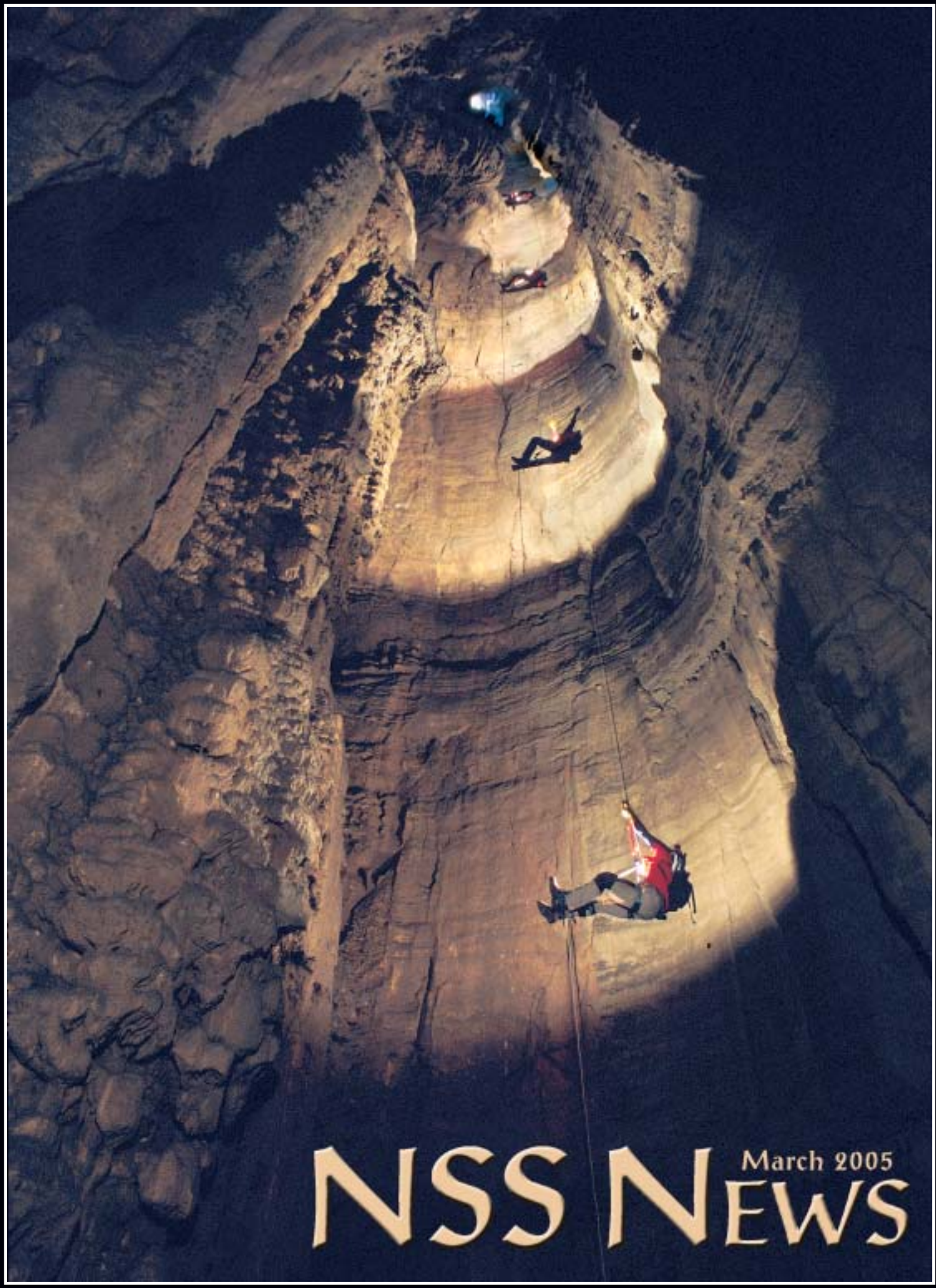

NSS News

March 2005

CALENDAR

USA

March 5, 2005—Spring Board of Governors Meeting - San Antonio, TX.Will be hosted by the Texas Cave Management Association and Bexar Grotto of the NSS at the Edwards Aquifer Authority located at 1615 N St Mary's St. www.caves.org/nss-business/president/spring2005.pdf

April 29–May 1, 2005—Spring 2005 VAR, hosted by Bubble Cave LLC, will be held at the West Virginia State Fairgrounds located in Fairlea, WV. Come on down to Greenbrier County WV and enjoy the caving on the Greenbrier Valley savannah. At least two major vendors will be attending. For more information, go to www.varegion.org or contact Judy Fisher at PO Box 276, Berkeley Springs WV 25411-0276 or e-mail her at jcF@access.mountain.net.

April 29–May 1, 2005—Texas Speleological Association Spring Convention held at Fort McKavett State Historic Site (www.tpwd.state.tx.us/park/fortmcka/fortmcka.htm) in Menard County. Help celebrate 50 years of organized Texas caving! Registration is $15 in advance or $20 at the gate, and includes camping, talks, Saturday banquet, auction, vendors, etc. Family discounts available. There will be signup trips on Sunday to nearby Powells Cave, the second longest in Texas at 22.8 km. Info is at www.cavetexas.org, or contact Convention Chair Jim "Crash" Kennedy at <jkennedy@batcon.org>.

April 30, 2005—13th annual Spring Workday at Hidden River Cave. Join the ACCA and Cleveland Grotto in the greatest cave recovery story ever told, Hidden River Cave in Horse Cave, KY. For info contact ACCA at (270)786-1466 or Frank Vlchek at vlchekft@mailbag.net

May 13–15, 2005—The 2005 SERA Summer Cave Carnival will be hosted by the Birmingham Grotto (www.bhamgrotto.org) at Camp Comer in Mentone, Alabama. You can arrive as early as Wednesday, May 11th. Camp Comer has a 1200 acres of wooded camping, a 110 acre lake, a 70 foot climbing tower, never-ending hot water and more! For questions contact Joel McGuire, kaventag@mindspring.com 205-854-CAVE.

May 27–30, 2005—20th Anniversary Ennis Cave Blowout, Mountain View, Arkansas. Check out the website: www.enniscave.net for more details or contact Ron Lather at cavinron@earthlink.net.

June 25–July 2, 2005—NCRC 2005 Cave Rescue Operations and Management Seminar Union Hill School-Somerville, Alabama (just south of Huntsville) This seminar consists of extensive classroom and field work in all phases of cave rescue. More info at http://caves.org/io/ncrc/2005Seminar/seminar2005.htm, or e-mail registrar Berta Kirchman at: 2005registrar@ncrc.info

July 4–8, 2005—NSS Convention, Huntsville, Alabama. See the Convention website at www.nss2005.com for online registration and information or contact Jim Hall jimehall2@cs.com (256-772-9829) or Charles Lundquist lundquc@e-mail.uah.edu (256-824-2684) for any questions.

July 29–31, 2005—Annual Karst-O-Rama event held at Great Saltpetre Cave Preserve in Mount Vernon, Kentucky. Come join us in Rockcastle county for caving, hiking and socializing. Guided trips will be posted as well as self led trips. Sponsored by the Greater Cincinnati Grotto. Contact Bill Carr at (606)-256-0205 or e-mail at bcaver1@msn.com

October 31–November 4, 2005—National Cave And Karst Management Symposium, Albany, New York. This marks 30 years since the first Symposium was held in Albuquerque, New Mexico. Hosted by The Northeastern Cave Conservancy, Inc., the Symposium will showcase both the accomplishments of decades of cooperative cave and karst management research, and the path towards the future.

August 7-11, 2006—NSS Convention in Bellingham, Washington, hosted by Cascade Grotto, on the campus of Western Washington University. Chairman: Michael McCormack.

Dates TBD, 2007—NSS Convention in Marengo, Indiana, co-hosted by 8 Indiana grottos. Chairman: Dave Haun.

INTERNATIONAL

August 21–28, 2005—14th International Congress of Speleology, Athens, Greece. Organized by the Hellenic Speleological Society. Contact: Chistos Petreas, ellspe@otenet.gr www.otenet.gr/ellspe

August 27 to September 15, 2005—The twelfth annual Ukraine expedition of the Ukrainian American Youth Caver Exchange Foundation (UAYCEF), an NSS Project. The first half of the trip will be spent exploring the horizontal "Giant Gypsums" of Western Ukraine, some of the World's longest caves (8/27-9/5/05). The remaining time will be spent visiting the deep vertical limestone caves and shafts of the Crimea. Instruction provided in Eastern European Rebelay Techniques during Crimea portion of trip. Ten-day trips also available for those participants unable to do both segments of the 20 day trip.Note, as usual a portion of all fees will go towards covering the cost of sending a youngster along as part of UAYCEF's Student Exchange Program. For additional details contact Chris Nicola; Phone (718) 204-8373, chris@uaycef.org (alt. e-mail: cnicola@optonline.net), or visit www.uaycef.org

September 23–25, 2005— HIDDEN-EARTH 2005 hosted by the British Cave Research Association at Churchill Community School, Winscombe, Mendips UK. www.Hidden-Earth.org.uk

Further International events can be seen at UIS's International Speleo Calendar at: http://rubens.its.unimelb.edu.au/~pgm/uis/events.html

CLASSIFIED

Please e-mail information on upcoming events to dbunnell@caltel.com at least 6 weeks prior to the first issue in which you want it to appear (e.g, by August 15 for the October issue).

DEPARTMENTS

ABOUT THE COVER

Front cover: "A 230-foot Ascent," taken in Moses Tomb, garnered an Honorable Mention for Bob Biddix in the 2004 Slide Salon. Bob shot film, using a Nikon FE with a 24mm lens, a Vivitar 285 flash, and three M3B bulbs fired by climber Daniel Wright.

Back cover, top: Bob Richards admires formations in the Dragon's Lair of California's Black Chasm Cavern. The photo received an Honorable Mention in the 2004 Slide Salon. It was taken by Dave Bunnell with a Nikon Coolpix 5000 digital camera with a wide angle adaptor.

Back cover, left: Joel Despain stands by the partially restored base of the Organ Formation in Crystal Cave. This area of flowstone, rimstone pools, stalactites, and stalagmites was buried beneath the commercial trail for 65 years until its recent restoration (see page 14). A faint line across the flowstone reveals the former trail level. Photo by Shane Fryer.

Back cover, right: Mike Dale drew this depiction of Carson-Campbell cave in Tennessee, which received a cleanup during the 2004 SERA Cave Carnival. Dan Henry, an FMG member, is the caver, and this was literally how much trash had to be crawled through to enter.

Deadline: The NSS NEWS is mailed the last week of the month preceding the date of publication. Ads, articles and announcements should be sent to the NSS NEWS, Box 879, Angels Camp, CA 95222 **by the 15th of the month, six weeks before the month of issue** (e.g., material for the March issue needs to be in by January 15).

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Regular membership in the NSS is $33 per year. Subscriptions to the *NSS NEWS* are $18 per year; individual copies are $1.50 each. Contact the Huntsville office for membership applications, subscriptions, orders, or for replacement of issues missing or damaged in the mail.

POSTMASTER:
Send address changes to National Speleological Society, 2813 Cave Ave., Huntsville, AL 35810-4431.

NATIONAL SPELEOLOGICAL SOCIETY, INC. NSS

NSS NEWS

MARCH 2005
VOLUME 63 NUMBER 3

FEATURE ARTICLES

Annual Conservation Issue

Conservation materials edited by Val Hildreth-Werker and Jim C. Werker

Conservation Values and Outreach

Val Hildreth-Werker and Jim C. Werker

NSS Conservation Division/Conservation Committee Co-Chairs

Caves can be natural archival vaults protecting rare resources. Irreplaceable values may be present in paleontological remains, archaeological remains, historical artifacts, and pristine speleothems. Geological and mineralogical assets that remain in situ may offer unsurpassed value to future researchers. Karst systems can be conduits for precious groundwater resources. Caves sometimes contain specialized, fragile habitats supporting species of concern. Cave systems give us unique human-accessible windows into ancient mysteries of extremophiles surviving in the quiet darkness of subterranean microbial communities. Commitment to minimum-impact caving techniques gives us down-to-earth ways to preserve aesthetic and scientific values for future generations of cave explorers. The NSS publication addressing these aspects of cave conservation as well as current best practices in cave restoration and speleothem repair techniques will be available in 2005. Look for *Cave Conservation and Restoration,* featuring peer-reviewed contributions from more than 40 authors, edited by Val Hildreth-Werker and Jim C. Werker.

Join us in the privileges and responsibilities of preserving cave values, maintaining cave assets, and conserving cave resources in perpetuity. The bottom line, increasing public and caver appreciation of cave and karst systems, boils down to Conservation and Education. Conservation Outreach includes meeting the demands of broad-based public awareness, media attention, classroom education, landowner and land manager relations, community and developer relations, broad-scale karst and groundwater awareness, spelunker education, caver training in safety and minimum-impact ethics, protection through cave management or ownership, improved management strategies developed through science and research, as well as other venues of conservation and education support.

The NSS Board of Governors has introduced two special Conservation Membership categories that are intended to emphasize and encourage the Society's conservation and education programs. Conservation Memberships will help the NSS fulfill the mission of advancing the protection of caves and their natural resources. Kudos to the NSS Board for this important step. Regular Conservation Membership is $100 annually. For those who already have Life Membership status, Life Conservation Membership is $1,000. We encourage you to consider upgrading your NSS membership. Look for the details in this CONSERVATION ISSUE.

We thank the authors for their fine contributions to this 2005 NSS NEWS CONSERVATION ISSUE. They offer the NSS readership inspiring tidbits—a quote from an 1857 newspaper disparaging the practice of marring cave passages with graffiti—a Conservation Task Force article describing why cavers put forth so much volunteer effort—a new award structure for the NSS Group Conservation Awards—caves added to the federal significant cave nomination list—archeo-savvy tips for cavers—tens of thousands of dollars in Volunteer Value—a year jam-packed with beneficial conservation activities—insight on the art and science of cave restoration—history of the Cave Conservancy Movement—revitalization and redirection for a Cave Conservancy—the discovery of an obsidian thrusting spear tip—cave, karst, and groundwater education prototypes—a full Conservation schedule slated for the 2005 NSS Convention in Huntsville, Alabama—and details on the new NSS Conservation Membership.

Cave safely—cave softly—support NSS Conservation Outreach.

"The Omnipresent Jack-Knife": An 1857 Cave Conservation Message from Minnesota

Greg A. Brick

American Spelean History Association

The earliest known graffito (no longer extant) in a Minnesota cave was created on November 14, 1766, when Jonathan Carver "markd the arms of the king of England" in the walls of the eponymous Carver Cave, located in what is now the capital city of St. Paul. This article, however, will focus on Carver Cave's more spectacular neighbor, Fountain Cave, located a few miles upriver, which became, more than any other local cave in the years thereafter, a magnet for graffiti. Both caves are found in the weakly cemented St. Peter Sandstone, described as a "friable freestone" by one geologist, thus seemingly inviting graffiti. By the same token, the white, sandy surface is like a self-erasing board: weathering obliterates the older graffiti.

Although Fountain Cave was discovered in 1817 in the midst of a supposedly "howling wilderness," the first mention of graffiti comes already in 1820, when the cave was visited by the ethnologist Henry Rowe Schoolcraft, who went on to explore the Mississippi headwaters. "This cave

has been visited by most persons who have passed up the Mississippi, if we may judge from the number of names found upon the walls," he wrote in his *Narrative Journal of Travels*, published in 1821. Perhaps some of the names were those of soldiers from nearby Fort Snelling, on which construction had begun in 1819. Schoolcraft and the expedition leader, Governor Lewis Cass of Michigan, added their own names to the "register," where they were reported a generation later by landscape artist Henry Lewis in his *Valley of the Mississippi Illustrated* (originally published in German in 1854). "The walls yield readily to the knife and are, of course, covered with names of visitors," Lewis wrote, "among which are those of General Cass and Mr. Schoolcraft, who explored it many years ago."

A colorful indictment of the graffiti at Fountain Cave, however, was contained in an article, "The Cave of Saint Paul," published in *The Knickerbocker, or New-York Monthly Magazine,* October 1857, during the heyday of what had become the earliest show cave in Minnesota. The author, who signed himself "M," had this to say:

> *"In its primitive simplicity it was doubtless a beautiful place, opening as it does in a deep glen near the Mississippi, and surrounded with luxuriant verdure. But that rapacity which exhibits itself in all the walks of life, has made its appearance here; and the spot, being 'private property,' now rejoices in a little seven-by-nine shanty, where, 'for a consideration,' you may obtain a 'guide' and a tallow candle, and upon returning from your explorations, for another 'consideration' some fiery brandy and a rank segar. Aside from that, the place has lost much of its old charm, for during the summer months it is thronged with visitors daily; the paths leading to it are dusty and travel-worn, and the soft, white sand-stone walls are marred all over with the names of the Joneses and Browns who have honored 'the Cave' in the 'grand rounds.' Why is it, by-the-way, that so many Americans seem to think it an imperative duty when they visit a place of any note, to leave behind them, for the edification of after-comers, through the instrumentality of the omnipresent jack-knife, their common-place names, and in the most staring capitals possible?"*

An 1850 pencil and watercolor—the earliest known cave image from Minnesota—is unusual in depicting not only the graffiti described above, but also someone "caught in the act." It provides an interesting visual counterpart for "M's" description!

A letter to the *Saint Paul Dispatch*, September 6, 1880, by the travel writer William H. Dunne, shows that things hadn't changed much at Fountain Cave a generation later:

> *Descending to where the stream emerges from the cave we notice how many "Carvers" have graven their initials and names upon the sides of the soft, light colored sandstone. There is the distinguished "Brick Pomeroy" and the extinguished "Cincinnati Frenchy," and others equally prominent. The ceiling is blackened with the smoke of many fires and in the shaly formation which the philosophical geologist may get by climbing up for it he may find the petrified smoke from the red man's "calumet' which ascended years and years before Carver procured the valueless treaty of 1766 in the cave below Dayton's Bluff.*

The glory days of Fountain Cave ended shortly after Dunne's visit, when the overlying railroad shops began to use the cave as a convenient sewer by drilling a shaft into it. The cave still exists but is inaccessible owing to burial during highway construction in 1960, which in my opinion was the final act of vandalism committed against this beautiful and historic Minnesota cave.

Petroglyphs and Pottery: Some Tips for Archaeo-Savvy Caving

Katherine Stevenson

Mississippi Valley Archaeology Center at the University of Wisconsin–La Crosse

From colorful cave paintings to simple stone tools, archaeological finds have long been an important part of cave conservation. To preserve such finds, we first need to know that they exist, yet countless caves and rock shelters have never even been checked for signs of human use. Cavers can be an enormous help by watching for rock art on cave walls and traces of human habitation in cave floors, and bringing them to the attention of people who can help evaluate and preserve them. Most archaeological remains in caves and shelters, however, aren't nearly as obvious as the vivid cave paintings of France or the mummies of Peru. So what kinds of archaeological clues can cavers watch for on walls and in floors? The following tips focus on the United States, especially the Midwest, but many of these principles apply worldwide.

What kinds of caves and shelters contain archaeological remains?

Logically, we might expect that ancient peoples used caves that were dry, airy, accessible, and reasonably well lit—comfortable places to escape from the elements. But for tens of thousands of years, people used caves for a variety of purposes, from living spaces to ritual sites, and archaeologists' ideas of where to look and what to look for have been expanding. Common, logical assumptions and initial impressions regarding size, light, water, and accessibility can be misleading. So can impressions of disturbance.

Size. Over the ages, people have made use of caves of all sizes, from immense chambers or labyrinths to narrow rock overhangs—in the upper Midwest, even a small overhang on a south-facing bluff looks good on a frigid winter day. Ideally, an inhabited cave would be standing height; however, some known archaeological caves or shelters are barely sitting height and are tight even for two or three people. Infilling can also make caves or shelters look smaller than they once were (Figure 1).

Light versus dark. In theory, light-zone areas would be the best places to live, but people ventured well back into the dark zone of many caves. This practice is well

Fig. 1. The Raddatz floor contained complex, layered sediments. Some 7 feet of the deposits spanned several thousand years of human use.

Fig. 2. ***At Samuel's Cave in western Wisconsin, Native American rock art mapped in the 1800s was thought to have been destroyed by vandalism and graffiti. Rechecking in the late 1900s found a surprising number of surviving pictographs and petroglyphs, including the carved human figure at lower left.***

known for places such as the Mammoth Cave complex, where Native American peoples left traces of their presence miles back in the cave system. In other areas, no one has really looked for archaeological evidence in dark-zone caves. In Wisconsin, for example, archaeologists focused solely on shelters and smaller caves until a few years ago, when a caver spotted beautifully preserved rock art in the dark zone of a deeper cave. Further examination by archaeologists revealed that the surface of the dry, sandy floor held well-preserved artifacts such as birch-bark torch remnants and the sole of a leather moccasin—unprecedented finds for the region.

Accessibility. Logically, prehistoric peoples would have been drawn to accessible entrances, but ideas about that have been changing, too. The fairly inaccessible cliff-side burial caves of Peru have been garnering much attention, as have sinkhole-entrance caves used for Mayan rituals in Mesoamerica. In Minnesota, probable rock art was found recently in two sinkhole-entrance caves, opening up a whole new avenue for regional research. The structure and accessibility of cave entrances also can change over time, as can their visibility. In portions of the Midwest, for example, many entrances now hidden by woods and brush were framed by grassland before European settlement halted the frequent fires that sustained the prairie environment.

Moisture. A cave with a wet environment and active formations seems like a much less desirable place to live than a warmer, drier one. Active formation processes also tend to remove or cover evidence of human use. But wetter caves should not be ruled out. One Wisconsin cave with recently discovered dark-zone rock art is cold, very damp, and prone to extensive dripping, and some of the ancient art is slowly being covered with a skin of flowstone. Archaeological floor deposits are present in that cave as well.

Disturbance. Just because a cave seems disturbed doesn't mean that it has no archaeological significance. Rock art can be hidden behind vast amounts of more recent graffiti, and important archaeological materials can be found even in cave floors that have been reworked or buried under deep deposits of modern sediments.

Rock art

There are two basic types of rock art: *petroglyphs,* or carvings; and *pictographs,* or drawings. Depending on the art style and the type of rock (soft sandstone is far easier to carve than harder limestone), petroglyphs can range from deep, broad incisions to thin, shallow scratches. Mud glyphs can occur as well. Pictographs are typically drawn in black charcoal or earth-based pigments such as reddish ocher. Rock art of either type is rarely as vivid or as readily visible as the famous Paleolithic drawings of Lascaux Cave in France. Instead, it might consist of small stick drawings or inconspicuous etchings only a few inches across.

Rock walls are also notoriously irresistible to careless visitors and more serious vandals who use knives, charcoal, spray paint, and markers to cover the walls with names, dates, epithets, and other graffiti. Graffiti damage is one of the most pervasive problems in cave conservation, and aside from its other effects, it obscures, damages, or destroys earlier rock art. Interestingly, graffiti can also be of historic interest as time passes. In a sinkhole-entrance cave recently reopened in Minnesota, members of the local historical society were justifiably fascinated by the nineteenth- and early twentieth-century inscriptions of local residents and joined in support for preserving the cave.

Because earlier rock art can survive despite extensive graffiti (Figures 2, 3), it is never safe to assume that a cave has no rock art just because it is heavily vandalized. This is a special concern for graffiti-removal projects. *Planning for graffiti removal should always include thorough rock-art assessment and consultation with specialists.*

Rock art can be extremely difficult to detect and often requires both an experienced eye and the right conditions. Thoroughly inspecting a wall for rock art is slow going, especially if the wall has graffiti. Even without graffiti, the eye tends to be distracted by the rock texture and color variations, fractures, mineral coatings and staining, and biological growth (Figures 4, 5). Any marking that isn't an obvious letter or number must be examined to see whether it is a remnant of an ancient design. That requires looking from close up, from farther away, from each side, and if possible, from above and below—all of them multiple times. Even in the light zone, carvings can often be detected best with sidelight, such as aiming a flashlight from each direction, and the lighting often requires considerable experimentation. Spotting charcoal and other pigments means watching for color variations that don't belong—which can be especially difficult if the pigments are

similar to the rock's natural coloring, such as iron staining.

Archaeological floor deposits

Caves are confined spaces, and because of the variety of formation and sedimentation processes at work, and the possibility of reworking, reuse, and disturbance, floor deposits can be extraordinarily complex. They can also help chronicle the cave's formation, role in the natural environment, and history of human use. They provide the all-important *context* for items left behind by former occupants. A burned deer jaw means little on its own, but if it is found in the same depositional zone as other bone fragments and a pottery type of known age, it can speak to hunting practices at that time, and even the season of year in which the cave was used.

The nature of the floor deposits in any given cave depends on the cave's geology and formation processes. In the right sort of depositional environment, sediments can build up in layer-cake fashion many feet deep, creating a vertical timeline that captures the cave's history (Figure 1). Often, however, floor deposits are thin to nonexistent (as in the case of a bare rock floor), or subject to water movement, or reworked by the footsteps or digging of later occupants or visitors—or all of the above. Only careful examination and excavation can extract the story that floor sediments can tell.

What kinds of clues in floor deposits can help identify earlier human use?

Artifacts. Items that people made or used are the most direct clue. They can include easily recognized stone tools such as "arrowheads," decorated pottery, or carved bone tools. Many artifacts, however, are more subtle and difficult to recognize, such as waste flakes from making stone tools. In most regions, waste flakes are the single most common artifact type, found at almost all prehistoric archaeological sites. They are distinguished from natural rock fragments by their sharp edges and "conchoidal" fracture pattern, which looks like a bulging-surfaced chip broken off a glass bottle. Similarly, stone tools that weren't shaped to a readily recognized form can be identified from the concave scars left where such flakes were removed. Stone tools were often made of chert or flint, but they were also made from other rock types that produce conchoidal fractures and a sharp edge, such as obsidian, basalt, jasper, quartzite, or silicified sandstone (orthoquartzite). Rock types (even unmodified) that don't belong in a cave geologically are a clue to human use—they had to get there somehow. Pottery is another important artifact type that can be hard to identify. In North America, many pottery fragments look like little lumps of hardened clay with flattened surfaces.

Burning. Modern cave visitors, especially the beer-toting kind, often light fires that leave behind charcoal, ash, and burned soil. Earlier inhabitants lit fires, too, and those hearths or other burned areas can be chock-full of information, including charcoal for radiocarbon dating. How can you tell the difference between a modern fire and an ancient one? Remains of most modern fires usually contain at least some modern trash, such as bottle caps and broken glass. Earlier fires are less likely to be found on the floor surface (depending on the depositional environment) or to contain modern garbage, and are more likely to contain earlier artifacts and burned animal bone.

Animal bone. Cave floors often contain bones of animals that died there naturally, such as raccoons or bats, or were brought there by predators such as coyotes. Caves that accumulate enough animal bone can become important paleontological sites. Animal bones can also be important signs of human use. Broken bones are a clue (they were often systematically broken to extract marrow), and burning is an especially important sign, since bones are unlikely to burn naturally in a cave environment, and modern visitors are unlikely to burn them. Burned bone can range from golden brown to black or, if it burned hot enough, a "calcined" white or bluish gray. Unfortunately, staining in some cave environments mimics some of the typical colors of burning, making it hard to distinguish burned from unburned bone. Specialists can identify the bones and verify human processing by looking for specific types of breakage and cut marks.

Human bone: In most regions, burials are not common in caves, but they can occur, and usually as scattered bone fragments in the floor rather than well-preserved, intact skeletons that are easy to recognize. If you see any bones that look human, leave them where they are and contact the proper authorities!

Historic uses. Some caves are also of interest because of earlier uses in historic times. In the Midwest, they have been used for everything from tourism to aging beer,

Fig. 3. ***A closer view of the human figure at Samuel's Cave shows more recent graffiti lines cutting across the older carvings.***

Fig. 4. ***At western Wisconsin's Bell Coulee rock shelter, both iron oxide staining and multicolored plant growth distract the eye. Good sidelight is essential for seeing the subtly carved bison in the center.***

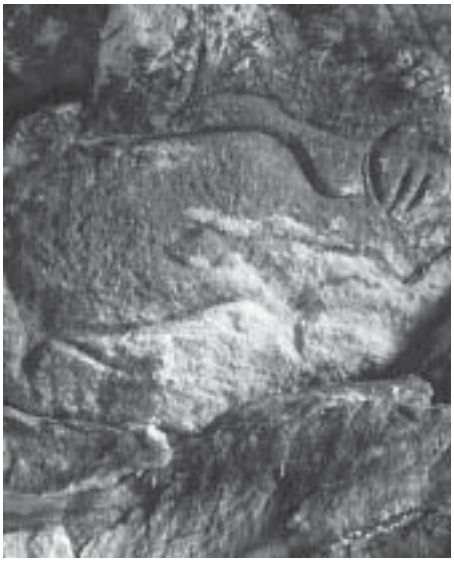


Fig. 5. ***Stronger sidelight and a closer view show more detail on this Bell Coulee bison, including a "heartline" running from its mouth into its chest.***

sand mining, making cheese, growing mushrooms, and Saturday-night dances (not to mention the vast number of local legends regarding moonshiners, hidden treasure, and outlaws on the run). Many caves have fascinating histories, and interest in spelean history is growing (see, for example, Greg Brick's article in this issue). Artifacts from some activities, although they might look like garbage, can be of considerable historical interest.

What should you do if you find archaeological remains?

In short, pushing leads or otherwise looking at floor deposits—even just looking at the floor surface—offers a chance to watch for any of these clues. If you do find any artifacts, it's best to leave them in place so they can be preserved or studied in context. Excavation, if there is a good reason for that to occur, is really the work of specialists, especially given the complexities of cave floors. Laws governing excavation and artifact removal vary. On many types of public land, removing artifacts is illegal, and excavation of any archaeological site requires special permits. On private land, artifacts belong to the landowner and should not be removed without permission, even by professionals. Human remains are also protected by a variety of laws and, as mentioned before, should be reported to the proper authorities but left in place.

Reporting archaeological finds of any type can help tremendously in the effort to document and preserve vanishing traces of human history. Cavers are uniquely positioned to find important evidence that can link us directly to the past and help us understand how ancient peoples incorporated the underground world into their explorations, rituals, and daily life.

For more information

Rock-art and cave archaeology are growing specialties within the field, and most parts of North America have people working in these areas. Local or state universities or museums are often helpful for initial contacts.

The American Rock Art Research Association (ARARA, online at www.arara.org) is a good starting point for rock-art information.

For other archaeological questions, the State Archaeologist or State Historic Preservation Office in each state can usually provide either information or the names of contacts. The National Association of State Archaeologists has an online listing by state (www.uiowa.edu/~osa/nasa/), as does the National Conference of State Historic Preservation Offices (www.ncshpo.org/stateinfolist/).

In the unlikely event that you find human remains, local law-enforcement authorities are mandatory contacts, just in case the remains represent a crime scene. If the remains turn out to be archaeological, the agency designated for dealing with them varies by state. Again, the State Archaeologist or State Historic Preservation Office can provide information.

Acknowledgments

Photos are from the collections of the Mississippi Valley Archaeology Center. Special thanks to archaeologist Robert "Ernie" Boszhardt and caver Greg Brick for reviewing this article.

NSS Conservation Task Forces

Val Hildreth-Werker and Jim C. Werker

What is an NSS Conservation Task Force? How does a group become a Task Force?

NSS Conservation Task Forces are created to focus on local level conservation issues. The Conservation Task Force (CTF) Coordinator, Dave Jagnow, stands ready to lend assistance with advice and networking to any group of conservation-oriented cavers who care about protecting the future of cave and karst resources.

Since the Federal Cave Resources Protection Act was passed, more CTFs are being recognized by federal, state, and local agencies as the primary representatives of the caving community on various local and regional conservation issues. CTFs may be formed to address any cave or karst concern on public or private property. Whether a single cave or an entire region, a situation requiring secrecy or publicity, often the best way to get a job done is to recruit some like-minded friends and go for it. If you are involved in cave and/or karst conservation projects, your work may benefit from CTF designation. CTFs report their activities through the NSS Conservation Division. A group may apply to become a CTF through the assistance of the CTF Coordinator.

Call upon the experience of others to help get the job done. Contact David H. Jagnow, CTF Coordinator, david@jagnow.com

Please copy your e-mail to werks@zianet.com

2005 Black Hills Cave Restoration Camp

Wind Cave National Park and Jewel Cave National Monument will host the Black Hills Cave Restoration Camp May 9-13, 2005. You are invited to be one of up to 20 volunteers who will be assisting with this conservation project.

The goal of the project is to restore the cave's natural condition along the public tour routes. This year's camp will focus on removing lint and dust accumulations at both caves.

We are soliciting help from anyone interested in resource protection and restoration. No previous experience is required. There is no registration fee, and housing will be provided. Two days will be spent working at each cave, with Wednesday as a day off for caving and/or sightseeing.

To sign up, or for more details, please contact Marc Ohms at 605-745-1182 or Marc_Ohms@nps.gov. The deadline is Friday April 15, 2005, and spots are available on a first come-first served basis.

Group and Grotto Conservation Awards

John M. Wilson

Chair of the Cave Conservation and Management Section Awards Committee

The Cave Conservation and Management Section of the NSS will present two organization awards starting at the Convention in 2005.

These awards will be given annually to an NSS grotto and an NSS group that do the most for cave conservation and management. They are a continuation of the NSS Conservation Award that was given to an internal organization from 1975 to 1993. The NSS changed criteria of the Conservation Award in 1994—under the current rules, the NSS Conservation Award goes to an individual and is nominated through the NSS Awards Committee.

The Conservation and Management Section decided to continue the group award in order to encourage groups to work for cave conservation. Starting in 1994 the section presented a Group Conservation Award each year; and beginning this year, 2005, there also will be a Grotto Conservation Award restricted to NSS grottos. The Group Conservation Award will continue to be open to nomination of any NSS organization.

Candidates for the Group Conservation Award may be any of the following: an NSS commission, committee, sub-committee of a committee, division, conservancy, expedition, project, region, section, survey, task force, affinity group, institutional member, or a sub-unit of any of the above.

A grotto to be nominated for the Grotto Conservation Award should be in good standing with the NSS.

Each award recipient gets a check for $100, a certificate, and their name on a plaque that is kept in the NSS office in Huntsville, Alabama.

The criteria for both group awards, nominations forms, past recipients, and the awards committee members are available at the section's website: www.acave.us/ccms. Nomination advice and assistance is available from the committee chair, John Wilson at 804-740-0339 or john@wilsonj.org To nominate either a grotto or group for the award, please use the nomination form and send it to John M. Wilson by e-mail to wilsonjml@msn.com, before 31 May 2005.

Cave Conservation and Management Section Announces New Award

Rodney D. Horrocks

CCMS Chairman

Although everyone knows that the NSS is involved with cave conservation and management, it is apparent that not all NSS members understand how the NSS Cave Conservation and Management Section (CCMS) relates to the NSS Cave Conservation Division. Frankly, I didn't either until I was elected Chairman of the Section.

Simply stated, the Section elects its leadership from NSS membership. It primarily acts as a central clearinghouse for research, expertise, and information in the fields of cave conservation and management. It conducts an annual meeting at the NSS Convention. The Section does not speak for the NSS but makes recommendations to the NSS Board.

On the other hand, the Conservation Division Chair is appointed by the Board of Governors and that Division manages about 18 committees, such as Conservation Task forces, Grants, and the Vandalism Deterrence Commission. Although separate, the Section works closely with the Division to address conservation crises and issues as they arise. The Section's website address is www.caves.org/section/ccms/. We also maintain an e-mail list for fast communication on hot-button issues at conservation@wingedseed.com. This year's Section meeting, held at the Marquette Convention, was particularly fruitful, with numerous topics discussed and then addressed.

One important issue raised this year, and one which pertains to NSS members involved in cave conservation projects, was the decision to support a second annual group conservation award. This award will be given only to NSS grottos. We wanted to have a means to recognize grottos that are doing excellent cave conservation work. The conservation work of grottos is not always comparable to other internal organizations and NSS groups with a specific conservation mission focus.

We also decided to produce a plaque listing all previous group conservation awardees that will hang permanently in the NSS office.

If you are interested in cave conservation, we invite you to join the CCMS to support these efforts and awards. Membership in the Section is just $5/year. These membership funds are used to produce a quarterly publication, the *Cave Conservationist*, which every member will receive, and to pay for both awards. NSS Cave Conservation and Management Section dues can be sent to the following address:

c/o Eugene Vale
Treasurer
46 Cedar Drive
Pacific, Missouri 63069-3414

SERA Karst Task Force

Jim Wilbanks, SKTF Chair

Caving in the South has undergone a lot of changes. Access has increasingly become a problem. Often landowners are afraid of liability issues. In the last decade, the sport of caving has evolved from a few cavers with easy unlimited access to most rural caves to several hundred cavers forced to share the same restricted resources in increasingly urbanized areas.

Once rare, we now see many nonaligned cavers who can find the equipment and find the caves without the help of local grottos. These folks may not be as careful in their dealings with land owners and others. One negative consequence is that caves are closing at an alarming rate.

Part of the problem is a matter of image. How does the noncaving public see us? They have grown up in a world of the surface. They have no idea what the rock looks like from the inside like we do. They cannot fathom why we do what we do and have no interest in finding out. They do not see the connection between the surface and the groundwater that we do. Sometimes they just want to be left alone.

In the South we have a fine land trust known as the Southeastern Cave Conservancy, Inc. They have accomplished cave and karst acquisitions including many significant caves and amazed the rest of the caving world. This is a great first step, but it is only one facet of the solution to the problem. They can't buy all the caves we use and cavers cannot donate enough money to allow them to do that.

In order to help protect caves using less direct methods, cavers have to show the public why caves are so important and fragile. More must to be done to enhance the public's knowledge of caves and further to improve the public image of cavers.

Individual cavers, with or without the help of their grottos, have accomplished great feats of cave conservation and stewardship. They have gated caves for landowners, taught caving to scouting groups, and have often helped out and befriended landowners. A dedicated group of cavers have staffed cave rescue teams and devoted long hours to training. Most have given their money to help support these worthwhile efforts.

Several projects have recently been accomplished using the Internet as a tool to foster communications and coordination. Seventy-eight volunteers surveyed a large parcel of land belonging to the SCCI over a two-year period. Portions of land slated for quarrying on Pigeon Mountain were surveyed in detail by a small grotto with help from all over the region. Hundreds responded to help the Tennessee Nature Conservancy gate huge cave entrances at Hubbards and Wolf River Caves to protect endangered bats. When the Nashville grotto appealed for financial help in its fight to save Rumbling Falls Cave, thousands of dollars arrived from all over the caving community. This incredible generosity of cavers only needs a little direction to achieve greater things. Guidance in what needs to be done or what needs to be funded can go a long way to focus cavers' energies on the most important issues.

There is a core group among cavers who are in this sport as a life-long commitment. They want to make caving better for those who come next and are concerned about the cave environment, safety, and our public image. These folks are careful what they say to noncavers, careful how they speak to and act around landowners, and especially careful in dealing with the media. They mentor newcomers, give money to the cave land trusts, hold offices, support rescue squads, and try to make caving a better sport. These are the folks who will always show up and always make a difference.

In 2001 at the Southeastern Region's Winter Business Meeting (SWBM), the SERA Karst Task Force Committee (SKTF) was formed. It was tasked with organizing cleanup activities at Southeastern regional events, and determining what role SERA could play in cave conservation. The committee talked at length about these issues, identifying a need for a budget and karst groundwater education as some of the initial focus areas. Members participated in a road cleanup through one of Georgia's prime karst regions and a cave cleanup at the SERA Cave Carnival.

At the 2002 SWBM the committee reported back to the members of SERA. The SKTF became a permanent standing committee charged with fostering conservation activities, keeping a record of conservation activities, and generating articles for caver newsletters. A modest fund of $100 was set aside for purchasing supplies. To get things going well and quickly, two cave conservation trips were sponsored for the following day.

During the next two years the committee sponsored and participated in fifteen cave or cave access cleanups. We have sponsored conservation activities at five different regional events and had one cleanup each year on our own. The SKTF and volunteer crews have hauled tons of trash, removed graffiti, and forged solid relationships with landowners and local governments.

These activities have put cavers doing good deeds on the front page of local papers. When we removed graffiti, we got regional historians and archaeologists to check the cave for anything a cleanup might harm. And speaking of volunteers, 74 cavers from 11 states attended one cleanup. We have employed dumpsters, front-end loaders, and our own vertical haul system. Usually we get the local government to set the dumpster and waive the tipping fee. Often, the local paper is receptive to a human-interest story and we fit the bill. We get a chance to preach about groundwater in a positive way. We have had four cleanups at one badly trashed sinkhole cave entrance previously described as hopeless. This entrance directly feeds surface water into the cave and groundwater system. With volunteer help, the SKTF will finish it soon and the cave and groundwater will be better for our efforts.

As the 2004 convention approached, we received word that the NSS Conservation Section had honored the SKTF with the Group Conservation Award. This was totally unexpected, as we had never expected to be considered for such an award considering our rather short track record. It was a great honor to receive the applause of the NSS for our efforts and we were all humbled by the recognition. It must always be remembered that our wonderful volunteers do the lion's share of all the work and that such recognition reflects upon their efforts most. We thank them all.

So what have we learned? We have learned that cavers will donate large amounts of time and effort in a seemingly endless task. They take pride and a sense of accomplishment and seem to really enjoy giving back to the Earth. Give them a location and the tools and they will accomplish great things. Time and time

again, they have stepped forward to remove tons of garbage with no real assurance that more won't be dumped later. We have made some great friends and have been humbled by their dedication. We have learned that local governments are just as concerned about most of our targets as we are. We have learned that the local press is always looking for human-interest stories and cave cleanups fit the bill. We have learned that planning is everything and that resources abound. We have learned to ask for whatever we need.

So what is in our future? We have multiple cleanups planned for TAG this fall. We will return to the hopeless sinkhole and complete that task. We are planning other projects for next year. Now that the spotlight is on us, we are planning three conservation workshops at the NSS Convention in Huntsville. There will be a graffiti removal workshop, a formation repair workshop, and a vertical haul demonstration. These will be actual cleanups, so come prepared to give us a hand.

The SKTF cannot clean up all the caves and the garbage-filled sinks. What we can do is target sites which make the most of our efforts and recruit volunteers to help us get things done. We try to find caves and sinks in need of a cleanup which are close to a road, and known to the community, especially where we have the support of local government. We are open to new technology and are always looking for ways to accomplish our goals safely. We try to contact the local press to enhance our caver image and also try to take the opportunity to educate the public about karst groundwater issues whenever possible. The SKTF asks planners for regional caver events to find us suitable clean-up targets in their area. We try to empower the local cavers and teach them skills and show them tools to accomplish our common goals. Sometimes this amounts to just lending the tools we are collecting. We usually learn something new each time we sponsor a cleanup.

The resources to handle most of the cleanup issues that cavers encounter can be found among us. With our volunteer help we hope to enhance cavings' public image and educate the noncaving public. In the process we can help ease cave access problems and clean up our Earth.

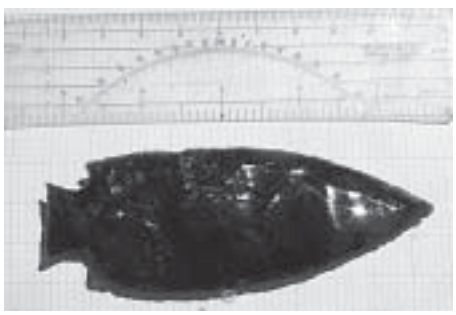
SKTF members current and past:
Jim Wilbanks (SKTF chair)
Debby Johnson (SKTF vice-chair)
Lynn Roebuck (SKTF secretary/treasurer)
Mark Joop (SERA chair)
Peter Michaud (SERA vice-chair)
Brian Roebuck
Myrna Attaway
Dan Henry
Rob Robbins (former member and chair)

Mount Adams Conservation Task Force

Garry Petrie

The Mount Adams Conservation Task Force (MACTF) worked throughout 2004 under the terms of its Memorandum of Understanding with the Gifford Pinchot National Forest. Highlights for the year include discovery and survey of ten new significant caves, survey of over four miles of passage, discovery of a large, ancient obsidian thrusting spear tip, and populating the Forest's GIS model.

One of the principle goals of the MACTF is to assist the Forest Service in maintaining their GIS model and Significant Cave database. To that end the MACTF delivered to the Forest Service an Access database with over 250 entries and data entry forms to automate updates for the database. Each of the entries records details of online material such as accurate location information, polling of significant cave criteria, maps, survey, photographs, etc. An outstanding project for the MACTF is to accurately locate some 40 caves in the database.



Obsidian Thrusting Spear Tip

The MACTF has survey data for over 150 caves and it was converted into 6 different ERSI ArcView themes. The themes include caves, surveys, stations, shots, control points, and inventory attributes. The Forest Service can now view where their caves are located and where the passages run, for future planning processes. The MACTF gave copies of half a dozen cave maps drawn in CAD. All total, the MACTF updated the Forest Service twice with 3.5GB data on DVD, each.

In the process of surveying a smaller cave in a series, a five-inch obsidian thrusting spear tip was discovered. The tip was found some 300 feet from the entrance, past a crawl, at the end of a passage. It is unclear whether the tip was left there by humans or embedded in an animal. The age of the tip was estimated to be several thousand years. The obsidian was mined from central Oregon, over 100 miles distant. Unlike several other recent archeological finds, the tip appeared to have been used only a few times and appears as it was first cleaved.

The table summarizes the survey work done by the MACTF. The acronyms are Gifford Pinchot National Forest (GPNF), Mount Saint Helens National Volcanic Monument (MSH), which is part of the GPNF, and Significant Cave Nomination Worksheet (SCNW). Caves without a

Cave Name	Survey Total (ft)	MACTF	GPNF	MSH	SCNW
Armistice	181.5	yes	yes		
Ashers	2217.4	yes	yes		yes
Beaver Bay	925.3	yes	yes	yes	yes
Bobsled	721.3		yes	yes	
Candle	994.8	yes	yes	yes	yes
Curly Creek	1682.3	yes	yes		yes
Deer	1513.23		yes		yes
Dogwood	940.8	yes	yes	yes	yes
Double Eagle	586	yes	yes		
Dry Creek	2958.35	yes	yes		yes
End of Big Trench	603	yes	yes		
The Finger	161.7	yes	yes		
Goose	2851.3	yes	yes		yes
Hell Roaring Ridge	97.6	yes	yes		
Herbal Spice	1409.4	yes	yes		
Lizard	381.2	yes	yes		
Overlook	840.3	yes	yes		yes
Perseverance	1596.43	yes	yes	yes	
Popes	862.7	yes	yes	yes	
Rolling Rock	94.95		yes		
Roses Row	233.6				
Sawmill	463.5	yes			
Unnamed #1	406.4	yes	yes		yes

SCNW are new caves discovered in 2004. The MACTF plans to complete SCNW's for some 50 undocumented caves in the Forest. Caves not in the GPNF are generally on private lands. Several caves were surveyed with the help of the Willamette Valley and Oregon grottos.

The MACTF has also restarted the cave marking task in the GPNF. Each cave in the Forest will have a brass cap with unique identification number embedded in rock at the entrance. During one field trip, half a dozen caves were marked along the Falls Creek Flow. The task to mark all of the caves may be impossible because new caves are being discovered faster than they are being capped!

The MACTF is open to all NSS members who actively participate in caving and want to further the goals of the group. The MACTF exchanges information among its members through a Yahoo group site. The MACTF has an annual meeting open to all members. Please contact Edd Keudell for more information (mapperhd@comcast.net).

Marking the entrance to Salamander Cave

High Guads Restoration Project 2004

Jennifer Foote

In 1997 the USDA Forest Service proposed a cave Fee Demo Program for the Lincoln National Forest in New Mexico and the Coronado National Forest in Arizona. They planned to charge fees for cave permits and to even provide equipment for guided tours. The NSS countered that cavers could volunteer much more value toward the caves than could ever be made from the Fee Demo Program, and in 1998 an agreement was made to provide $100,000 of Volunteer Value per year. Thus, the NSS Volunteer Value program was born.

Over the past six years, High Guads Restoration Project (HGRP) has provided a steady source of volunteer value toward this goal, providing over 1/3 of a million dollars in Volunteer Value so far. HGRP helps keep open caves maintained, provide the work needed to reopen closed caves, and teaches conservation and restoration skills to both new and experienced cavers. HGRP projects include trail delineation, trail repair, flowstone cleaning, speleothem repair, monthly and annual monitoring of caves, survey, impact mapping, ridgewalking, rescue training, and bat exit counts. The main focus is on maintaining the trails in caves that are open to recreational caving, and working on restoration projects.

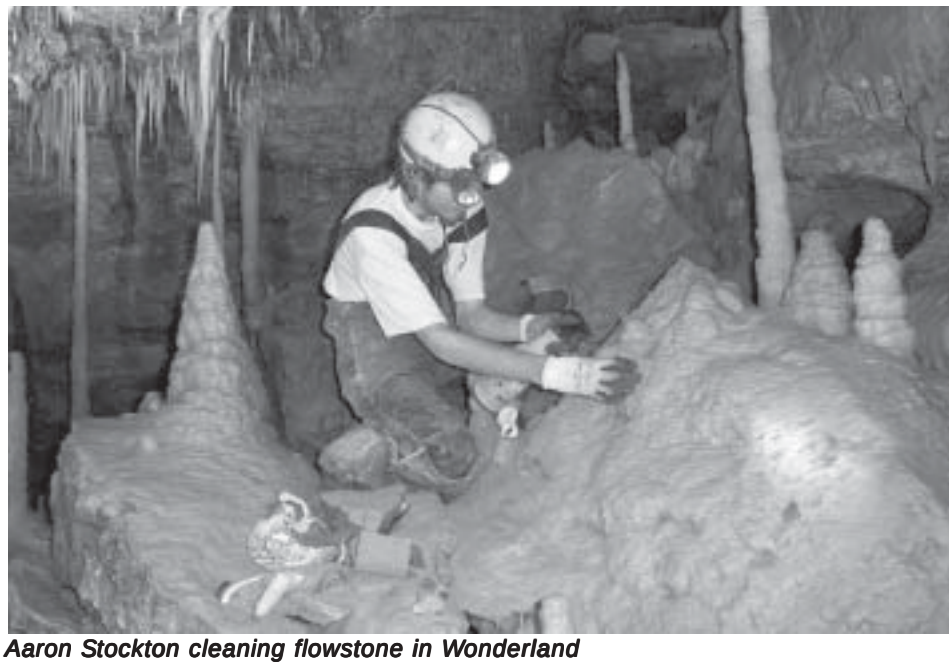
In 2004, HGRP became an NSS Conservation Task Force. We had over 70 participants from 8 states contribute their time and expertise to the Project during 2004. In total we provided $60k in Volunteer Value. This year's projects included: our annual practice rescue, which included building a vertical rescue hauling tack kit; a USDA-FS outreach month; helping with science projects; survey; monitoring; and of course restoration. This year we had some exceptionally bad weather and we were stranded twice due to high water on the roads, but we still got lots of work done.

We try to do bimonthly monitoring of the most heavily used open caves, but the weather kept us away most Sundays. We managed four trips to Black and three to Cottonwood for bimonthly monitoring and trail flagging repair. These two caves are horizontal and receive the most visitation in the Lincoln National Forest. We also led eight trips for geology, archaeology, and to collect data for a pool study.

This year we continued with the Small Undocumented Caves in Karst Project. We had four trips to survey and inventory caves with little or no information in the Forest Service cave files. We completed the survey and inventory for one cave and almost completed two more caves.

Hidden Cave also receives a lot of visitation and has several ongoing restoration projects. We had only one work trip this year to Hidden, monitoring and new footprint removal from lily pads that were restored in 1999.

Restoration or trip leader training trips are required to become a trip leader for Hell Below cave. Eight people performed restoration toward achieving trip leader status for this cave and one new trip leader was approved. We started a restoration inventory and did flowstone cleaning at the New Years Eve Gallery. Restoration work started this year in Madonna with four trips to make trails and scrub mud. We had three trips this year to Three Fingers for flowstone cleaning and trail building in the



Aaron Stockton cleaning flowstone in Wonderland

Marc Italiano using a small hand-pump pressure sprayer to restore flowstone in Virgin Cave

Temple of the Fiery Cave God. We did four restoration trips to Virgin this year to flag trails and scrub flowstone. In Wonderland, we had two days of survey trips and five trips to do flowstone cleaning and trail flagging.

All together we had a great year and made great progress. A big thank you to all the volunteers that make the High Guads Restoration Project possible.

The HGRP usually runs the last weekend of every month except December. We have horizontal and vertical cave projects, easier and more strenuous trips, and we use people of all restoration skills. If you are interested in helping work on the Project, contact highguads@yahoo.com to be added to the mailing list or check out our new webpage at www.hgrp.org

Cascade Grotto

Hester Mallonee

Cascade Grotto Conservation Chair

In February 2004 the Cascade Grotto (Washington State) spent President's Day weekend doing lint removal and general restoration in the upper cave portion of Oregon Caves National Monument (the lower portion is a bat hibernaculum in winter).

The cave had received little volunteer attention in a decade, and the dirt was thick. Different surfaces in the cave required various cleaning modes, from delicate tweezer work to backpack-mounted sprayers. Using water as the only solvent, so much dirt was removed that formerly brown areas were shown to be caramel-colored, and formerly tan surfaces revealed as cream-colored. Fifteen people participated. Everyone got a great feeling of satisfaction from the improvement.

Later that year, lint traps (long tarps) were hung beneath staircases in the cave with assistance from a grotto member, and these are successfully keeping much extraneous material off the adjacent cave surfaces.

The grotto was scheduled to return in February 2005, with over 20 people. With so many people helping, we will maintain last year's gains and fan out into more areas of the upper cave that still need in-depth cleaning.

Toward the end of 2003, the Mallonee family agreed to undertake the task of restoring a small room full of damaged rimstone formations. Before restoration, rubble must be carefully removed, as it was removed from other formerly backfilled locations in the cave during the early 1990s.

The current removal effort may take several years of volunteer visits. In addition, every bucket of rubble is laboriously sifted to save tiny bones or other important small items. Grotto members will assist where possible.

Drawings and photographs are being made as work progresses, to record significant stages or observations. But part of this endeavor is also intuitive. One must feel one's way along and try to do no further damage, while being sensitive to all clues as to how the room originally looked. This is as much an art as a science. The volunteers are able to store far more visual data in their own brains than any external memory could hold, which is why the continuity of volunteers on this project is important.

Another intriguing question is how the hydrology of the room functioned before the room was damaged. This early in the project, not enough clues have appeared to answer that question. But excavation and sifting have already produced a quantity of broken rimstone and small crystal, now being saved for use in the restoration phase. Expert conservation references will be consulted for rimstone restoration techniques when that time arrives.

Klamath Mountain CTF

Steve Knutson

Chairman, KMCTF

In the spring, Klamath Mountain Conservation Task Force (KMCTF) had a meeting with the Forest Service in Cave Junction regarding the Cave Next Door Project led by David Hodges. The meeting was attended by Siskiyou National Forest personnel and Illinois Valley officials as well as Jim Nieland, and several KMCTF folks, including myself, John Dodge, and David Hodges.

The meeting went well, and no objections were forthcoming regarding Hodges' work on digging a new entrance. The site was visited and a use permit was issued with an effective stamp of approval for the way he has been executing the task and for the way he proposes to continue.

It is, of course, unknown how long it will take to get in, but once we do, we have an interesting management plan that we intend to implement. The prescription is basically to inventory and assess as we go along, similar to the Barrancas plan (but done without NASA scientists). We hope the Cave Next Door management plan will become the model for cave discoveries of the future.

Oregon Caves came out with its approval of the EA on the tours. This happily kept the spelunker tour under successful completion of several assessments yet to be done, and should be considered a high triumph for us since, before we started pressuring them, their attention to NEPA detail and assessment was inadequate. Little by little.

The Klamath National Forest is still not actively managing caves in Marble Valley, but they have expressed willingness to proceed. I think we need to start writing management plans for them, and then we will be over the hurdle of Forest Service lack of manpower and expertise.

Cave Gates and Cave Restoration at Sequoia National Park

Shane Fryer and Joel Despain

Big Changes at Crystal Cave

It was dawn and the night had been rough. Temperatures had dropped below freezing, and a combination of rain and snowfall had left 4 inches of slush on the ground. A winter storm advisory had been in effect the night before, yet most of the volunteers decided to stick it out. As Joel and I entered camp that morning, the night's ordeal became apparent. One tent had collapsed under the weight of the slush, while others waded in inches of standing water. The only evidence of activity was the lights in a few of the trailers. We braced ourselves for a mass exodus once the roads were clear. However, as we went form trailer to trailer checking on the group, we were astonished to see people laughing and jovial. Volunteers with trailers opened them to all, with people sleeping on the floors, benches, and extra bunks. Many sat around small tables playing cards, and entertaining each other with stories of underground exploits. In one trailer, there were four generations of cavers swapping stories, helping to ignite the curiosity and interest in caves that holds us all together. A few of the extra hardy in the group continued to work through the storm, bringing rubble up in buckets from our work sites in the cave.

The 2004 Crystal Cave Restoration Camp involved hard, backbreaking work during the last week of October. With funding from the Park Service Cooperative Conservation Initiative and a year of planning, this year's restoration was the most ambitious yet. In total, 57 Volunteers donated 2664 hour of their time to the effort. The restoration was held for ten days and involved the removal of the abandoned cave bathrooms and the replacement of a section of the cave trail with a bridge in the Organ Room. Our main goals were to expand and improve habitat for Crystal's cave-adapted animals, restore natural processes where there had been trails and rooms before, and to create a more natural appearance for the cave and the benefit of tourists.

Shane Fryer

Conor Blanchet, a Park Service volunteer and caver, works to remove the old Soldiers Cave gate, later replaced with a new bat-friendly gate.

The bathroom restoration included removal of all the fixtures, pipes and walls from the cave rest rooms. The rest rooms are just inside a natural entrance to the cave and restoring this area should provide habitat for twilight zone dwellers, such as *Pimoa* sps. spiders. This first project is going to be a multi-year effort that is now well underway. By the end of the restoration all eight of the bathroom walls were brought down, and ¾ of the spoils were removed to the cave parking lot. This included all the pipes, sinks, doors, toilets and dividers. In order to bring this material to the parking lot, teams of two or three volunteers pushed 200-pound wheelbarrow loads up the trail to the parking lot for 2200 feet, while gaining 320 feet in elevation. Obstacles included steep and narrow trails, inclement weather (snow and rain) and four flights of stairs. On a typical day a volunteer would make five trips, the equivalent of pushing 200 pounds over two miles and up nearly 1500 feet. In total, 22 tons of demolition material was brought out. Rod Neubert really speeded up this process by loaning us the use of his ATV, which was just narrow enough to negotiate the upper half of the trail. In the later half of the restoration week, Rod moved the material from the Organ Room and the abandoned bathrooms up the top half of the trail, saving everyone a great deal of work. By the end of the week the bathrooms were a very different place. What had been three rooms and two hallways was now one large room, probably the fourth largest in the cave!

Future restoration work in the bathrooms will involve removing the underlying concrete floor, and will leave this part of the Crystal Cave entrance area much like Medley and Webster, the cave's discoverers, found it 86 years ago.

Our second objective was to remove a large section of trail from the base of a formation known as the Organ. The Organ consists of a large flowstone slope with many nice draperies hanging above. Over the years, this formation has been repeatedly vandalized. Our goal was to install a bridge to bring people away from the formation, and remove the trail to uncover its base. This would further protect the formation and restore valuable habitat. This project involved breaking up large sections of concrete trail, and removing the underlying fill. The concrete was moved from the Organ Room in buckets and transferred to wheelbarrows at the cave entrance. All concrete was brought up to the parking lot, while natural fill was left inside the cave in an area that had been quarried during the original construction of the cave infrastructure in 1939. At the end of the week, the base of the formation had been cleaned, revealing intricate rimstone dams, curtains, stalactites, stalagmites, flowstone, and other formations. This work was painstaking but very gratifying, as brushes, sponges and water was used to remove trail fill and reveal the long-buried cave floor and wells. Sadly the manufactured bridge didn't arrive on time from its manufacturer in Florida. Due to the hurricanes there late last summer the company's facilities were badly damaged during two of the storms. In addition, a switchback in the trail near the Organ was

Joel Despain

Charlie Savas from Zara Environmental welding the new Soldiers Cave gate.

removed, producing another large volume of concrete to be moved to the parking lot. This again increased habitat in the cave and reduced the human footprint in this natural place. We plan to finish this project by installing the bridge in the spring, before the cave opens. Further trail removal will extend into next fall.

All participants camped in the Crystal Cave parking lot and were treated to a food plan organized by Mary and Bill Roberts. Mary did a huge amount of work before, during, and after the restoration to keep everyone fed. Allan Hagar and Tom Mathey stayed with us all week to work on the effort and students from Cal Poly San Luis Obispo were an extra big help. Showers and clean drinking water were a long drive for the volunteers, but the trip was made regularly during the week. We concluded the week with a party catered by a local Mexican restaurant to celebrate our accomplishments and thank our volunteers.

Every year the park Cave Management staff have the same conversation, "we beat up our volunteers again this year. You couldn't pay people to do this work." We wonder if the dedicated cavers will come back. But, they return every year, and often bring their friends and families. This year's restoration was a true testament of the determination and fortitude of our volunteers, and their commitment to cave conservation.

Stainless Steel: A Vandalized Cave's Best Friend

The park had long hoped for funding to replace and repair cave gates. When the money came through last year for three new stainless-steel, ACCA-style, bat-friendly gates, Western Region and Western Cave Conservancy volunteers were there to help us again. Most of the work was designed, planned, and executed by our project contractor Zara Environmental of Austin, Texas. This effort was only one week after the exhausting Crystal Cave Restoration. Nevertheless, many cavers showed up to help, and Ben Robinson from the Stanislaus Grotto helped for more than a week through the duration of the gating work. In total seven volunteers spent hundreds of hours removing the old gates and hauling materials for the new gates to the sites.

The caves chosen for the project clearly need greater security. Clough Cave was originally gated in the mid-1960s, but no gate has stayed on the cave for more than a year, and several significant reconstruction efforts in the past decade have been for naught. Still, the cave has at least seven endemic species of invertebrates and a colony of Townsend's long-eared bats. Crystal Cave, Sequoia and Kings Canyons' commercial cave, is the best known cave in the parks and was the scene of a major incident of vandalism in the cave entrance in the summer of 2003. The small Red Belly Entrance is very close to the tour trail and had never been gated. Soldiers Cave is near a campground and a trail, and like Clough, has seen numerous break-ins. The existing gate on the cave was also a biological problem. It consisted of a concrete wall with only a small opening for bats, bugs, nutrients, airflow, and water movement.

Work began at the Red Belly Entrance of Crystal Cave. Crystal was the highest elevation cave to be gated, thus we went here first to stay a step ahead of winter. Many hundreds of pounds of gear were moved down the trail toward the cave. The welder, generator, clamps, bars, cables, grinders, and much more made the trip. Due to long cables, the generator remained on the trail while the work on the gate occurred 40 feet overhead at the cliff-side entrance. Work progressed quickly. Charlie Savas, from Zara, welded the gate together, while Peter Sprouse, in radio communication at the parking lot, cut bars to size. Volunteers delivered the materials to the entrance to be added to the growing gate. The new gate was in place within two days.

Our next effort was at Soldiers Cave. Following the movement of all of the gear and personnel, we began the hard work of carrying the equipment a kilometer to the cave entrance. This time the generator was perched on the side of steep slope after being lowered in place using a haul system. Much of the first day of work was focused on removing the old gate on the cave. Sledge hammers, chisels, rotary hammers, and drills were all employed to remove the concrete barrier. To everyone's surprise, the concrete had been poured in place around an existing gate of thin bars that clearly would not have protected the cave well. This metal framing was the last component of the gate removed and hauled to the parking lot by Ben. We were all surprised by the size of the entrance, open again for the first time in 30 years. The new gate quickly took shape eight feet inside the entrance. Two uprights were used and ten bat-friendly horizontal bars were welded into place. Another smaller entrance to the cave lies immediately to the right of the main entrance, and the small grate here was also replaced with stainless steel, reinforced bars. Rollers in the bars of this small gate proved to be a challenge to overcome, but a concerted effort breached the old gate. With a day off for a rainstorm that never really materialized, the new gates were in place in three days.

Clough Cave was our final task. This gate was to be the largest of the three with the longest bars and uprights. We again used a hauling system to raise the generator to a ledge below the cave entrance. More volunteers from the Southern California Grotto and students from Cal Poly San Luis Obispo had arrived overnight, and they set to work removing the two old gates on the cave. Grinders, hacksaws, sledge hammers, and a reciprocating saw were put to use to remove the barred gates and the raised concrete footing of the oldest gate, which lay where the cave entrance intersected a cliff. Concrete inside the bars in the newer gate, ten feet inside the cave, proved to be a challenge, but within a few hours both old gates were gone and were being carried to the back of the government pickup for recycling. Late in the day a few generator problems slowed us down, and we ended the day early. We were all back at it first thing the next morning. Charlie welded diligently while Peter cut bars and the volunteers moved the material along a narrow cliff-side trail to the entrance. By early afternoon Charlie was finishing his final welds and we began the process of cleanup.

In just over a week Sequoia and Kings Canyon National Parks had three new, strong, and biologically sensitive cave gates. And in just over a month, the cave management program had completed its two largest projects in several years. Completion of these projects wouldn't be possible without the support of volunteers. Year after year volunteers give their all for the park and its caves. You have our sincerest thanks.

Joel Despain

Peter Sprouse and Charlie Savas, contractors for Zara Environmental and Texas cavers, consult on progress on the new bat-friendly Clough Cave gate.

Ongoing Restoration Work at Mammoth Cave

Roy Vanhoozer
Mammoth Cave Restoration Committee

The Mammoth Cave Restoration Field Camp (RFC) held its 16th camp in August 2004 at Mammoth Cave National Park in western Kentucky. Annually, approximately 40 volunteers from across the nation and from countries such as Hungary, Canada, England, Gibraltar, and the Netherlands have come together to further the cause of conservation for the caves of the national park. The RFC, administered by a committee of the NSS, and in close cooperation with the National Park Service (NPS) has initiated and completed many tasks in the park. In past camps, carbide dumps have been cleaned up, tons of blast debris removed or used in trail patching or edging, and lint and graffiti eradicated from areas in the caves. Delicate cave formations have been cleaned, tourist debris cleaned out of numerous pits, and aluminum boats once used for the now defunct boat tours at Mammoth Cave cut apart and carried from the cave.

For the past several years, the RFC's efforts have been devoted to the demolition and removal of a 1200-foot-long bridge structure in the Echo River passage of Mammoth Cave. Built by the Civilian Conservation Corps in the 1930s, the bridge was constructed of creosote-coated 4-by-4 timbers, wood planking, chain link fencing and iron pipe for hand rails. Because the bridge is located in a base level river passage of the cave, it is subject to periodic flooding. Indeed, this is one of the reasons the boat tours were discontinued. The unpredictable flooding of the passage and the time and resources required to remove the mud and silt from the structure and make necessary repairs became a burden. Environmentally and aesthetically, the removal of a creosote coated wooden artifact no longer used for tours was an ideal conservation project. The RFC has demolished all but 125 feet of the bridge and plans to finish the project this year, weather permitting.

Field camp participants

Ken DeJonge


Dismantling the bridge

When the RFC is unable to work on the bridge demolition because of flooding, work shifts to a backup, "rainy day" project. The RFC has been removing lighting, wiring, armored conduit and electrical boxes from a two-mile-long section of trail near the Snowball Dining Room that is no longer used by the public. The wire and conduit is buried under rock and earth and must be dug up and cut into manageable lengths to carry out. This project is about fifty percent complete, with about a mile of trail left to be cleared and many more man-hours needed to finish it.

RFC is held four times a year: three weekend camps in March, May and November; and a weeklong camp in August. Lodging is provided by the NPS in a bunkhouse. If you would like to know more about the project, check out the RFC's web site (www.MCNPrestoration.com). If you'd like to join a group of dedicated and conservation-minded cavers having a fun time in a great work environment use the contact information on the web site or e-mail rvanhoo@aol.com.

The Cave Conservancy Movement

John M. Wilson

Cave Conservancies are specialized land trusts that primarily manage caves or karst features in the United States. Organizations that serve as cave management consultants to cave owners are usually considered cave conservancies. Cave conservancies are almost always nonprofit organizations. Their management methodologies may be diverse (see the SICLEO classification system below). When cave management is not a significant part of the mission of a cave-owning land trust, it is not considered a cave conservancy. One could refer to this type of organization as a "land trust with caves." Cave conservancies often provide other services such as being advocates for responsible cave ownership and management, promoting the protection of caves, and advancing research to enhance and discover the values of caves. These land trusts are usually nonprofit organizations formed to conserve or protect a significant piece of land. A land trust may be organized to maintain the land in its natural state or to preserve an important manmade structure or feature on the property. Richard Brewer in his book *Conservancy* (2003) explains the development of the land trust movement from the beginning to the establishment of the Land Trust Alliance.

Cave Management Before 1963

Historically, caves have been managed many different ways, from benign neglect to commercialization or other forms of exploitation with widely varying results. For those who saw commercial potential in caves, development and profit provided incentive for ownership and, thereby, a form of conservation. The nineteenth century public interest in caves as natural curiosities may have lead to the increased public awareness of their intrinsic value. This recognition played a part in some significant caves becoming protected through their inclusion in the National Park System of the United States, which became the first public attempt in managing and conserving caves in North America. Prior to 1968, there were no known nonprofit cave conservancies. There have been some instances of individuals or families buying caves for access and conservation.

Origins

The Butler Cave Conservation Society (BCCS), established in 1968, was the first true cave conservancy. The National Speleological Society (NSS), when founded, was not intended to be a cave conservancy; however, over its more than sixty years of existence, it has acquired twelve cave properties, eleven by ownership, which it refers to as nature preserves. While the NSS itself is probably not a cave conservancy according to the above definition, it is close enough to be considered a cave conservancy by some people. McFails, the first NSS Preserve, was donated to the NSS in 1967. Other land trusts such as the Nature Conservancy also own caves. These organizations, as mentioned above, are generally not considered cave conservancies, as the management of caves and other karst features are a smaller feature within the purpose of the organization.

Conservancies in Virginia and the Northeast

Many Virginia cavers were among the founders of the National Speleological Society. The same pattern was true as Virginia and northeast area cavers were in the forefront of the founding of the first four cave conservancies. This pattern continued for fifteen years after the founding of BCCS with the addition of three conservancies: the Appalachian Cave Conservancy (ACC), formerly the Perkins Cave Conservation and Management Society (PerCCAMS), 1977; Northeastern Cave Conservancy (NCC), 1978; and Cave Conservancy of the Virginias (CCV), 1980. CCV was founded with the intent of being a cave-owning conservancy; however, leadership changes in its early history brought people with a different priority. Only recently has CCV come back to its original conservancy mission with the purchase of a significant cave property.

The Spread of Conservancies

The cave conservancy movement spread to other parts of the country in the 1980s with the addition of Pennsylvania Cave Conservancy (PCC), 1983; Michigan Karst Conservancy (MKC), 1983; New Jersey Cave Conservancy (NJCC), 1984; Indiana Karst Conservancy (IKC), 1985; Texas Cave Management Association (TCMA), 1985; Ellis Cave Conservancy (ECC), 1985; and Greater Cincinnati Grotto-Great Saltpetre Preserve (GSP), 1989.

The Professionalization of Cave Conservancies

The Southeastern Cave Conservancy Inc. (SCCI), 1991; established the most effective donation-based fundraising program to support cave acquisition. While the fundraising is done by volunteers, it is difficult to distinguish it from that of the fundraising of a professionally run organization. SCCI was the first conservancy to use recurring donations via donor credit cards. This funding method has become more common among conservancies. The Texas Cave Conservancy (TCC), 1994, became the first to appoint a professional executive director.

The Move to Orthodoxy

The concept of having knowledgeable people managing caves has become widely accepted. New cave conservancies are expected to become a regular occurrence. Missouri Caves and Karst Conservancy (MCKC), 1995; Mid-Atlantic Karst Conservancy (MAKC), 1997; West Virginia Cave Conservancy (WVCC), 1997; Carroll Cave Conservancy (CCC), 1998; Karst Conservancy of Illinois (KCI), 1998; Cave Conservancy of Hawaii (CCH), 2002; and the Western Cave Conservancy (WCC), 2002 have been founded in a steady pattern of new cave conservancies.

Movement Growth

A unique feature of American society is the extensive amount of volunteerism. With the exception of religious activities, no other society has a comparable amount of volunteer activity and number and diversity of nonprofit organizations as does America. It is not surprising that cave conservancies would eventually be formed and that this movement would start in the United States. It appears driven by the twin factors of access and conservation. The environmental philosophy has provided the intellectual rationale to justify the importance of cave conservation and protection by conservancies. Cavers faced with the loss of access to caves due to land development and cave owners attempting

to avoid some of the problems associated with visitation are some of the major reasons caves have been closed to cavers. Loss of cave access provides the emotional drive and support needed to motivate and encourage volunteer work and funding. Support for the movement also comes from people who envision the cave resource as an educational tool for science and conservation. It is likely that more cave conservancies will be established and that the number of caves managed by conservancies will increase.

Accomplishments

Cave conservancies now manage more than 123 properties with over 6980 acres of karst terrain and more than 300 caves that have a total of more than 203 miles of cave passage.

Leadership

Currently, all cave conservancies are board managed. They fall into three types. The most common is an independent and either self-perpetuating or membership-elected board. A few of these conservancy boards have a minority of members appointed by other organizations. The second most common type has all of its board members appointed by one or more organizations such as NSS grottos. The three conservancies that have this structure are GSP, PCC, and NJCC. Leaders in all three have reported some problems with this organizational structure. Only TCC uses the staff-run third type, in which the executive makes the management decisions. Conservancies are mostly volunteer organizations. Two conservancies have employees, TCC and CCV.

Funding

Cash-in-kind volunteerism is the primary source of wealth for most cave conservancies. Often, conservancy members have been the major contributors. Several, such as BCCS, SCCI, and IKC, have made extensive use of contributions from members. Dues, donations, major gifts, small fund-raising events, raffles, and fees for services are the most widely used means of fundraising in addition to extensive volunteer time, which all cave conservancies receive in significant amounts. CCV is unique among cave conservancies in that it uses gaming as an effective fund-raising tool. Establishing a gaming infrastructure is usually capital and labor intensive accompanied with assorted risks. This form of funding is not likely to be used by most conservancies.

Cave Management Control Types

The following is the sequence of cave protection levels used to classify the degree and type of control that conservancies have of a cave. This system suggests a sequence of cave protection strategies to use as appropriate in cave management situations. This method lists the six levels one should consider in order when deciding to protect, manage, and conserve a cave. SICLEO System:

1. Enlightened **Self** management by owner
2. **Informal** management arrangement
3. **Contract**
4. **Lease**
5. Conservation **Easement**
6. **Own**

Each conservancy has a preferred management level. BCCS, SCCI, MKC, and CCH will usually choose cave ownership as the means to cave management. TCC and ACC are advocates for contract and leasing. NJCC has worked for years to lease the largest cave in New Jersey. CCV has devoted resources for many years to educate cave owners and, by implication, endorses enlightened self-management. IKC employs a varied approach using ownership, leasing, and conservation easement.

Naming Conventions

The first two conservancies were called societies, perhaps influenced by the name of the National Speleological Society. The second, PerCCAMS, and seventh, TCMA, conservancies were founded with the word "management" in their names. During that time, cave management was beginning to be recognized as a distinct activity and discipline. Even the NSS Conservation Section changed its name to include the word "management" in this era. Starting with the Northeastern Cave Conservancy, almost all cave conservancies have the word "conservancy" in their name, thus "cave conservancy" has been the standard name of the movement. Four conservancies, KCI, IKC, MKC, and MAKC have substituted the word "karst" for "cave," perhaps to emphasize their interest in protecting/preserving the broader landscape. One conservancy, MCKC, uses both words apparently to make a point. One conservancy, PerCCAMS, has recently changed its name to ACC. Great Saltpeter Cave Preserve is the only NSS-affiliated conservancy that has the type of name that is usually given to a property instead of an organization. Several other unaffiliated cave conservancies have a variety of names. Generally, cave and karst are interchangeable when naming organizations and not even the most dogmatic stickler for detail would maintain that a cave conservancy would be prevented from managing a karst feature because their name included the word "cave" and not "karst."

Cave Conservancies and the NSS

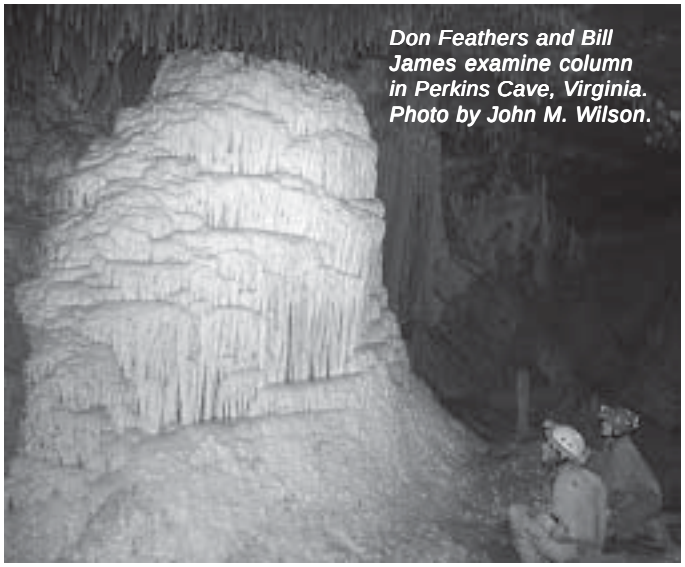
In 1986, Paul Stevens, NSS president at the time, and others foresaw the importance of cave conservancies and the role that the NSS could play in assisting the movement. They recommended to the NSS Board of Governors that they establish the designation of NSS Conservancy. Three conservancies were granted the cave conservancy designation within a year. They were the ECC, the only conservancy to date to disband; IKC; and TCMA. The cave conservancy function was placed in the NSS Department of the Secretary-Treasurer, and over time was assigned to a couple of different departments and committees. It was clear that the committee had greater potential as a separate unit. As part of the NSS reorganization promoted by NSS officers Fred Wefer, John M. Wilson, and Dave Luckins, the Cave Conservancies Committee (NSS CCC) was established as a separate entity in 1996 in the Cave Management Division of the Department of the Administrative Vice President. Since that time, most cave conservancies have chosen to use the NSS Cave Conservancy designation and /or participate on the conservancies committee. The committee functions as an informal association of cave conservancies, maintains an extensive website (www.caves.org/committee/ccc), provides a network of knowledgeable people available to assist conservancies in need, and hosts a meeting of cave conservancies at the NSS Convention each year. As with land trusts in general, the cave conservancy movement in the United States is growing. It usually sets the standards for cave acquisition and management.

Reference

Brewer, Richard, Conservancy: The Land Trust Movement in America, 2003, Dartmouth College/University Press of New England, 348 pp.

The Appalachian Cave Conservancy: Reinventing a Classic

John M. Wilson and Terri Brown



Don Feathers and Bill James examine column in Perkins Cave, Virginia. Photo by John M. Wilson.

The Appalachian Cave Conservancy is the newly incorporated, nonprofit, 501(c)3 tax-exempt organization formed to expand and continue the mission of the Perkins Cave Conservation and Management Society (PerCCAMS), which was established in 1978. For years, PerCCAMS revolved around the exploration, mapping, and preservation of Perkins Cave system in Washington County, Virginia. In 2002, however, John Wilson and Tony McGee rallied area cavers to rejuvenate and reinvent PerCCAMS as the more regionally focused Appalachian Cave Conservancy (ACC).

ACC management is centered in Marion, Virginia, in the karst hinterlands of the Appalachian region. In its expanded mission, the Conservancy offers convenient alternatives for protecting caves, especially for absentee landowners and those concerned about trespassing and vandalism. The ACC's relationship with landowners is documented through renewable, written agreements in which it pledged to provide cave and karst inventory and management services. One goal is to ultimately arrange for the permanent protection of caves under our care through cooperation with local land trusts, agencies, developers, and conservation-minded buyers.

The ACC is currently working to forge new management agreements with cave owners in Southwest Virginia and Northeast Tennessee. We are also raising funds for conservation and security practices such as bat-friendly gate installations, habitat restoration and erosion control. At this time, the Conservancy's main sources of funds are grants, dues, and the donations of like-minded cavers and organizations.

You may help conserve Appalachian caves and karst areas by supporting ACC. Please visit the ACC website, http://www.acave.us, to join and/or otherwise contact ACC. You may also contribute by looking for us at the registration desk of the 2005 Convention to purchase highly fashionable and functional lanyards, ACC t-shirts, and ball caps.

ACC makes space for NSS members on its website. If you have cave- or karst-related photos, drawings, interesting pictures, or other art, or you have a story to tell, check the free services to cavers section of the ACC website, http://www.acave.us about how you can have your work shown on the internet. This website also provides backup and mirror sites for the NSS Cave Conservation and Management Section and the NSS Cave Conservancies Committee. Appalachian Cave Conservancy, Inc., 704 Holston Hills Lane, Marion, VA 24354-1670—or phone 804-740-0339.

National Cave and Karst Management Symposium in 2005

Mike Warner,
2005 NCKMS Chair

The web page for the 2005 National Cave and Karst Management Symposium is now online. The Symposium will be held in Albany, New York from October 31 to November 4, 2005. The Northeastern Cave Conservancy is the host and a co-sponsor of the week-long event.

The West Virginia Cave Conservancy is also a co-sponsor thanks to a grant from The Roberston Association. I am encouraging conservancies to take advantage of this opportunity to interact with a national audience of cave and karst managers, scientists and conservationists.

One session will specifically deal with cave-based conservancies.

During the NCKMS in New York, Jeff Bray of the West Virginia Cave Conservancy will chair a session of papers from and about private land trusts that manage caves and karst. These organizations manage an ever-increasing number of properties, with a variety of objectives, styles, and processes. Presenters are encouraged to discuss methods and specific management issues.

This session will be Friday morning. The NSS Board will meet the following day. Day passes will be available. Any organization that co-sponsors will receive display space, registrations and other considerations.

Contact Mike Warner for details: mike@speleobooks.com. More details and a preliminary agenda are available at: http://www.nckms.org/2005/

Indiana Karst Conservancy Education and Outreach Report 2004

Kristie Lindberg, NSS #36097

Indiana Karst Conservancy Director and Chairman, Education and Outreach Committee

The previous report in the April 2004 NSS NEWS described the IKC's education and outreach highlights of 2003.

In 2004, additional progress was made. Again, a majority of the endeavors took place in the Bloomington, Indiana area. Many of the accomplishments are being seen as models for other parts of the country. Just as in caving, some of them had not previously been explored—they are new. It has been an exciting year! To find out more about what has been done locally and what may work in your area, read on....

Lindberg is employed as an Education Specialist for the City of Bloomington, in both the Parks and Recreation and Utilities departments. She has also accepted the position of Chairman of the City's Environmental Commission, which interfaces with the City's Planning department, for 2005. This combination adds coordination and consistency to the mix, as the synergy is good. It's a productive blend to help get the word out on our mission to others, including agencies, businesses, and the general public. Much is being considered now, such as zoning ordinance revisions, EPA's Phase II (stormwater) regulations, and so on.

While working on the above, she has brought various City service-learning projects together to help form the Citizen Scientist program. The primary projects include Adopt-A-Trail, Hoosier Riverwatch, Storm Drain Marking Program, and Project Underground. All of the projects are interrelated and enhance the restoration and maintenance of water resources. For example, the City has storm drains and naturalized trails that drain to streams that are monitored for water quality. Some of them lead to sinkholes and other karst features.

Producer David McGowan films at Leonard Springs Nature Park

Citizen Scientist Certification is also available! To qualify, participants are required to perform volunteer opportunities. We believe that if the general public becomes aware of an issue and starts to learn how to take care of a resource, they will develop ownership of it and hence, take better care of it, spreading the word along the way.

Below is a brief synopsis of progress made in each project. For more, see the City's website: www.bloomington.in.gov

Adopt-A-Trail. Bloomington has close to 35 parks. Many of them have naturalized trails, some of which are starting to erode, causing soil to enter area waterways. They are now enjoying extra TLC as last year 12 more groups joined our ranks! Trail restoration workshops are provided in the spring and fall for groups as well as on an individual basis.

Hoosier Riverwatch. Two workshops were provided for citizens interested in doing water quality monitoring. A very good newspaper article regarding the subject, "Watching the Waters," included an interview with Lindberg and appeared in the local newspaper, *The Herald Times*. In addition, Bryan Park has a stream that is in the process of being naturalized.

Storm Drain Marking Program. Many more neighborhoods have been "marked". A workshop by the name of "Storm Sewer Secrets" was given at Bloomington's WonderLab Museum and a televised PowerPoint presentation was made to Bloomington's City Council.

Project Underground. Workshops were given at the Hoosier Heartland Resource Conservation and Development spring camp for educators, Camp Gallahue, and the annual Environmental Education Association of Indiana conference. Lindberg is working with WonderLab on one of the activities, Barefoot Cave, for which a local building supplier, Bender Lumber, donated materials. IKC also sponsored a program on bats given at WonderLab that was presented by a caver, Laura Hohman.

Members of Bloomington Environmental Commission inspect a sinkhole

The City and Monroe County worked together last spring to present a forum on what the public can do to help improve stormwater quality. Presentations were given on EPA's Phase II, what the individual can do (Lindberg), stormwater and construction sites, and funding. It was well received, and broadcast on local television.

Plants, especially native plants, can help protect stormwater. They are geared toward local soils and require less maintenance, as well as provide an infiltration and filter component. Last summer, Lindberg and the City's environmental planner attended a workshop on using native plants in development, such as in detention ponds, raingardens, greenroofs, and so on. JF New, a company that specializes in native plant restoration, hosted it.

In April, Lindberg and Anmar Mirza were interviewed by a television station, Fox 59, regarding cave safety and ways in which to protect caves, including responsible land use, for one of their educational news programs.

The IKC is investigating the possibility of doing a video on karst biota as related to land use issues. Stay tuned on this! IKC Director, Don Ingle, is working with

producer David McGowan to coordinate this important and timely educational piece.

Field trips are also a good way of educating people on karst resources. Educational adventures were given at Leonard Springs Nature Park to the National Association of Interpreters, at the Lost River Cave System to those who own and manage the property, The Nature Conservancy (TNC), the Hoosier National Forest, and for the Midwest Ground Water Conference Field Trip, which Lindberg coordinated. This latter venture included stops at several sites, such as Leonard Springs Nature Park, developments, roadway installations, and so on to cover various aspects of ground water management. For more on this field trip, see: http://igs.indiana.edu/survey/news/event.cfm?EventNum=3

IKC Director, Don Ingle, represented us at TNC's "Spring Fling," which showcases partnerships between the two agencies and others.

Lindberg was asked to coordinate another "breakthrough," this time in Lawrence County. A contractor installing a water line along a roadway broke into a void. Many agencies, contractors, and engineers came to help mitigate the occurrence, as did cavers Anmar Mirza and Tymme Laun.

Regarding roadways, there is a proposed, new-terrain highway scheduled for the area: I-69. Lindberg has been working with researchers who are studying karst concerns, such as assisting with dye traces, bat surveys, and so on. She has been asked to join the project's Community Advisory Committee (CAC) as a representative of the IKC. It is a good opportunity to work on middle ground, where we can all agree. For more details, see the *IKC Update*, December 2004, Number 75.

To pull all of the above together, Lindberg has presented "Agencies as Partners in Karst Protection—How To" at the National Cave Conservancy Forum in West Virginia, Indiana Cave Symposium, Bloomington Environmental Commission, a U.S. Fish & Wildlife Service regional conference at a state park in southern Indiana, NSS Convention 2004 in Michigan's Upper Peninsula, and for a School of Public and Environmental Affairs class on land management at Indiana University. The presentation combines elements of the above into a representative product.

To get the word out to a broader audience, Lindberg also gave the presentation at a career talk for high school students hosted by Bloomington North High School. Hopefully, she inspired a few young minds!

The future holds even more good opportunities, including more work with the City, the I-69 CAC, Indiana's hosting of NSS Convention 2007. Stay tuned!

Thanks to *everyone* who has helped with these endeavors.

Special thanks to IKCs George Cesnik, Don Ingle, and Bob Vandeventer, the Bloomington Environmental Commission, and agency partners Steve Cotter, Joey Fagan, Sharon Hall, Cathy Meyer, Todd Stevenson, Linda Thompson, and Carol Zokaites.

The West Virginia Cave Conservancy Turns The Page

Jeff Bray

Now that 2005 is well under way, we can look back on a great year and look forward to new activities coming in the next year or two. I want to thank everyone for their support, and encourage your support in the months and years to come.

Last year was a great year for the West Virginia Cave Conservancy (WVCC). We helped organize the first National Cave Conservancy Forum, which had twice as many attendees than expected, from all across the country.

We planted 775 trees on our Persinger Cave property in an effort to provide a more sound environmental sanctuary for the animals, neighbors, and the karst they inhabit.

We completed a major project and have been successful at reentering Maxwelton Sink Cave. After about 30 years, cavers are once again surveying, exploring, and studying this gem, which is located in a quickly developing region of West Virginia.

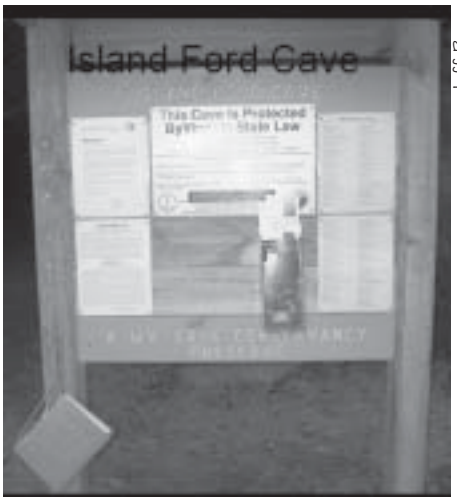
Our members helped with conservation projects, not only in Greenbrier County, West Virginia, but in Donaldson's Cave (our property in the Eastern Panhandle of West Virginia), and in Island Ford Cave (our Virginia cave property). Our banquet was also a great success, and it appears that all who attended had a great time while treated to a wonderful program, great food, an auction, and an evening of visiting and catching up with friends.

So, as 2005 begins to pick up, we've got our sights set on a few goals. There are a number of significant caves we would love to help cavers gain access to in our region, and will strive to work toward this goal again this year. But we also are in need of finding other ways to raise money. Cave acquisition is not the only thing a conservancy needs to spend money on. There is upkeep, as well as the need to provide a means for educational advances among cavers and non-cavers, and conservation projects. Even if they don't provide access to a cave, these are important since our mission is both to provide access and preserve. So how are we going to do that? It all starts with how much help we can get, but here's what we have our sights set on as of this writing.

In order to perform projects, any conservancy needs volunteers willing to take some time to help do some work. One current project is a Stormwater Drain marking program in West Virginia and Virginia. This was an idea that many of us

Dave Scott

Helictites in Maxwelton Sink Cave, now accessible from a new entrance.



Jeff Bray

Many of the properties managed or owned by the WVCC have kiosks similar to this one from Island Ford Cave.

have seen in a number of other cities, such as the Indiana Karst Conservancy conducts in southern Indiana. The program promises to be very successful and is a simple way to alert residents that there is more than meets the eye in their area. We are pursuing additional funding that can help with this and other new projects.

The WVCC is also working with various state agencies as well as other regional and statewide land trusts to find ways to achieve better public outreach and collaboration in areas where individual goals may overlap. The WVCC is hoping to continue to be helpful in the constant activities of the West Virginia Land Trust Coalition, which is a melting pot of various land trusts and conservancies interested in helping to protect lands in West Virginia. We plan to continue to support our agreement with the West Virginia Department of Natural Resources, and The Nature Conservancy of West Virginia in their quests to identify caves and karst features that are endangered.

We also look forward to helping with the upcoming National Cave and Karst Management Symposium in Albany, New York, which is being hosted by our good friends in the Northeastern Cave Conservancy.

We will be working with Bubble Cave, LLC, to provide any support we can for an upcoming Spring VAR meeting in our backyard (Greenbrier County, WV).

We are going to continue our Maxwelton Sink Cave Survey and are going to work toward a strong cooperative agreement with the Forest Service in regard to its cave and karst resources within the Monongahela National Forest.

Finally, we are not ignoring the activities in various parts of the region, including the Cheat Canyon and impacts on karst in that region. We will continue to be a loud voice that will work to once again provide access, as well as protection, to some significant caves in that northern West Virginia region.

As you can see, with an agenda like this, as well as upkeep of the properties we have, there is a great deal to do! We need interested bodies that can help us work toward our goals, as well as help provide or search out sources of funding to be able to accomplish those goals. We all know money doesn't grow on trees, and the WVCC knows that cavers aren't going to be able to constantly support all the projects they may want to at any one time. So we need to find those additional sources of money, most of which will require a great deal of volunteer work! That is where you can help, not just monetarily, but with your time as well.

Finally, please take time to visit our website (www.wvcc.net) and renew your membership, make a donation, or check out what we've been doing. And certainly feel free to contact us to provide some help on any projects you see listed up there that interest you. The site is changing constantly, so be sure to check back regularly so you can see all that is announced and what's happening (some of which happens so quickly we haven't been able to get the word out). Thanks again for your help, and look for us at VAR, OTR, the NSS Convention, and some of the other annual events!

The CCH Information Kiosk at Ole's Puka

Ric Elhard for the CCH

Purchasing land with a large cave entrance was fortuitous for the Cave Conservancy of Hawaii. This cave in an area of extensive lava tubes may serve a greater purpose in educating local residents about land resources. One of the Hawaii Grotto cavers, Ole Fulks, attended a land tax sale auction and purchased, sight unseen, an acre plot in Hawaiian Ocean View Estates. When it was brought to his attention that there was a "big hole" on the property, he was intrigued and walked away smiling. When Ole and fellow caver Harry Shick made a trip to see the land they were greeted with a very large hole indeed! In fact there are 3 large entrance pits associated with the lava tube in this area. Ole gave me a call and mentioned his good luck, asking if the CCH might want to purchase the lot as a conservation project. It was a matter of time before the conservancy would own a prime cave entrance. With several contributions, funds were secured and the land was in escrow a year after Ole's lucky purchase. During the sale process it was determined that the original pit explored was not the one that the conservancy was purchasing. This was brought to our attention by the landowner, concerned that cavers were rappelling into his puka. This was a friendly exchange that has created interest in the owner to become involved with the CCH. Dumping into the pits in this area is a problem. He is interested in cleaning up the trash and stopping further dumping.

After the deal was completed, Emily Davis visited the site and noted that the corner lot was exposed to a lot of local traffic. She suggested an informational kiosk with information regarding the caves in the area as a way to educate the community. As fundraising chairperson for the CCH, Emily proposed applying for grant money from the NSS Conservation Grants Sub-committee. The $1000.00 grant would be used to install a sign kiosk and informational posters regarding the caves in the area. She was successful, working with Albert Krause in garnering

the grant. A committee was formed to manage the construction.

Winter visiting cavers Mike Warner, Thom Engel, Ken Kloppenborg, Don Coons, Emily and I cleared the corner of the lot, installing the posts and headers for the signboard. This parcel is located at one of the busiest intersections of the subdivision. There was much interest in our activity, and we were soon explaining the purpose of the kiosk and the nature of the CCH to passersby. The information was well received, with many mentions of caves in the area. There are 11,000 one-acre parcels in the Ocean View Subdivision. There are only a few active cavers in the area. Approximately one fourth of the lots may have cave-related features.

With the groundwork accomplished, it was time to install the roof and signboard. The rafter grid and plywood board were prefabricated in the shop, transported to the site, and installed by Don and me. Again several people stopped to ask the nature of our activity. We felt that the word was getting out and were pleased with the group efforts and our progress. The seasonal cavers left the island shortly after installing of the infrastructure. Fred Stone and I were to generate the informational text. It was unnecessary to rewrite the basic information regarding lava caves. The NSS lava tube brochure is an excellent source of information, created for distribution to the general public. We edited much of the basic information from this source. Specific information about the local lava flows is included in the signage. Fred contributed information regarding biology in the cave as well as general editing. A draft of the finished text has been installed at the kiosk until completion of signs made by a local sign maker for permanent installation. Finishing touches include some floral landscaping and a load of local cinder spread in front of the kiosk to provide easy access.

The kiosk has already netted results. Bill Lucas, the owner of the adjacent pit, is interested in signing access and management agreements with the CCH. He mentioned that the owner of the third pit in the area is sympathetic to CCH efforts. Bill claims that several people a day stop to read the information at the kiosk. This is good news for the Conservancy's efforts and even better news for the community's cave resources. The work to be done now is cleaning up Ole's Pit Puka, setting an example of proper management

of these precious resources. Later this summer, members of California's Diablo Grotto have laid claim to surveying and producing a map of this section of Kahuku Cave. We hope this will start off the larger project of many miles of cave survey and communication with interested owners in preserving local cave resources.

With the help of cavers, a grant from the NSS, and interested owners in the greater Ocean View area, we feel the CCH can make a difference in preserving Hawaii's cave resources.

NSS Cave Conservation and Management Websites

John M. Wilson

Three NSS cave conservation and management web sites provide extensive information and links to cave resources on the Internet. These web sites roughly parallel the three equivalent areas of cave conservation and management in the NSS structure.

Within the Department of the Administrative Vice President (AVP) is the Cave Conservation Division: www.caves.org/committee/conservation

Also within the Department of the AVP is the Cave Management Division. Two committees in this division that have web sites are the Cave Conservancies Committee (www.caves.org/committee/ccc), and the NSS Nature Preserves Committee: www.caves.org/preserves.

The Cave Conservation and Management Section maintains another web site: www.caves.org/section/ccms.

There are other cave conservation web sites that have specialized functions such as the NSS TNC liaison committee. Most of these sites have links to one or more of the above sites.

A short explanation of the different roles and mission of each of these three bodies may help explain the function and the type of information at each web site.

The Cave Conservation Division

The Cave Conservation Division of the National Speleological Society consists of the Conservation Committee and its subcommittees, one commission, and task forces. The Conservation Division is the official conservation action body of the Society. It carries out the conservation directives of the NSS as well as helps to develop the plans and polices for the Board of Governors. The mission of the NSS Conservation Division is to develop and implement a comprehensive cave conservation program in order to protect as much of the cave and karst resources in the United States as possible. Its first concerns are promoting greater public awareness of the value and relevance of these resources in everyday lives and passage of protective legislation. The Conservation Division web site's specialty is comprehensive information about NSS conservation activities, protection of resources, minimum-impact caving ethics, management protocols, and current best practices in cave conservation, restoration, and speleothem repair. Web site: www.caves.org/committee/conservation.

The Cave Management Division

The Cave Management Division is made up of four committees and twelve nature preserves. This division does not have a general web site; however, the Cave Conservancies Committee, in this division, has links to all the conservancy and nature preserves and the NSS Nature Preserves Committee has a web site managed by Gary Bush. Web site: www.caves.org/preserves.

The Cave Conservancies Committee has gradually expanded its role of helping cave conservancies by bringing the conservancies together through

educational events and gathering information in one web site location for quick reference and easy comparison. This web site's specialty is comparative data on cave conservancies such as miles of cave passage, acres of land, and lists of caves managed. It also has articles about cave management, cave conservancy resources, contacts, and links to all known cave conservancies.

Web site: www.caves.org/committee/ccc.

The Cave Conservation and Management Section (CCMS)

The Cave Conservation and Management Section of the National Speleological Society was formed to provide a central clearinghouse for research, expertise, and information in the fields of cave conservation and management. Additionally, it provides a system that allows NSS members to respond quickly to promote good conservation practice. The Section publishes a newsletter, *The Cave Conservationist,* and supports conservation educational events such as the cave management and conservation session at the NSS Convention. The Section was instrumental in starting the first several national cave management symposia. The Section presents two annual awards: one award to a group affiliated with the NSS; and another award to an NSS grotto for contributions to cave conservation. It assists the NSS Conservation Division in developing guidelines for the NSS Board of Governors to assist in decisions regarding cave acquisition and conservation issues.

CCMS is made up of society members with a special interest in cave conservation and management. It carries out various educational projects and operates on its own within the broad scope of NSS polices. This allows for quick response to conservation emergencies and wider discussion in editorials. The section does not speak for the NSS but does make recommendations to the NSS Board. The Section has a long history of support for worthwhile conservation and management projects that the Society was not able to undertake. The current annual conservation group and grotto awards are examples of this type of project.

The CCMS web site specializes in conservation resources, editorial comment, cave laws, ethics, and policies; the site mentions both cave conservation successes, and failures. Considerable information about the cave conservation awards presented by the Section is also available. All back issues of *The Cave Conservationist* are in the process of being placed on the site: www.caves.org/section/ccms.

List Serve Communication

There are two e-mail list serves to help facilitate communication between people interested in cave conservation and management. Both of these e-mail lists are managed by Rob Stitt and allow quick exchange of e-mails to the list members without having to sift through a lot of junk e-mail. These lists have been especially helpful when quick action is needed on a conservation threat. The Wilkenson Quarry Cave in Bermuda situation is a good example of how the list serve can contribute to alerting people about a conservation problem.

The Cave Conservation and Cave Conservancy e-mail lists provide information and discussion groups for, of, and by conservationists, cave managers, people interested in cave conservancies, and other cave-interested people.

To join the conservation e-mail list put SUBSCRIBE in the subject field of an e-mail to conservation@wingedseed.com.

For the conservancy list SUBSCRIBE to conservancy@wingedseed.com and leave the message area blank.

Coordination Among the Web sites

I am in the process of configuring all three NSS conservation sites to have a similar look and functionality. All three sites will have an index frame on the left side of the screen. Extensive links will allow the user to find cave conservation and management information without necessarily understanding the NSS organizational structure.

You can help

As the webmaster for these three sites, I can organize the information to make it easy to retrieve; however, the content is dependent upon interested people providing new articles and pictures, links to other sites, and people volunteering to develop graphic content. More help is needed for all of these sites. If you can help, please send an e-mail or call me. If you have conservation material or links to relevant web sites please send them to me at john@wilsonj.org If you are not sure which site the information belongs to, just send it, and I will find its proper home.

The Conservancy Committee has a group of volunteers representing most NSS cave conservancies, who keep the information about their conservancy updated. Many of the CCMS board members have contributed to the CCMS site, and the conservation division site has had extensive help from many committee members. All of these sites will have near mirror backup sites. If the NSS server goes down, people will be able to find the material at www.acave.us/nssccc and www.acave.us/ccms. This space is donated by the Appalachian Cave Conservancy.

NSS Conservation Membership: Regular and Life

Dawn Ryan
NSS Membership Committee

Have you heard? The NSS is offering new choices in Society membership categories. Become a Conservation Member or a Conservation Life Member and commit to a higher level of cave conservation and protection.

The Conservation memberships are intended to emphasize and encourage the Society's conservation and education programs. Your Conservation Membership dues will help the NSS in fulfilling one of its missions: To advance the protection of caves and their natural resources.

Regular Conservation Membership dues are $100 per year. The difference between the annual regular dues and the annual Conservation dues are considered a donation and will be allocated to NSS conservation and education programs and activities. If you are considering donating $50-$70 to the NSS this year, why not become a Conservation Member?

Life, Family Life, Outstanding Service, or Honorary Members can pay a one time, additional $1,000, beyond their initial life membership fee, to become a Conservation Life Member. NSS Conservation Memberships are considered donations to the Society and are tax deductible as provided by federal and state law. Help the NSS promote conservation and protect the caves we all love. Become a Conservation Member today by contacting the NSS: www.caves.org/info/member.shtml

The NSS Invites Abstracts for Presentations at the 2005 NSS Convention in Huntsville, Alabama July 4-8, 2005

You are invited to submit abstracts for sessions at the Convention, including the sessions sponsored by NSS sections. Abstracts must be 250 words or less. The preferred medium for submission is e-mail in MS Word, ASCII text, or WordPerfect (see the *NSS News* guidelines at www.caves.org/pub/nssnews/style.html). Selected abstracts will be published in the *Journal of Cave and Karst Studies*.

If you are interested in presenting to any of these sessions, please contact the session chairs listed below as soon as possible. Deadlines for abstract submission will be set by session chairs and could be as early as late March.

Abstracts must state the presentation's essential points and results. An abstract is a summary, not a promise, of the topics to be covered.

Please copy all submissions to ethan.scarl@boeing.com

The following is a preliminary list of sessions and contacts, to whom abstracts may now be sent. If the following topics fail to include something of concern to you, then organize your own session by contacting Ethan Scarl, Program Chair NSS 2005, at ethan.scarl@boeing.com, or 919-619-2606.

Archeology, Joe Douglas
Joe.Douglas@volstate.edu
Biology, Megan Porter
mlp65@e-mail.byu.edu
Cave Diving, Michael Poucher
mpoucher@atlantic.net, 352-840-0167
Cave Geology & Geography, George Veni, gveni@satx.rr.com
Cave Photography, Bob Stucklen
stucklen@att.net
Cave Rescue, Gary Moss
KD4ITJ@amsat.org
Communications & Electronics, Bart Rowlett, bart@wb6hqk.ampr.org
Conservation & Management Session or the **Restoration Forum**
Val Hildreth-Werker werks@zianet.com
Digging, Nigel Dyson-Hudson
nss2005@cavesar.com
Geology of TAG Caves, Art Palmer
PALMERAN@oneonta.edu
Human Sciences, Charles Cicciarella
ciccia@bayou.com
International Exploration, Angela Morgan, agmorgan@earthlink.net
Medical, Stephen Mosberg
cavedoc@citynet.net
Paleontology, Blaine Schubert
SCHUBERT@mail.etsu.edu,
Spelean History, Bob Hoke
bob@hoke.net
Speleophilatelic, Thomas Lera
frontier2@erols.com
State Cave Surveys of the US, Kevin Toepke, kmt92@msstate.edu
Survey & Cartography, Nigel Dyson-Hudson, nss2005@cavesar.com
U.S. Exploration, Pat Kambesis
pnkambesis@juno.com
Vertical, Miriam Cuddington
mirbl@bellsouth.net
Video, Dave Socky
sockydr@cox.net

As you prepare your paper, consider these comments from the editor of the *Journal of Cave and Karst Studies*, which publishes abstracts from the annual National Convention:

1. Cavers preparing abstracts for the convention sometimes forget that the abstract is more than an invitation, or "teaser" to entice an audience. It is also a permanent record, a summary of all the substantial information one plans to present. Abstracts are informative summaries that include conclusions, not merely a list of topics that will be discussed.

2. The *Journal* has to limit the number of pages devoted to abstracts.

3. We must limit the abstracts to 250 words. Thus, some abstracts are eliminated as too lengthy and others are edited down. Unfortunately, the people most qualified to cut out words are the author and the session chair. When they fail to do so, we are forced to make changes, often in fields where we have no expertise.

4.Too often an abstract will say, 'Discussion will be on how to...' instead of actually summarizing the technique. A promise is nearly worthless but a summary has value to future readers. Abstracts are informative summaries that include conclusions, not merely a list of topics that will be discussed.

5. While preparing an abstract for the convention, we ask you to consider some other requirements of the Journal. Like nearly all scholarly publications, we use metric. Please use, or at least include, metric in each abstract.

6. A scholarly abstract should always include a mailing address. Professional affiliation and internet address are also commonly included.

7. Avoid abbreviations and do not include references in convention abstracts.

Submit Cave Conservation and Cave Management Abstracts for 2005 NSS Convention

Send abstracts for all Conservation Sessions during for the 2005 NSS Convention to Jim Werker & Val Hildreth-Werker: werks@zianet.com

Abstracts are due to us by April 20, 2005.

We are accepting abstracts for the **NSS Restoration Forum**, the **NSS Conservation/Management Session**, and presentations on **Conservancies.**

NSS conservation activities will be scheduled throughout the week of Convention. The Southeastern Regional Association's SERA Karst Task Force is sponsoring three in-cave workshops during the Huntsville Convention: Speleothem Repair Workshop, Graffiti Removal Workshop, and a Sinkhole Haul-out System Workshop (see more information in the next announcement).

Please note the difference between Conservation and Conservancy activities during Convention. The words are easily confused—read carefully. Conservancies should also submit papers to Jim and Val and will find information on the scheduled Conservancy Roundtable in John Wilson's announcement below.

We encourage early submissions. Equipment will be available for PowerPoint presentations. For online details, visit the Convention website: www.nss2005.com

Please e-mail us now and indicate your intent to submit an abstract: werks@zianet.com Conservation abstracts are usually submitted for oral presentation,

but if you have a poster presentation, contact Jim & Val to make special arrangements.

Send any questions and submit your abstracts by mail or e-mail to: Jim C. Werker & Val Hildreth-Werker, NSS Conservation Division Co-Chairs, PO Box 207, Cuna Cueva Hwy 27, Hillsboro, NM 88042-0207.

Phone: (505) 895-5050. E-mail submissions are preferred, to: werks@zianet.com

Jim C. Werker & Val Hildreth-Werker
NSS Conservation

Three Conservation Workshops Scheduled for Convention

The Southeastern Regional Association's SERA Karst Task Force (SKTF) will be sponsoring three workshops during the 2005 NSS Convention in Huntsville, Alabama. The SKTF is the NSS's newest karst task force and has been the leading group sponsoring conservation activities in the southeast. In the process the group has learned a few things about cave conservation.

The SKTF wants to share what it has learned as well as learn from others. All workshops are "hands on." Come prepared with caving gear and eye protection. No experience is necessary. There is no cost involved although donations are always welcome.

The first workshop will be **Graffiti Removal**. We are looking for the right cave to clean, so we can compare various types of removal, side by side. We want to look at the impact on the cave and its environment as well as the effectiveness of each system. We plan to have a portable sand blaster on site as well as other removal systems. If you have a favorite system or tool, please bring it.

The second workshop will be **Speleothem Repair**. Jim Werker and Val Hildreth-Werker will demonstrate their techniques and a number of formations will be repaired. If you have experience with formation repair, please bring your tools and materials and show us what you have learned.

The third workshop will be **Vertical Trash Removal from a Sinkhole**. The SKTF has learned a lot about trash hauling and has created some successful systems. We will be working on a local pit that needs to be cleaned up. If you have vertical experience, bring your gear. Whether you do or not, there is plenty to do and learn on the surface.

The workshops will be on separate days, but the exact days of the week have not been set. Look for further announcements as the year progresses. For more information contact Jim Wilbanks, SKTF Chairman: jimgail69@earthlink.net

Jim Wilbanks

Cave Conservancy Roundtable

The Seventh Annual Cave Conservancy Roundtable will be held at the 2005 NSS Convention in Huntsville, Alabama. Check Convention website updates for time and place.

The NSS Cave Conservancy coordinators meeting will be held immediately after the Roundtable.

Please appoint your representative or representatives if you have not already done so, by sending an e-mail to John Wilson: wilsonjml@msn.com

Details of these two functions may be found at www.acave.us/nssccc and www.acave.us/nssccc

Click on Current Events in the index.

John M. Wilson

OBITUARIES

Clarence Lloyd Hronek

On Wednesday, July 28, 2004 at 7:30pm, Clarence Lloyd Hronek was taken from us after a long battle with poor health. During the last six months, he suffered from inoperable lung cancer and finally succumbed to the disease at the age of seventy three.

Throughout his lifetime he supported many worthwhile causes, including hospital foundations, the formation of clubs and societies, auto clubs and more. He was never married, but his closest friends considered him a part of their family.

Clarence was a pioneer in the field of cave exploration in British Columbia. He was often referred to as the "father of caving." He was an "Honorary Life Member" of the Vancouver Island Cave Exploration Group. He sponsored a brick of the present N.S.S. headquarters in the United States. He also became a "Fellow" in the National Speleological Society, and one of the founding members and director of the Glacio Speleological Survey B.C. chapter.

Clarence was the co-founder of British Columbia Speleo Research, and he was instrumental in the formation of the Alberta Speleological Society. In 2002 he became an "Honorary Life Member" of the Wolverine Nordic and Mountain Society, an organization involved in many outdoor activities, which included cave exploration in the northeast of British Columbia. He had an unwavering dedication to the sport and scientific advancement of cave exploration that spanned nearly a half century. He became a writer and was written about in many caving publications, papers, and magazines. In the process of doing what he loved so much, Clarence touched many peoples lives in a very positive way till the very end. The world will never be the same without him. We all shall miss him very much.

Long time friend,
Gerrit H van der Laan
B.C. Speleo Research

Raymond Gerald Setteur

Long, long time member and unofficial grotto historian, Ray Setteur passed away on Friday, October 22. His wife, Norma, was by his side. He was at a hospice center for a few days where they could make him more comfortable. His wish was not for a funeral, but a celebration.

The celebration was on Monday, Nov. 8th at the Furnace Run park, Brushwood shelter in the Summit metro parks. Many of the grotto attended, recalling the adventures of Ray and Wilmer McCavit uranium mining, Ray's great roller skate wreck, sewering, and caving. We were able to meet/renew friendships with Norma, his daughters and their families. He was a life member of the NSS, belonging from July 25, 1951, joining when he got back from military duty. He belonged to the Cleveland Grotto about 50 years. He liked to recount how our grotto was started by ham radio operators, which is one of the ways they would keep in touch with each other. We'll miss him.

IT'S ONLY A GAME

Jim Eyre. Wild Places, Cardiff, UK; 2004. ISBN 0-9526701-6-X.17 by 24 cm, 255 pp, softbound. £18.95 (about $35).

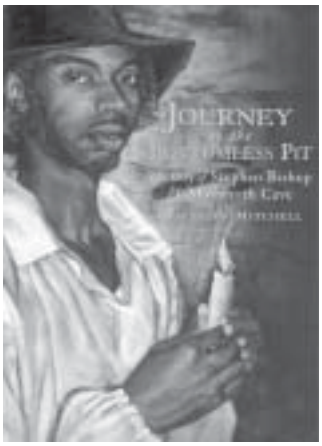
I had not had more fun reading a caving book since I read Jim Eyre's *The Cave Explorers* (1981), so I eagerly ordered this new book, though not without noticing that I could have gotten a new five-hundred-page hardbound novel by a best-selling author for considerably less money. These are Jim's stories from his life up to 1966, starting with his first introduction to caving when he was sixteen. The book is illustrated by a number of old photographs and many cartoons in Jim's unmistakable style.

About half of the book is devoted to Eyre's service in the Royal Navy during the Second World War and tales about weird customers he met in his occupation as painter and paper-hanger. This material is no less entertaining than the caving tales, as it appears that Jim spent much of his time in the navy, when he wasn't actually in jail, doing extra punishment duty for assorted escapades either at sea, such as the incident of the sheep in the officers' wardroom, or ashore on leave. The reader of this part of the book will have to be able to either decipher or ignore a lot of period English slang terms, of which "French letter" is perhaps the least mysterious. But my main question about the language is what word could be so unprintable that it had to be rendered "####" in a sentence that also contains the f word, fully spelled out. Rated R.

After the war, Jim returned to caving in England, at a time and place where caving transportation meant a friend with a motorcycle and high-tech caving meant using straight-grained ash for the rungs on your rope ladders. Included are stories about the early exploration of Lancaster Hole and Ease Gill Caverns, to which Lancaster was connected in the process of making Ease Gill 72 kilometers long. He was on the first trip to ladder the 365-foot main shaft of Gaping Gill, where his whistled commands to the belayers were misunderstood, and he climbed much of the way down with his belay rope, payed out much too quickly, piled on his back. The adventures with breaking ropes, collapsing scaling ladders, and flooding streams are hilarious, and apparently they were to the participants, too, once they got to the pub for the mandatory after-caving beer. Jim was also involved in the beginnings of organized cave rescue, and he writes here about some rescues from caves that flood at the least provocation. Also included are some adventures while caving in France, and the book winds up with visits to Slovenia in 1964 and 1966.

While I'm sure Jim Eyre must have been on many safe, boring trips, it nevertheless appears that he and we are lucky he survived through the period he covers here. He must be about 80 years old now, and I certainly hope he survives to write the promised sequel. I can't vouch for the typically hyperbolic back-cover statement about sides aching from laughing, but if you don't chuckle out loud a few times, you must be dead.

Bill Mixon



JOURNEY TO THE BOTTOMLESS PIT: THE STORY OF STEPHEN BISHOP & MAMMOTH CAVE

Elizabeth Mitchell (2004). Viking Children's Books. Hardcover, 100 pages, 6½" x 9" format, ISBN 0-670-05908-0. Available from the publisher for $15.99.

The young slave brushed aside branches and vines as he followed his master down the trail. Today, he would start learning to guide visitors through Mammoth Cave. He was excited, but he was worried as well. Would he do a good job?

The year was 1838, the place—Kentucky. Stephen Bishop's master, Franklin Gorin, had just purchased Mammoth Cave for a down payment of $1,000. He would depend upon guided tours to earn the remainder of the $5,000 purchase price. And he had selected young Stephen Bishop, his 17-year-old slave, to be his tour guide.

During the course of his tenure as the premier tour guide at Mammoth Cave, Stephen Bishop earned a well-deserved reputation. However, unlike Floyd Collins—whose tragic accident also brought worldwide, if not posthumous, notoriety—nowadays, Stephen Bishop's name is almost completely unknown outside of the caving community. And yet, just about every caver is familiar with this remarkable man's exploits, both as a tour guide in Mammoth and as an indefatigable explorer. His nearly inexhaustible efforts to plumb the limits of this virtually limitless underground labyrinth are the stuff of legend.

By the third chapter of this book, I had completely forgotten that it was written for readers aged eight and up. It is truly a book to be enjoyed by people of all ages. Of the many books for young readers that I have reviewed for the *News*, all have subsequently been given away to children of friends. However, this book is a definite keeper, one that I will lend out to youngsters time and time again. It is a well-told and riveting story of underground exploration. Set against the backdrop of slavery, it is the extraordinary tale of a man who rises above his imposed station in life to find his true calling. *Journey to the Bottomless Pit* has found itself a place on my bookshelf, snugly nestled between Halliday's *American Caves and Caving* and Exley's *Caverns Measureless to Man*.

Danny A. Brass

IN THE MEDIA

by Sharon Faulkner

CONSERVATION

The December 27, 2004 *Bristol Herald Courier & Virginia Tennessean* reports on a joint project between a Tazewell County landowner and The Nature Conservancy (TNC) to preserve more than 11,000 acres of forest in three counties. A.M. "Smiley" Ratliff plans to place 9,800 acres of forest under the organization's management. An agreement reached earlier this year put 1,850 acres of Ratliff's land under a similar easement. Ratliff will still own the land under the agreement, which would bar any subdivision or development of the land's forested areas. The plan centers on ecologically sustainable timbering practices designed to protect the Clinch River watershed and wildlife, and developing the land's forest resources. TNC would pay Ratliff based on a percentage of the timber resources on the land. Much of the area in discussion is karst terrain with a number of caves that can be vulnerable to careless logging practices because of impacts on groundwater. Braven Beaty, TNC biologist, said the numerous caves in the easement area might house two endangered bat species, while the Clinch River watershed's streams and river are home to rare species of freshwater mussels.

An article in the December 28, 2004 edition of *The Vancouver Sun* features discoveries made by cave explorers on the remote western side of Queen Charlottes Island, and British Columbia's significant yet largely unprotected world of caves. Expeditions led by Carol Ramsey and Paul Griffiths to the Queen Charlottes have yielded some of the best anthropological and paleontological discoveries on North America's west coast. In the process, they have shed light on the need for greater government protection of what is the most fragile, overlooked ecosystem in the province. Griffiths and Ramsey have assisted in excavating a wealth of artifacts in a cave known simply as **K-1 Cave**. Among the discoveries are the 17,000-year-old bones of a juvenile bear, potential grizzly bones about 13,600 years old, deer bones dating back 12,600 years, as well as a bison, and caribou. They have also found spear points in sediment layers dating back 11,800 to 12,100 years ago, making them the oldest evidence of human occupation on the Pacific coast of North America, north of California. These findings are adding credence to the theory that humans first migrated down the North American continent from Asia by watercraft, rather than along an ice-free inland corridor. The fragility of this karst terrain has not gone completely unnoticed by British Columbia's government, which has put protective measures in place for archaeological sites, but decided not to create legislation specifically for caves. Ramsey has found that the provinces' Heritage Conservation Act selectively protects archaeological values while ignoring the larger karst ecosystem. Griffiths acknowledged the province has done a lot and some of the timber companies do voluntarily comply with components of the karst management system, but says what is needed now are hard rules that make karst protection mandatory, not just voluntary.

Creswell Crags, the limestone gorge in Derbyshire that contains the United Kingdom's oldest cave art, has been awarded a multi-million pound grant by the Heritage Lottery Fund (HLF). The HLF has awarded £4.26 million to fund a new museum and education center that will form part of a 'national center of excellence' for telling the ice age story to school children and tourists. The grant will include funds to reroute a local road to protect the site. The Crags, which is believed to mark the northernmost explorations of Ice Age man, gained national attention in 2003 when 12,000 year-old Paleolithic engravings of bison, horse, and birds were discovered in **Church Hole Cave**. (January 10, 2005 *The Guardian*)

The Hernando (Florida) County Commission rejected a comprehensive plan that would have allowed full-time residential development on 1,170 acres of land that includes **Brooksville Ridge Cave**. Lee Florea, a doctoral candidate in geology at the University of South Florida, spoke at the meeting presenting information on the cave. Florea listed the cave's concentration of geological formations as highly significant. Commissioners cited the cave as one reason for turning down the developer, but it was not the only factor involved in reaching their decision. (January 13, 2005 *St. Petersburg Times*)

CAVE DIVING

The January 13, 2005 edition of *The Age* (Australia) and other *Associated Press* articles report the tragic ending to Dave Shaw's attempt to recover the body of Deon Dreyer at the bottom of **Boesmansgat Cave**. Shaw discovered the remains of Dreyer in October 2004 while attempting to set a new deep-water diving record in the cave. With the aid of an experienced dive team, Shaw developed a meticulous plan to retrieve Dreyer's body from Boesmansgat. On January 8, 2005 the mission began as planned, but things went very wrong at the 271-meter depth and Shaw failed to meet diver Don Shirley at the 220-meter mark. Shirley dived to 250 meters to look for his friend before decompression sickness forced him to abandon the search. Although Shaw had left instructions with his fellow divers that no one should try to retrieve him should he fail to emerge from

Boesmansgat, both bodies have been recovered. On January 12, divers returning to retrieve equipment left at the site found Shaw's body floating against the roof of the cave in about 20 meters of water. Hanging below Shaw's body were the skeletal remains of Dreyer. The bodies were entangled in a guideline left behind by Shaw in October. Footage taken from a camera on his head shows that Shaw appears to have died after over-exerting himself as he attempted to cut Dreyer's remains from his dive suit and put them in a body bag. Dreyer had died while diving in the cave in 1994.

Wild Caves

For years members of the Wisconsin Speleological Society (WSS) have been digging and exploring a vast, natural cave complex located under the county-owned Ledge View Nature Center property two miles south of Chilton. In 1986, with only one known cave on the property, **Montgomery Cave**, WSS cave explorers decided to look for other caves in the park, eventually discovering **Carolyn's Caverns**, **Mothers Cave**, **Wayne's World**, and **Dave's Sink**. Finding a connection between Dave's sink and Mother's cave, the group attempted to connect the other caves to Carolyn's Caverns. The reward of many long digging sessions was a connection between Carolyn's Caverns and Mothers cave made in December 2003. With that connection complete, the cavers focused their attention on connecting Wayne's World to Carolyn's Caverns. In a state wide digging effort the connection between the two caves was made in November 2004. The final outcome is over 700 feet of cave passageways, rooms with ceiling heights up to 34 feet high, and seven different cave entrances. Carolyn's Caverns is now the third longest cave system known in the eastern half of Wisconsin. At least three major cave passageways are still being opened up and pushed onward by cavers. Montgomery cave, the only other cave known in the park, is located 800 feet away. It is believed that this cave will eventually be linked up to the expanding cave system. (*The Times-Journal* December 9, 2004)

The January 13, 2005 edition of the *San Antonio Current* has an article on the reopening of **Robber Baron Cave**, the longest cave in Bexar County. For almost a year, several groups, including the Texas Cave Management Association (TCMA), Bexar Grotto, and the Texas Parks Foundation, have been restoring the entrance area of the cave. The TCMA had stopped visits to Robber Baron out of fear that a five-ton concrete bunker might collapse on tourists. The bunker not only kept people out of the cave, but also had the unintended effect of blocking animals, nutrients, and fresh air from entering. Heavy machinery was used to reduce the bunker to rubble before hauling it out of the 35-foot sinkhole in which the cave's entrance is located. The TCMA received a $6,500 grant to install a new gate and redo the grounds, making it more biologically friendly. On January 8, after spending hours moving large rocks to prevent soil from sliding into cave, volunteers were rewarded with a rare trip inside. George Veni, a hydrogeologist helping direct the environmental restoration of the site, said that in addition to erosion control work, the group also plans to landscape the area around the sinkhole, and install new, more attractive fencing. The cave, which once served as a Prohibition-era speakeasy and later became an underground mushroom farm, is a habitat for several endangered species.

Commercial Caves

The December 29, 2004 edition of the *Alva Review Courier* (Oklahoma) reports that **Alabaster Caverns'** once cavernous entrance is a little smaller at the moment. Approximately 60 feet of rock above the entrance collapsed either on Christmas Eve or during Christmas Day. A portion of the handrail leading into the caves was crushed in the collapse, but the recently installed lighting system was not affected. The clean up and removal of rock will begin after a visit by geologists to assess the stability of the entrance.

Electrical workers from The Chappy Corporation, a Massachusetts-based electrical and mechanical construction company, will venture underground to rewire nearly seven miles of **Mammoth Cave** replacing an aging lighting system. The $5.6 million project is expected to take about two years. In addition to the new system being more cost efficient by installing fewer lighting fixtures that use less electricity, some of the lights will emit earth tones meant to blend in with the surroundings. The renovation is expected to begin in mid-January 2005. (December 15, 2004 *Lexington Herald-Leader*)

Speleology

Scientists and cavers met in Dover for the 25th biennial conference of the Australian Speleological Federation. More than 120 registered delegates, plus observers from around Australia and the world, are taking part in CaveMania, a week of talks, tours, and the opening of the Fourth International Speleological Art Exhibition at the Dover Gallery, with more than 100 paintings, sketchings, sculptures, and photos. Topics ranged from the study of speleology, hydrology, geology, and biology to the threats facing the world's karst systems, caves, depressions, and sinkholes. "Our major concern is the protection and conservation of caves," said Arthur Clarke, co-organizer and cave biologist. Land governed by a number of different authorities and tenures, including private landowners, and a lack of real coordination between different government agencies were presented as reasons for the difficulties involved in cave protection. (*The Mercury* (Australia) January 4, 2005)

Anthropology/Archaeology

The discovery of a 2,300-year-old mummy of a female child along with some fabric, hair, feathers, and plant remains is reported in the December 17, 2004 edition of the *Hindustan Times* (India). Mexican archaeologists received a tip about human remains in a cave in the mountainous Sierra Gorda area. They searched the cave, located about 2,900 meters above sea level, and found the girl's mummified remains, which lacked one arm. One of the oldest mummies to have been found in Mexico, the girl is believed to have died around 320 B.C. The remains were found north of an area inhabited by pre-Hispanic cultures such as the Olmecs or Mayas. Which pre-Hispanic culture the girl may have belonged to has not been determined. The mummification was deemed to be due to natural causes, the quick drying of the corpse, along with the high altitude, and cool climate, rather than any man-made mummification technique.

Biospeleology

The December 2004 issue of *Practical Fishkeeping* magazine describes a new species of cave-dwelling catfish, a member of the Heptapteridae family, found in underground rivers in the Rio Guasare drainage, Sierra de Perijá, northwestern Venezuela. It has been named *Rhamdia guasarensis* by Carlos DoNascimiento,

Francisco Provenzano, and John G. Lundberg in a paper in the December 2004 issue of the journal *Proceedings of the Biological Society of Washington*. Unlike other members of the Rhamdia genus, *R. guasarensis* has a concave profile to the head, along with a number of troglomorphic characteristics, such as pinkish skin and no eyes, which the species has evolved for life underground.

A team of international scientists led by The Nature Conservancy announced the discovery of at least two new fish species and a variety of previously unknown insect, snail, and plant species living in the karst systems of Borneo. At least five new insect species, including a monster cockroach, a micro-crab, and a giant troglobitic millipede were also discovered. The December 22, 2004 edition of *Mail & Guardian* (Indonesia), and other *Associated Press* clippings, reports that during a five-week expedition through the karst systems the scientists also documented high levels of rare plant and animal species found only in Borneo. The expedition was the first biological study to document the plant and animal species that live in the Sangkulirang Peninsula karst systems of the East Kalimantan region of Borneo. The team surveyed four karst systems, several of which have been hit by devastating fires in recent years. Illegal logging and mining operations are spreading through the area, destroying critical habitat, and contributing to the spread of wildfires. The areas surveyed by the expedition team currently have no protective status and are highly vulnerable to damaging human activities. "The team's discovery of such a wide variety of plants and animals, and particularly the high number of rare species found nowhere else on Earth, shows the critical need to protect this area from the growing threats of logging, mining, and fire," said Scott Stanley, the area's Conservancy Program Manager. The Nature Conservancy sponsored and organized the expedition, conducted from July to September 2004, with the financial support of the Sall Family Foundation. Among those participating in the expedition were scientists from Indonesia's Institute of Sciences, the United States Park Service, the University of London, the French Academy of Science, and the Singapore Botanical Garden.

PALEONTOLOGY

Paleontologists have found a 2000-year-old thylacine (*Thylacinus cynocephalus*), or Tasmanian tiger, jawbone in an isolated limestone cave in the Kimberley area, the third such discovery in western Australia. The latest find, during a survey of the region's mammal species in late 2004, comes 30 years after a thylacine femur was found in the same region. The thylacine, once spread throughout mainland Australia and as far north as New Guinea, became restricted to Tasmania, and with the arrival of European settlers in the 1800s its numbers quickly dwindled. Scientists at the Museum of South Australia are studying the bone. (January 08, 2005 *The Weekend Australian*)

CAVE RESCUE

Jeff Richardson, a Fox Glacier alpine guide and three other cavers, Mere Motoraka, Jane Stevens, and Julian Tovey, all Department of Conservation staff from the West Coast, were assisted from **Harwood's Hole** (New Zealand), the third such rescue this year from the caving system. The group became lost in one of the sumps in the cave and went back toward the bottom of the entrance pitch, where they were found. (December 29, 2004 *New Zealand Herald*).

A Malaysian couple died and 80 others were rescued after being forced into **Emerald Cave** and battered by the December 26, 2004 tsunami that hit Thailand's southern Andaman coast. Many snorkelers had been swimming at the entrance to the cave and were pushed in by the waves. The exhausted snorkelers clung on and screamed for help until emergency teams rescued them. (December 27, 2004 *ABC News*)

MISCELLANEOUS

The December 2004 issue of *National Geographic* magazine has a photograph of a defaced Maya painting taken on a recent visit to the site by Stephen Alvarez. The Maya paintings, discovered in Guatemala's **Naj Tunich Cave**, were featured in the August 1981 issue of *National Geographic* prior to their being vandalized. Damage to the artwork was documented in the September 1991 *Geographica* column.

This month's contributors: Paul Aughey, Danny Brass, Dave Bunnell, Russ Carter, John W. E. Harris, David W. Hughes, Gary K. Soule.

UNDERGROUND UPDATE

Bernie Szukalski

Ken Walsh presents a write-up of a survey trip into **The Drain** and **Playhouse Cave** in the July, 2004, issue of the *Troglodyte Tribune* (Triangle Troglodytes, North Carolina). Walsh was joined by Matt Jenkins and Mark Little to survey the two small Smythe County, Virginia caves. Walsh's map shows a few hundred feet of passage between the two caves, separated by about 150 feet.

Walsh covers the discovery of **Mohler's Cave**, Virginia, in the October issue. The cave entrance was first noted by Jim McConkey during ongoing project work on Cave Hill near **Grand Caverns**. The 10-foot wide by 15-foot deep entrance was partially clogged by a fallen tree, and a dirt mass had formed on top of one side of the log. McConkey, on belay, jumped up and down on the log and found it to be solidly wedged. A cable ladder was rigged down the pit on the side opposite the log, and McConkey ventured down first, finding a hole at the bottom of the pit. McConkey yelled "Holy s___, you've got to see this" as he disappeared down the hole. Walsh, Kevin Mulligan, and Tim Charlton quickly suited up to follow McConkey, and joined him in a room measuring 10 feet wide and 8 feet high. The team surveyed over 300 feet before calling it quits for the day. The following day the same crew returned to continue surveying. The cave currently stands at 613 feet long with 8 leads remaining to be checked. Walsh's photos of some of the impressive and delicate formations found in the cave accompany the article.

The December issue includes an article by Brent Bayles covering the exploration and survey of the **Seabolt-Spence Cave System** located in southwestern Virginia. The cave features a tight entrance and many drops. Survey and exploration trips required the establishment of an underground camp and the use of hammocks secured with climbing stoppers and cams. Over the course of two years many trips were made, surveying from both Seabolt and Spence Cave. Those surveys, and an overland survey between the entrances, provided the information that pointed to a possible connection near a sump and some breakdown that seemed to have some air movement. In October, 2004, two teams assembled to make the connection. Bayles, BJ Boyer, and Chris Cassada entered Spence Cave, and Chris Wezyk and Phil Larson entered Seabolt. The teams succeeded in their cross-over through trips. The cave system has been mapped to a length of 3,500 feet and depth of 452 feet, with good leads still remaining to be checked. In addition, several more recently discovered caves might connect into the system.

The results of a karst inventory of Alaska's Kosciusko Island and Prince of Wales Island are documented in the October issue of *The Alaskan Caver* (Glacier Grotto). The itemized report lists a number of pits, resurgences, and caves. In a separate write-up, Pete Smith and Kevin Allred describe **Zina Cave**, discovered in 1997 by a Forest Service wildlife crew walking a proposed clear-cut area on Prince of Wales Island. The immediate area was initially classified as "moderate vulnerability karst," meaning that clear-cutting would be permitted despite several pits and small caves nearby. But when a geologist entered Zina and discovered that it was extensive and headed under the proposed cut area the designation was changed to "high vulnerability," meaning no clear-cutting would be performed. Bear and deer bones found in the cave have been dated from 5,000 to 11,000 years before present.

In the summer of 2000 the Tongass Cave Project took on a comprehensive survey of the cave, which carried over into the summer of 2001. The cave presently stands at 5,785 feet long, with a depth of 392 feet, making it one of the largest caves in Alaska. It also contains a wealth of speleothems, including "cottony growths" that have yet to be identified and a new species of amphipod. The issue includes photos of the cave and several maps and profiles detailing various sections drawn by Kevin and Carlene Allred.

Also in the issue, Kevin Allred publishes a report and map of nearby **Dave's Den**. The cave was first discovered by Glacier Grotto members in 1996, and was surveyed on June 28, 2001. The cave ends in a rubble plug, and while only 55 feet long, Allred speculates that it was once part of a larger cave system. Other small caves found in the area include **Spark Plug #5**, **Tom's Tunnel**, and **Photo Ice Cave**.

"A Narrow Escape" is the title of Mike Frazier's article published in the autumn, 2004, issue of *Rocky Mountain Caving*. Frazier documents the rescue of Franz Hankins, trapped in Colorado's **Narrows Cave** when a section of passage collapsed. Initiating a partial caver callout after getting a call from trip leader Ryan Gosciejew, Frazier gathered up some webbing, pulleys, and a hydraulic jack and headed to the scene. Frazier immediately saw that the situation was serious; a dirt slope and rock the size of a pallet blocked the way to reach the trapped caver. To make things worse, dirt seemed to be slowly filling up the airspace that Hankins' helmet afforded him.

Frazier began digging by hand, pulling dirt and rock 15 feet back into a nearby room. After about four or five trips, dragging out four or five gallons of dirt on each trip, Frazier finally reached out to touch Hankins' hand. After removing another 20 gallons or so of dirt, Frazier could see Hankins' red Petzl helmet, pinned against the wall of the passage by the large rock and buckling under the pressure. But the digging was dicey at best, with a rain of sand and sometimes larger rocks making the situation "spooky," clearly an understatement by Frazier.

Eventually Frazier was able to reach down and unbuckle Hankins' chin strap. Though his head was still pinned, Hankins could now breathe without clenching his teeth to keep the dirt out. Gosciejew managed to come around in back of Hankins through another passage. Frazier then pushed up on the rock while Gosciejew yanked on Hankins' legs, succeeding in freeing Hankins' head from his helmet, but leaving one arm still stuck. After another two-plus hours of digging, and after a narrow miss with a rock falling from the ceiling that knocked out his headlamp batteries, Frazier returned to the surface to fetch the hydraulic jack. Daniel Laos also showed up with a couple of 2 x 4s. After shoring up the ceiling, the rescuers managed to dig under an end of the large rock which still pinned Hankins' arm, eventually being able to slide the jack in underneath it. Slowly extending the jack, and with Laos and Gosciejew pulling on Hankins' legs, the trapped caver was finally freed. Steven Kumpf adds another article which details the rest of the rescue, getting Hankins out from the point of entrapment safely to the entrance. Hankins, luckily, had

only minor injuries.

And in a follow-on article, Richard Rhinehart notes the changes in the Williams Canyon Project procedures that resulted from the accident. These include mandatory First Aid and CPR certification by trip leaders, caching of rescue equipment in all major caves, and upping the minimum cavers per trip to three from the previous two. Rhinehart also lists and summarizes the three accidents that have occurred during the history of project work in the canyon, since 1987.

Elsewhere in the issue, Doug Medville adds a report and map of the unusual **Paradise Pit**, located in Gunnison County, Colorado. Medville's daughter Susan had been told of a cave located on Mt. Crested Butte by a friend, but Doug scoffed at the idea, knowing that the mountain is composed of granodiorite porphyry, and there would be little chance of any caves. But Susan insisted, and finally the two headed out to investigate. Doug was surprised to find an 8-foot deep, 3-foot wide crack which dropped vertically into a 10-foot high passage. Doug and Susan put in 5 stations before being stopped by an overhanging pit. Returning with vertical gear the following week, Doug and Susan found only a few more feet of cave before it ended in rubble, but managed to net 107 feet for the total survey. Doug's map is included with the report.

Rounding out the issue, Medville includes a map and report on **Sand Creek Cave**, Hinsdale County (35 feet long), Mike Frazier publishes a map and article covering **Natural Bridge**, Eagle County (80 feet long), and Richard Rhinehart contributes an article covering a recent visit to **St. Francis Pit**, Pitkin County, a 73-foot deep alluvium-walled pit. Mike Frazier's map of the cave is included.

The importance of mastering changeovers and double-checking rope is underscored in a Jonathan Helta trip report covering an outing to **Not So Deep Well** in Alabama during the 2004 TAG Fall Cave-In. Helta, Bob Peters, and Bobby Peters rigged the drop from a nearby tree. Helta elected to go first, and rigged a rebelay about 15 feet down from the top. Enjoying the ride past the rebelay, Helta slowly descended. About 100 feet down, Helta noticed something strange as the rope fed through his rack. Immediately moving to tie off, Helta looked up to see a 1-inch fray in the rope, with the rope diameter squeezing down to about half its width. Attaching a safety above the bad spot, Helta mulled things over and decided the only course of action was to abort the rappel, perform a changeover, and head for the top. The rope had only been used two or three times, with the last time being at the previous year's Cave-In. The cut was obvious enough that anyone stuffing the rope into its storage bag would surely have noticed. The bag had been stored in the rafters of a garage over the past year, and there were no signs of holes or any damage to the bag. Helta recommends that any gear, new or old, should be checked before using, noting that "it only takes a few minutes, the same time it took me to change my underwear." (*The Frederick Underground*, Frederick, Maryland, Grotto, Fall 2004)

Rick Lambert publishes a map and report with Rick Royer on **Five Minute Cave**, Highland County, Virginia, in the October issue of *The Highlander* (Virginia Highlands Grotto). The cave was dug open by Larry Baer, Rick Wagner, and John Hudgins in February, and got its name because it only took five minutes to survey. The cave is 17 feet long and 14 feet deep.

Another for-the-record Highland County cave, **Crystal Dung Cave**, is logged in the November issue. The cave was discovered and mapped by Lambert, Larry Baer, and Rita Klimas on January 26, 2003. Lambert's report and map show a small phreatic tube about 13 feet long, averaging 1 to 2 feet high and wide. In the same issue Lambert publishes a report and map of **Hevener's Cave #2**. The original survey of the cave took place in July of 1991, but errors in the survey prevented the delivery of the final map. The resurvey sat on the back burner until January 25, 2003, when Lambert and a large contingent of fellow cavers checking leads in the area decided to finally finish off the project. The crew found that the cave had actually decreased in size over the 11 ½-year hiatus; one of the side passages had collapsed. High radon levels were recorded in one of the rooms, probably due to volcanic intrusions 150 yards south of the cave. The cave is 155 feet long and 19 feet deep.

The December issue includes more Highland County finds; Brien Farris publishes a map of **Root to the Balls Cave** (51 feet long), Alex Dymersky adds a map of **The Other Hole** (55 feet long, 21 feet deep), and Lambert wraps up the list with map of **Triple Tectonic Cave** (68 feet long).

Dave Everton first heard of **Oliver Spring Cave**, Monroe County, Indiana, back in 1986. It was described as a "nice cave with promise." Unfortunately the landowner was quite clear that access would not be allowed. Though described in *Caves of Indiana* as a small cave, Everton heard rumors of others having been granted permission to visit the cave, reporting going passage over a mile long. None of the reports could be verified, but nearby **Ranard School Cave** with 7,000 feet of passage seemed to add some credence to the stories. In May, Everton, Ty Spatta, and Sean Lewis got permission to visit the cave, and found it to be pretty much as described in *Caves of Indiana*. But was it possible that the fabled mile of cave was beyond a sump found in a small room at the rear?

In July, Everton and Spatta returned with a sump pump, and were joined by Rob Serbent in an effort to see if things went beyond the terminal room. Though they managed to install the pump, a storm topside contributed enough additional water to the cave that they couldn't make any headway. Everton and Spatta returned in September, this time with a much larger pump and hose. After connecting everything up and starting the pump, they left it running overnight. The duo returned the following afternoon, with Lewis coming along so as not to "miss the golden opportunity to make history," an effective suck-in by Everton. Reaching the end of the cave, the trio found the pump had successfully lowered the water a couple of feet, revealing a going crawlway. Everton pushed onward into virgin territory, through a couple of low airspace belly crawls and eventually finding that the cave opened up. Soon the others joined Everton, and pushed on, eventually reaching yet another sump. They decided not to try the pump again at this second sump, an additional 200 feet beyond the

first one. The group declared the effort finished, and mapped the cave to the first sump, netting 305 feet of cave and putting an end to a 20-year mystery for Everton. (*The CIG Newsletter*, Central Indiana Grotto, December, 2004)

The front cover of the December issue of *IKC Update* (Indiana Karst Conservancy) features an Aaron Atz photo of Janie Neal rappelling into **McIntosh Pit**, Orange County, Indiana. The photo shows the huge amount of trash below Neal's dangling feet, which has been dumped into its entrance over the years. Inside, a cleanup of a swallow hole on the Bloomington karst is reported by Dave Everton. Philip Moss, a consultant, caver, and NSS Director working in the area, had suggested the cleanup of the sink, dye-traced to connect to a spring in a nature preserve over a mile away. IKC and Bloomington cavers joined forces to take on the cleanup, with help from Hoosier Disposal in Bloomington, which provided a dumpster. Despite a difficult time having to sift through leaves to find all the trash, the event was a success and should serve to improve water quality at the spring.

Kriste Lindberg announces the establishment of the I-69 extension offices elsewhere in the issue. These offices serve as the central points for gathering information and increasing the understanding and protection of karst features in the greater Bloomington area, and will also serve the ongoing environmental planning surrounding the I-69 construction, a recently approved highway extension project.

Gary Soule reports on another milestone in the unfolding cave system under Calumet County, Wisconsin, by announcing the connection of **Wayne's World** with **Carolyn's Caverns** in the December issue of *The Hollow Earth News* (Wisconsin Speleological Society). Carolyn's Caverns was first discovered in 1986 when WSS dug open a sinkhole. Another nearby dig resulted in the discovery of **Mothers Cave**. Yet another dig project resulted in the two caves being connected in December of 2003.

Wayne's World was originally discovered in November, 2002 when a shallow sinkhole near the historic entrance to Carolyn's Caverns was excavated. However Wayne's World remained unconnected until October 2, 2004, when Kasey Fiske, Jeremi Kaether, Terran Kaether, and Wayne Wagner (the discoverer of Wayne's World) probed a wall of dirt with a crowbar, finding a void on the other side. A voice connection was established to Carolyn's, and subsequent digging on November 20, 2004, by a horde of cavers from both ends resulted in the physical connection. Carolyn's is now the third longest cave in the eastern half of the state with approximately 700 feet of passage and seven entrances. Soule's diagrammatic map of Carolyn's Caverns is included with his report and historical account, showing the connection points, digs, and entrances.

Mark Passerby delivers a history and an update on activities in West Virginia's Rader's Valley in the December issue of *The West Virginia Caver*. Rader's Valley Project members have turned up, or more accurately dug up, a handful of substantial caves now totaling a combined 4.5 miles in length. Passerby had long been captivated by the potential of the valley, believing that a "40 miler" cave system awaits discovery. The first breakthrough came in **Zicafoose Blowhole Cave**, formerly a single-room cave until a dicey dig through breakdown resulted in a breakthrough. The breakthrough yielded several tight pits and almost a mile of passage, most of it concentrated in a very small area of the ridge. The difficulty of continued exploration turned most away, but 13 years later Passerby returned with Bob Kirk, Aaron Bird, and a new invention dubbed the "muzziminer." These were used to enlarge passages to make access and surveying easier.

Using detailed working maps and following air, Kirk found a junction room after negotiating a 30-foot, two-bolt climb that had going passage heading north and east. The north passage lead to a traverse along a 40-foot high wall, and after several survey trips has yielded hundreds of feet of passage extending under the mountain's ridgeline. Passerby's photo of Kirk on the traverse is featured on the cover.

Nearby **Bobcat Blowhole** seems likely to connect, with a stream passage discovered by Passerby, Kirk, and Tommy Shifflet heading straight towards a new section of Zicafoose. Jeff Bray conducted a surface microgravity study which revealed a massive anomaly near the anticipated connection point, which Passerby hopes indicates a large room yet to be found.

With the current end of surveyed passage some five hours from the entrance, an underground camp has been established to facilitate exploration. Another camp is planned in the going north section, which Passerby believes may eventually connect to a dig and cave named **Freelanders Well**. Freelanders would provide a much needed back door to the project, and the connection would make a West Virginia depth record.

The December issue of *Minnesota Speleology Monthly* (Minnesota Speleological Survey) includes reports on two caves by Tim Stennerson. **Weber Cave**, located in Pepin County, was first found and visited by Stennerson and John Stewart on April 22, but not pushed. Stennerson and John Fino returned on October 1 to push and map the cave. Stennerson's map shows the cave reaching a length of 43 feet.

Korneski Cave, located in Dakota County, was the subject of excavations in the 1980s by unknown individuals. Wooden tracks used in the hauling of dirt fill and spikes in the walls which held a lighting system are still found there today. Stennerson includes a rough survey map with his report and photos of the cave, showing roughly 150 feet of passage.

LETTERS

NSS Finances and the NSS News

I read with interest your response to Mark Dickinson's letter in the November issue about the expenditures associated with the publication of the *NSS News*. I am with you! I work for a large book and magazine publisher, and manage the equipment in the computer to plate area. Having been in the business for 35 years, I can tell you that print buyers are getting more bang for the buck. The *NSS News* is a wonderful publication, and I would miss it sorely if it ever went away.

Jerry Bowen
NSS #51562

Lechuguilla and LEARN

The Lechuguilla Exploration and Research Network (LEARN) has recently communicated to its membership that it has been given one permit for five people to do survey and resurvey work in Lechuguilla Cave by Carlsbad Cavern National Park. This expedition is now scheduled for sometime in 2005. LEARN has also announced that this is the last "guaranteed" permit that the Park will award LEARN. From this point forward apparently, LEARN can expect no preferred standing for being awarded permits for survey and exploration. In other words, LEARN is now disenfranchised.

Despite the fact that the Chair has announced his resignation, various officers and representatives have vowed to continue bravely on in the fading hope that there is somehow a useful purpose in keeping LEARN alive. I wish them well but can't help thinking this is truly a lost cause.

My reaction to this news certainly wasn't surprise. For years now the Park has been steadily cinching down access to Lechuguilla Cave to LEARN and the caving community. Regular suspensions of all activities for two and three years, followed by ever more stingy allotments of permits has been the undeniable pattern. As I am sure is true for so many cavers who have had the privilege of exploring Lechuguilla through these many years, there are strong feelings of whimsical nostalgia as we reflect on indelible memories of those glorious times. For a brief time, the doors of Lechuguilla were pretty much open to the entire caving community. Friendships were forged that last a lifetime. We all felt we were part of something truly historic. It was unlike any other cave project in the country—it was America's cave project.

I think most people would agree in retrospect that access was probably too open in the early years, that some people were in over their heads and that useful work and cave impact suffered. And as exploration has become more difficult and obscure, many lacked the knowledge of the cave to be productive. Some selectivity was a good thing. However in recent years, the tiny allotment allowed by the Park for survey and exploration has diminished to the point that even most of the experienced Lechuguilla cavers have come to realize that their commitment to the cave and LEARN is unfortunately misplaced. There is nothing to commit *to* with expeditions so few and far between. Even those cavers willing to work on quad maps and therefore given highest priority for permits are grumbling that one small permit every other year is not worth the effort.

So is this a good thing? After all, the Park is charged with "preserving our natural treasures" and nothing preserves better than simply keeping the gate locked to the caving community. I have heard this viewpoint expressed several times over the years. Others suggest a small group of Park selected cave conservationists be the only ones allowed in Lechuguilla Cave. I am quite sure the NSS membership will have a wide range of opinions on this subject.

And perhaps this is the point. The other half of the Park Service's mission statement is: "for the enjoyment of present and future generations."In order for the Park to truly fulfill its mission it has to consider how much "enjoyment" it is going to allow the caving community. With LEARN disenfranchised the answer is obviously "Not Much!". There is a tragedy in this because LEARN was originally conceived as a custom-made organization that was national, democratic and inclusive—everything the Park said it wanted. By disenfranchising LEARN, the Park is making the unmistakable statement that they are not really interested in allowing the caving community to enjoy Lechuguilla Cave.

I also believe that the Park Service itself is losing one of its most precious resources: those of us that know Lechuguilla Cave intimately. By law, the Park Service is legally charged with inventorying all of its resources. Based on air flow, Lechuguilla's 100+ miles still represents less than 5% of its theoretical length. If true exploration ever starts up again (loop closure surveys don't count, sorry), newcomers will have to pay the same dues we did before they can hope to be successful. One trip every few years doesn't cut it. The result: high impact/low productivity/lower safety. The reality is that only a continuous and well-organized effort can be successful. Anything else is window dressing and exploration in word only. A national organization like LEARN needs an allotment sufficient to thrive and keep a consistent membership. Five slots a year is not sufficient!

So as Lechuguilla Cave starts the process of fading into distant memory, known only by photographs adorning our caving calendars and our *NSS News* covers, it may be well worth pondering this great loss to the caving community, both now and to future generations. Even if there was nothing left to survey or resurvey, I personally see value in allowing the caving community to see this wondrous place and interact with it somehow. If the Park accepted *that* premise as part of its mission, why not continue the work such as mineral inventory and the like? Keep the continuity and those valuable human bonds of trust and friendship developed over years between people in the caving community and the people in the Park Service. Don't throw that away.

My conversations with the cave specialists indicate that their top priority is to produce a cave map and that they are awarding permits to those willing to draft the maps—reward for work done. This

makes sense to a certain extent. Unfortunately, it seems that the reward is too low to get many well-motivated volunteers.

In the early days, there was only one cave specialist. We managed to have regular large expeditions. Now there are three cave specialists. Expansion and decline. Bigger budget, less "service." Why not hire a full time CAD map drafter? Write a grant application, or better yet downsize the cave resources office department to free up money for what you really need.

On behalf of all cavers who have had the thrill of experiencing Lechuguilla Cave, I sincerely offer my heartfelt thanks to Carlsbad Caverns National Park for that privilege. It is an experience that I will always truly treasure. My one regret is not being able to pass that torch to the next generation of cavers.

Ron DeLano

Bermuda: Wilkinson Quarry Cave

Concerning the article by Tom Iliffe on Bermuda's Wilkinson Quarry Cave (November 2004), I want to point out his use of "half-truths" which are misleading for any reader not totally acquainted with every aspect of the problem.

Anyone would agree, in principle, that a cave endangered by a quarry must be preserved. Yet the statement attributed to the quarry manager: "we damaged it (the cave), therefore we should destroy it" is misleading.

In fact the quarry has not voluntarily damaged the cave, whose existence had been entirely unknown. When the heavy machinery dropped into the cave, a lot of significant damage occurred in addition to the rupture of thin formations caused by the blasting. At present the cave is very dangerous due to both the many unstable big rocks inside the cave and the heavily damaged rock layer above the cave itself. In addition it is impossible to carry out any restoration or "cleaning" of the cave.

What has been proposed by me and my colleagues is to destroy the upper part of the cave, which would be an everlasting threat to anyone moving around above or below.

Just a few years ago a person was killed by a rockfall in Bermuda (not in the quarry!) and every effort must be made to avoid such accidents.

The critically endangered stygobitic crustaceans would be more efficiently protected by a plan for the whole territory of Bermuda to avoid dispersion into the watertable of sewage or other waste.

Moreover, such organisms would not be more endangered if the upper part of the cave (where they do not live) disappeared. The Bermuda limestone is like Swiss cheese, with the fauna moving freely inside an underwater network.

The "very large and historically significant Admiral's Cave," situated on the edge of the quarry, is not in severe peril as I found during my visits and discussions with the quarry manager. On the contrary every effort has been made to protect it.

In conclusion I am the first to recommend in principle the protection of any cave, but we must take into account all the factors involved.

Arrigo Cigna

Vertical Contest Results

The listing of Vertical Contest winners in the 2004 Convention issue (November) inadvertently left out the results for the Women's 120-meter Mechanical Sit-stand contest:

Age 20-29
1. Melissa Hendrickson 13:36.5 O.W.

Age 50-59
1. Yvonne Droms 15:35.5 A.G.R.

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