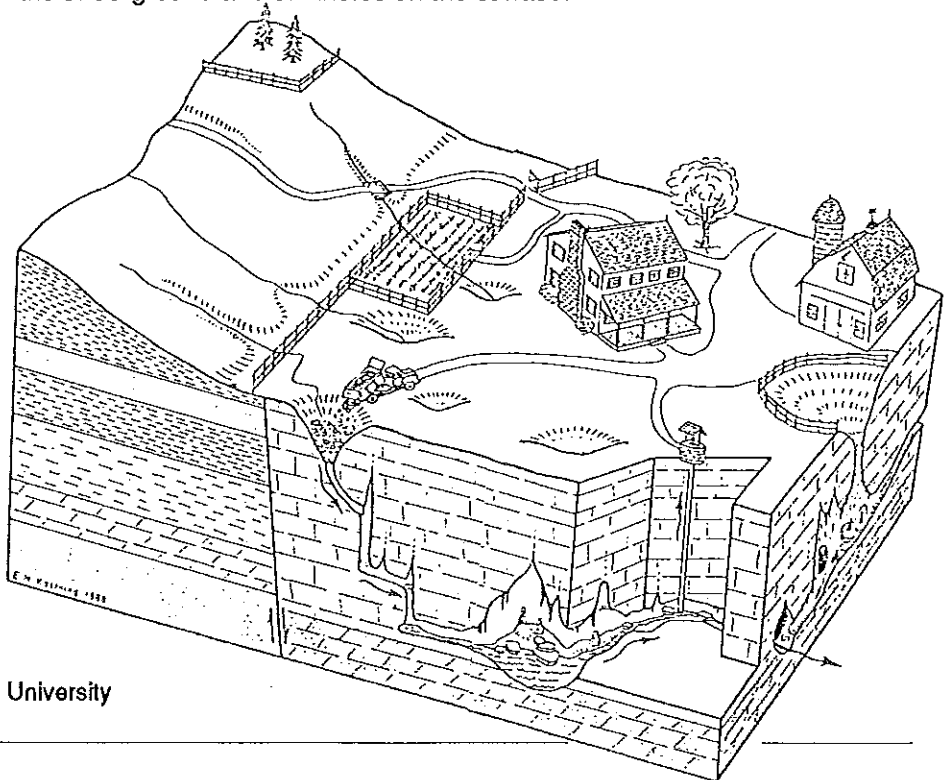
This diagram depicts a slice of land removed from the Earth that includes the rock layers lying below the surface. The farm represents typical activities by mankind on the surface. The brick-like rocks are limestone which is easily dissolved by groundwater. This process forms caves in the underground and sinkholes on the surface.

Sinkholes are funnel-like depressions that often lead to caves. Water entering sinkholes moves easily and rapidly toward cave passages where it may become part of a cave stream. Chemicals from trash dumped into sinkholes, or pesticides and fertilizers used in farming, flow with the water into the ground and caves.

Because caves are like large pipes, the water moves very rapidly and is not filtered by the rock. Pollution travels quickly to places where water comes back to the surface, such as springs and water wells. Contaminated groundwater in limestone can be a serious health problem. Trash should never be put into sinkholes.

Remember: What goes down must come up!

— E. Kastning, Radford University



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