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BATS AND CAVERS

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by Janet Thorne

BATS AND CAVES go together naturally in most people's minds. It is easy to understand why the association is made; more than half of bat species in North America uses caves during at least part of the year. It shouldn't come as any surprise then that cavers-people who explore caves on a regular basis-have adopted bats as their own special symbol.

Like bats, cavers enter caves but must return to the surface to obtain food and water. And, as is true for some species of bats, some cavers believe that caves are critical to their own survival. While many consider caving a sport, these dedicated explorers will describe their underground experiences as essential to their emotional, and even physical, health.

Bats may have been one of the primary reasons why the National Speleological Society (NSS) came into existence 50 years ago through its parent organization, the Speleological Society of the District of Columbia (SSDC). The founder and first president of both organizations, William J. Stephenson, became curious about caves and bats at about the same time. Inquiries led him to realize that scientists knew almost nothing about the lives of bats in caves (or about other bat species either, for that matter). Early caving trips included collecting bats for study by scientists at the National Zoo in Washington, D. C.

One of the first committees created by the SSDC was a Fauna Committee to "keep index of all cave fauna as observed ... sponsor and conduct research . . . " In the late 1940s and early 1950s bat banding trips led by NSS President Charles E. Mohr, a naturalist and early bat enthusiast, encouraged members to become involved in finding out more about cave-dwelling bats. Today, the Society's membership roster includes many of the best-known bat biologists in the country.

Most cavers are aware of bats that inhabit caves. Through the conservation efforts of the NSS, they are also reminded that cavers are only visitors, while bats are dependent on caves for their very survival. Although many caves are entered by individual bats, fewer than 5% of the over 40,000 caves known to exist in the United States contain the temperature, humidity, and other environmental factors which make them usable for cave-dwelling bat colonies.

And, at least before cave exploring became a popular sport, caves also provided a relatively safe sanctuary. Even inadvertent disturbance in a bat roost can cause harm. Entering a maternity roost can cause mother bats to drop their young or move them to less suitable roosts where many die. When hibernating bats are aroused, they use up the stored fat reserves they need to survive until spring especially if the disturbance is repeated.

THE GROWING POPULARITY of caving inevitably has brought cave explorers and bats into conflict. Bats need the protection of an undisturbed cave to survive. Cavers need caves to go caving. A quirk of nature seems to have decreed that many of the "best" caves for exploring-those with the deepest pits, the longest passages, and the

biggest rooms are also the caves most preferred by bats.

During the past two decades, as the number of threatened or endangered bat species has dramatically increased, cavers have seen many of their favorite caves closed for part of the year because of the bats' need for seclusion. Some owners of popular caves have used the presence of bats as an excuse to close their caves to visitation year-round. Many have become tired of frequent interruptions caused by requests for permission to enter, frustrated by damage to their property by irresponsible visitors, or simply afraid of the liability which might arise from accidents. As cavers see more and more caves closed, it is understandable that some become resentful of the bats which are often given as the reason for closures.

The NSS has tried to take a middle ground in its approach to bats and caves. One of the Society's constitutional purposes is "the protection of caves and their natural contents," which obviously includes bats. The large majority of the NSS membership, however, is now composed of recreational cavers who simply enjoy the sport and are not involved in specific protection efforts or scientific studies.

The approach that most NSS members have taken, therefore, has been two-fold: they support closures of caves used by bats during the months when bats require seclusion, and they work to keep caves open for responsible visitors during the months when bats in those caves do not require that level of protection. For example, the NSS officially supports the winter closure of Hellhole Cave in West Virginia, used as a hibernaculum for endangered Indiana bats (*Myotis sodalis*), and the summer closure of Sennitt Cave in the same state, which provides a secure environment for a maternity colony of also endangered Virginia big-eared bats (*Plecotus rafinesquii*). (Unfortunately, the owners of both these popular caves have extended the closures year-round.) NSS efforts to keep caves open are reflected in new legislation in several states, protecting landowners from liability associated with accidents in undeveloped caves and in increasing members' sensitivity to the rights of landowners.

THE NSS, through its Conservation Committee, is working diligently to make members aware of the critical need of cave-dwelling bats to remain undisturbed. Articles on bat sensitivity to disturbance and to changes in cave environment now appear frequently in the "NSS News," the Society's monthly magazine, and in "The Bulletin," its scientific journal, which periodically publishes the results of studies about bats.

The continuing effort of the Society to make its members aware of the importance and sensitive nature of bats in caves has had increasingly good results. The NSS Conservation Committee recently sent a questionnaire to all local chapters (called "grottos"), inquiring about their members' current attitudes toward bats compared to a decade ago. Almost half (73) of all grottos (154) responded. Attitudes toward bats are improving. Ninety-nine percent of the respondents said that the general attitude of members of their grottos was either "somewhat positive" or "very positive," with the majority by far in the latter category. Only one grotto had changed from "somewhat positive" to "neutral" in the past ten years. Most said that the majority of their members would refuse to enter a cave during known hibernating or maternity periods for endangered species. They also indicated, however, that fewer members would feel the need to exercise the same restraint for caves used by bat species that are not recognized as endangered.

Bat-related grotto activities are increasing. Most respondents indicated that they had participated in one or more of the following activities: posting information/closure signs at bat caves; publishing positive information on bats in their newsletter; publishing a brochure on bats; giving/ sponsoring talks about bats to other groups; donating money to bat conservation projects; developing exhibits on bats; talking to visitors at caves about bats; building/installing bat houses; and assisting scientists with bat population censuses or management.

From the responses, and from numerous reports which appear in grotto newsletters, it is clear that many NSS members across the country are involved in bat protection projects. Despite the natural conflict between the bats' need for seclusion and the caver's desire to go caving, most NSS members seem to be willing to restrict their own access to caves during the months when solitude is critical to bat survival. Cave dwelling bats use caves either during summer, when they bear and rear their young, or during winter for hibernation (only a very few caves are

used by bats year-round). Caves not inhabited by bats are available to cavers during the closure months.

The cooperation and support of cavers-the major "users" of caves is critical to protective efforts for cave-dwelling bats. Conservation organizations involved in this protection can help to ensure that they receive that support by working with the NSS to keep caves open to visitation during the months when bats are not occupying them. In this way, a workable compromise, which I believe most cavers will accept, can be achieved. Bats will have the solitude of caves when they need it, and cavers will be able to continue caving without having a negative impact on bat populations that require caves to survive.

[SIDEBAR]

NSS Members -Rally for Bat Conservation

A RECENT QUESTIONNAIRE from the NSS Conservation Committee to all NSS grottos (local chapters), revealed that many are active in bat conservation projects. Both individuals and entire grottos are joining BCI in record numbers and assisting in efforts to educate other cave explorers about the special needs of cave-dwelling bats. Among the many ways bats are benefitting from the attention of these groups is in the construction of gates to protect bat caves. Grottos in many states have contributed both time and funds to help. One group in particular, the Richmond Area Speleological Society in Virginia, has played a major role in protecting bat caves. They provided much of the funding and recruiting of volunteers to gate critical bat hibernating sites, such as Hubbards Cave in Tennessee, a massive project that involved the cooperation of many.

Other groups, such as the Indiana Karst Conservancy (an NSS conservancy comprised of members from at least seven Indiana grottos), have erected fences around several sensitive bat caves and posted signs warning visitors not to disturb seasonally resident bats. Many grottos now advise their members when to avoid entering specific bat nursery or hibernation caves, greatly reducing disturbance, an important cause of bat mortality.

Protective efforts of NSS grottos also include working with private and government agencies to acquire and protect important bat caves. The Tennessee Central Basin Grotto and East Tennessee Grotto, for example, help The Nature Conservancy with management and monitoring of several caves, including Hubbards.

Another measure to protect bats is through legislation. In Alabama, the Huntsville Grotto obtained passage of a state cave protection law, which includes provisions for protecting cave-dwelling bats. Similar laws are being developed in Pennsylvania, New York, and Minnesota and have been passed by state legislatures from Virginia to California.

Many state and federal agencies rely on NSS members to help them carry out surveys of bat populations in local caves which provides valuable information on the status of bats, including endangered species. In some cases, surveys could not have been done without the help of cavers. For example, the Indiana Karst Conservancy, whose members regularly participate in surveys, have trained bat biologists in cave techniques so that even the most difficult caves can now be checked by experts.

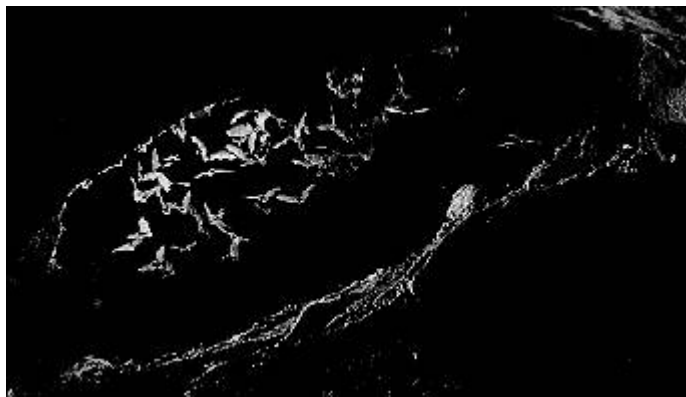
Across the country, numerous grottos are involved in education efforts. Members of the Richmond Area Speleological Society in Virginia have joined forces with the Blue Ridge Grotto to form a Bat Education Task Force within the NSS Conservation Committee. They have supported bat research in the state, sponsored talks by Merlin Tuttle, and held seminars for area exterminators to educate them about the values of bats and train them in appropriate procedures for solving problems without killing bats. As with many NSS groups, the Bat Education Task Force is utilizing BCI's audiovisual programs and other materials as part of their public outreach.

Among the numerous other examples of grottos involved in education efforts is the New York City's MET Grotto who helped the City Parks Department hold a "Bat Fest" for children and worked with BCI in sponsoring a program on bats at the American Museum of Natural History. In Michigan, the Interlakes Grotto has sponsored a "bat booth"

to educate people about bats at an annual event put on by the Michigan Outdoor Clubs. And in South Dakota, members of the Paha Sapa Grotto have erected bat houses and are working to educate local animal control officers and their Humane Society about bats.

Since human disturbance is a major cause of decline in cave-dwelling bats in the United States, it is increasingly important that partnerships among concerned groups exist. Educating cave explorers about the potential effect of their cave visits is vital. It is not only important that endangered species are taken into consideration by explorers entering caves, but that the needs of *all* bats be respected, so additional populations do not become threatened or endangered. We congratulate the many NSS grottos and their members who are doing their part. [Author Bio]

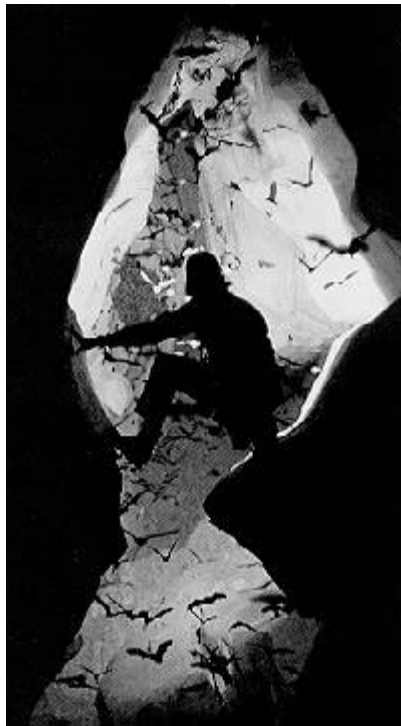
Janet Thorne is the Chairperson of the NSS Conservation Committee and has been a member of the NSS for 25 years. She is also a champion of bats and a longtime member of BCI.



More than half of North American bat species uses caves sometime during the year but fewer than 5% of known caves provide the environment necessary for cave-dwelling bat colonies.



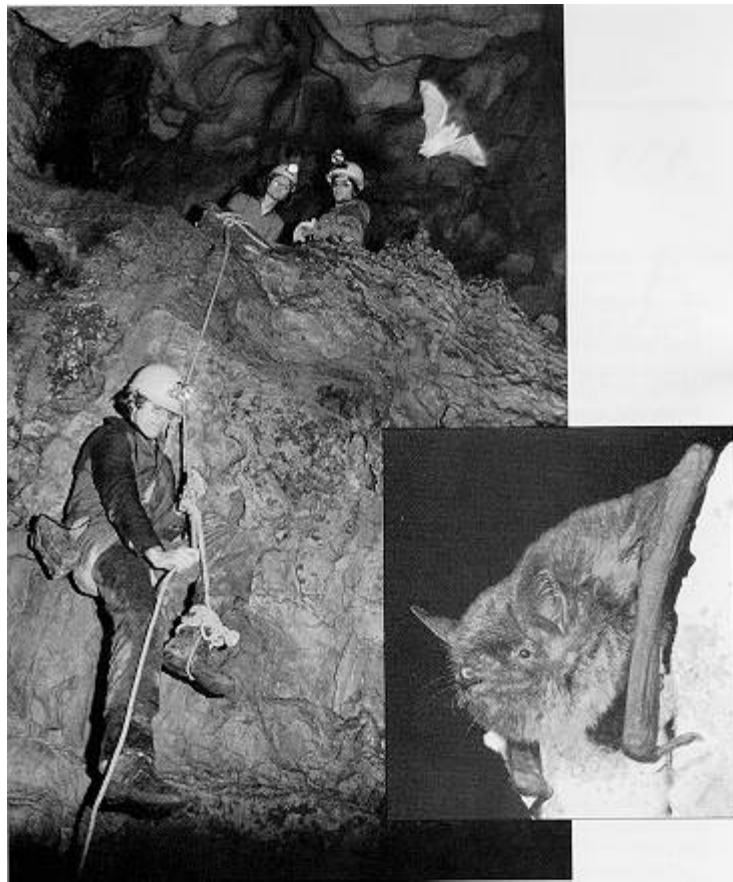
Descending into the unknown; some cave explorers describe their underground experiences as essential to their emotional and physical well-being.



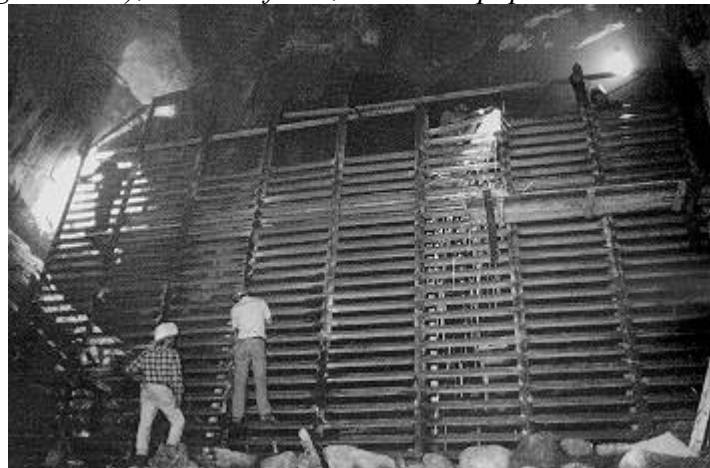
Encountering bats, a caver pauses before continuing. Disturbance in bat-roosting caves is a major cause of population decline; closing certain caves to visitation during critical times of the year is a solution supported by the NSS Conservation Committee.



Many NSS grottos and affiliates are involved in projects to protect bats. The Indiana Karst Conservancy puts special emphasis on bats. Among their many activities, they erect fences and post signs at endangered bat caves, warning would-be explorers to stay away.



*As the sport of caving has become more popular, bats and cavers inevitably have come into conflict (above). Through its Conservation Committee the NSS works to sensitize members to the needs of bats. Education, along with protection projects, such as the gating of Hubbards Cave (below), are helping; at least one endangered species, the grey bat (*Myotis grisescens*), has benefitted, and some populations are recovering.*



All articles in this issue:

- [On The Cover](#)
- [The Changing Face of Bat Conservation in the Pacific](#)
- [THE FLYING FOX: Becoming a Rare Commodity](#)
- [BATS AND CAVERS](#)
- [Life with Bats, Books, and Caves](#)
- [THE B.A.T Club](#)
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- ▶ [A last look. 1990](#)