May 2007, Part 2

NSS News

American Caving Accidents
2004 – 2005

National Speleological Society
Accident/Incident Report Form

Date of Accident/Incident: _____ Day of Week: _____ Time: _____

Cave: _____ State: _____ Country: _____

Reported by:

Name _____ Telephone _____

Address _____ Email _____

City _____ State _____ Country _____ Postal Code _____

Name(s) of Person(s) Involved	Age	Sex	Experience	Affiliation	Injuries or Comments

Describe the accident as completely as possible on the back of this form or on a separate sheet. If possible, obtain information from those involved. Use additional sheets if necessary. A report in the style of *American Caving Accidents* is ideal. The following checklist is suggested as a guide for information to be included. You can also report accidents on the Internet at **www.caves.org/pub/aca.**

The Accident/Incident

( ) Names and ages of persons involved

( ) Events leading to accident/incident

( ) Location and conditions in cave

( ) Description of how the accident/incident occurred

( ) Nature of injuries sustained

( ) Analysis of main cause

( ) Contributory causes (physical condition of caver, weather, equipment, clothing, etc.)

( ) What might have been done to prevent the accident?

Rescue or Response

( ) Actions taken following the accident/incident

( ) Persons or organizations contacted for help

( ) Details of rescue procedures

Further details were reported in (please list name and date of publication or source, and attach copies if possible):

Newspapers _____

Grotto Newsletter _____

Other (web site, television or radio station, etc.) _____

Please return the completed report to the NSS as soon as possible after the accident.

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American Caving Accidents 2004-2005

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NSS News

American Caving Accidents

May 2007 Volume 65 Number 5, Part 2

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Front Cover

NCRC students practice using hauling systems at a pit in Hughes Cave, Alabama, during the 2006 Southeastern Regional Seminar. Photograph Copyright © 2006 Jeff Burns.

Back Cover

Top: Students package a patient in a Sked litter during a mock rescue exercise at the 2005 NCRC National Seminar. Photograph Copyright © 2005 Patricia Seiser.

Lower Left: Litter handling practice in Eudy Cave, Alabama, during the 2006 Southeastern Regional Seminar Photograph Copyright © 2006 Jeff Burns.

Lower Right: Moving a patient in Talucah Cave, Alabama, during the 2006 Southeastern Regional Seminar. Photograph Copyright © 2006 Jeff Burns.

An Overview of the 2004 and 2005 Incidents

American Caving Accidents (*ACA*) is the journal of record for caving accidents and safety incidents in the United States and North America. This issue contains reports for incidents that occurred in 2004 and 2005. Following the custom of previous issues, the reports have been separated into two general categories: regular caving and cave diving, and then further classified by result or outcome and by causes and contributing factors. The cave diving incidents are grouped separately, and an overview is presented at the end of this section.

Since 1994, we have used the category "difficulty on rope," to encompass such problems as becoming stuck at the lip of a pit, clothing or hair caught in the rappel device, jammed rappel safety, or simply becoming unable to ascend or descend. Our intent is to better describe these situations, which might otherwise be lumped under "stuck," "trapped/stranded," or perhaps "equipment problem."

In reporting the number of incidents versus NSS membership totals, only caving incidents involving fatalities, injury, or aid were included. The reader should also be aware that the members of the National Speleological Society constitute only a portion of the population of active cavers. Further, not all incidents are reported to *ACA*. These numbers should not be considered reliable indicators of accident rates for caving or used to draw conclusions about the relative degree of risk or danger involved in caving.

Incident Results

Fatalities

On average there are three or four fatal caving accidents in North America each year. When incidents involving untrained and inadequately equipped spelunkers[1] are excluded, the average drops to one or two fatal accidents per year.

In 2004 there were three reported fatalities. The first occurred in January at Cumberland Caverns, Tennessee, when an adult youth group leader suffered a heart attack and died during a guided cave trip. The second occurred in March at Beware Cave, Utah, when a man drowned while exploring a small spring cave at a swimming area. The third occurred in December at Devils Punchbowl in the U.S. territory of Guam when a man fell and was killed, apparently while climbing down into the cave entrance.

Several caving-related incidents resulting in fatalities were also reported in 2004. In January, a man was killed when he apparently stumbled into a roadside pit near Rancho Cielo in Tamaulipas, Mexico. A similar incident occurred in July at Sotano de Xoconostle in San Luis Potosí. Another roadside pit in Mexico was the scene of a fatality in April, when a man reportedly committed suicide by jumping into Sotano de la Garza, Puebla. Two fatalities were also reported involving open-water divers at sea caves in Hawaii. In December, two young boys were reportedly drowned in a cave entrance in Chiapas, Mexico, after chasing an animal into the cave.

There were no fatal caving accidents reported for 2005, but there were several caving-related incidents which resulted in deaths. A diver drowned in May in a flooded quarry in Vermont. In August, national attention was focused on a tragedy at Y Mountain outside Provo, Utah, when four young people drowned while exploring a partially flooded abandoned mine. Also in August, another fatal accident involving a roadside pit occurred in Mexico at Sotano de la Cochera. Finally, in September a woman drowned in an underwater sea cave at Kaanapali Beach, Hawaii.

In addition to the incidents just described, there were several fatal cave diving accidents in 2004 and 2005. These incidents are discussed in the appropriate sections below.

Injury and Aid

Incidents in this category resulted in injury to one or more people, who then required help in order to exit the cave. While many of these incidents involved rescue call-outs and outside assistance, others were resolved by the cavers themselves without calling for rescue.

Caver falls remain a leading cause of injury and rescue, accounting for three of the seven incidents involving injury and aid in 2004 and four out of the eight such incidents reported for 2005. One fall occurred when a caver lost control on rappel, but most involved cavers climbing without a belay

NSS Membership and Number of Incidents

Year	Members	Incidents
1986	6741	45
1987	7203	48
1988	7873	49
1989	8514	51
1990	9028	55
1991	9777	54
1992	10492	60
1993	11164	64
1994	11460	57
1995	11836	44
1996	11140	43
1997	11470	43
1998	11685	32
1999	12098	44
2000	11773	40
2001	11967	34
2002	12261	31
2003	12264	35
2004	12020	23
2005	11658	26

Only incidents resulting in aid, injury, or fatality are included. Membership figures include all classes of membership.

[1] In the US, "cavers" generally consider "spelunkers" to be people who have no real knowledge or understanding of caves and caving safety, but who decide to enter a cave anyway, usually without proper equipment.

or moving in exposed locations without a safety line.

Two incidents in 2004 involved cavers trapped or injured by rockfall. In April, a caver was trapped by an entrance collapse at Lost Fossil Cave in New Mexico. A caver was pinned and injured by a passage collapse in Narrows Cave, Colorado, in October.

A 2005 incident during an NCRC training event at Talucah Cave, Alabama, involved a caver who was struck and injured by falling rocks while being hauled out of a pit. Rockfall entrapments also occurred at Empire Mine Cave, California and Flowing Stone Cave, Georgia. In the latter incident, passage collapse in a crawl at the top of a pit pinned one caver and dropped large rocks onto cavers waiting at the bottom.

One caver suffered a dislocated shoulder in a cave in 2004 and another caver needed help exiting Spanish Cave in 2005 after injuring her knee while climbing a chimney. In each case, the injured caver's companions managed a rescue.

In May, 2005, two cavers were rescued from a pit in Tennessee after being stranded on rope for several hours. One suffered suspension trauma and was hospitalized for several days. In July, 2005, a caver was rescued from Alexander Cave, Arkansas, after he suffered a heart attack and collapsed.

Aid, No Injury

Most incidents in this category are rescues of individuals that cavers often refer to as "spelunkers" who are typically poorly equipped and inexperienced, and are often stranded when they break or lose their flashlights, run out of batteries, descend pits hand-over-hand, or get lost. Sometimes, however, even experienced and properly equipped cavers fall ill and need assistance, or are trapped by rockfall or flooded passage.

In 2004, there were twelve reported incidents in which cavers were unable to exit without assistance. Six involved cavers who became stuck in tight passages. Only one of those, a crevice entrapment at Narrows Cave, Colorado, involved an experienced caver. A notable incident drew international attention when six British cavers endured a multi-day flood entrapment in a Mexican cave. Two incidents in 2004 involved poorly equipped spelunkers who became lost and stranded underground. Another occurred when two children left their group and became lost in Catacombs Cave at Lava Beds National Monument, California. The two remaining rescues involved a caver trapped overnight in Lost Fossil Cave by entrance collapse and a tourist who fainted and had to be evacuated from a cave tour at Oregon Caves.

In 2005, there were eight incidents in which trapped or stranded cavers required assistance. Two similar incidents involving cavers stuck in crevices occurred at Devil's Den Cave, Arkansas in March and April. In May, a caver with a chronic medical condition was rescued from Island Ford Cave in Virginia. A second rescue at Island Ford Cave occurred in August when a caver slipped and became stuck in breakdown.

Also in August, a caver was rescued from Ten Mile Pit in Tennessee after descending the entrance pit hand-over-hand and becoming stranded. Cavers were briefly trapped by passage collapse in Empire Mine Cave, California, in September and Flowing Stone Cave, Georgia, in October. In both incidents, the trapped cavers were freed by their companions. In December, two spelunkers lost for over 24 hours in Pettijohns Cave, Georgia, were rescued when they were accidentally discovered by another caving party.

Injury, No Aid

These incidents resulted in injuries ranging from scrapes and bruises to sprained ankles and broken legs. In each case, the victim was able to exit the cave with minimal assistance from members of the caving party.

There were no reported incidents of this type for 2004. In 2005, however, there were ten. Five involved caver falls, resulting in various injuries. In each case the injured caver was able to exit with minimal or no assistance. Four incidents involved rockfall that caused injury. One incident involved a caver who suffered hypothermia, exhaustion, and cold injuries as a result of inadequate clothing and footwear during a trip through Wyoming's Fossil Mountain Ice Cave.

No Consequence

These incidents are typically of the "near miss" category. They are included so that the reader will be aware of the many things that can go wrong on a caving trip. Examples include carabiners or maillon links coming unscrewed while on rope, rockfall incidents and passage collapses not resulting in injury or requiring aid, and individuals or groups who become lost or stranded, but are eventually able to find their way out or resolve their difficulties without assistance.

One incident of this type was reported for 2004, involving two cavers who became lost in Peppersauce Cave, Arizona. They had not left word of their plans, and no one knew they were in the cave. After spending about 24 hours in the cave, they were saved when one of the cavers found the route to the entrance.

Incident Types

Acetelyne-related

No burns, explosions, or other acetylene-related incidents were reported for 2004 or 2005. It may be that the wide availability of affordable, high-quality electric headlamps has largely displaced carbide lights in US caving.

Bad Air

None of the caving accidents and incidents reported in this issue involved bad air. One caving-related incident involving asphyxiation occurred in April, 2004, when several young people were overcome by carbon monoxide in an abandoned tunnel complex in St. Paul, Minnesota, known as the Wabasha Street Caves. Three people died in that incident, which serves as a grim and tragic illustration of the danger of building fires in enclosed spaces such as caves or mines.

To learn more about the dangers and signs of bad air in caves see Bill Mixon's article in the April, 2000, *ACA*, and Bill Elliott's article in the December, 1997, *ACA*.

Caver Fall

Falls remain the leading type of safety incident or accident in caving, accounting for a large proportion of reported injuries and rescues. Five out of 22 reported incidents for 2004 and ten out of 26 reported 2005 incidents involved falls. Many of the incidents could have been prevented by the use of a belay. Cavers should consider using a belay whenever the exposure of a climb or traverse is greater than a body length. A belay should also be used when climbing or descending a cable ladder.

Cavers also fall on occasion while moving through "horizontal" passages, accounting for a number of accidents

Caving Accident and Incident Statistics
1986–2005

Result of Incident

Result	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05
Fatality	4	3	4	1	4	6	5	5	1	2	1	4	4	4	2	5	2	6	3	0
Injury and Aid	10	15	11	16	18	16	17	22	19	17	16	22	14	14	20	11	15	9	7	8
Aid, no Injury	21	15	20	20	23	20	28	33	26	17	16	13	12	18	15	13	8	14	12	8
Injury, no Aid	10	15	14	14	10	12	10	4	11	8	10	4	2	8	3	5	6	6	0	10
No Consequence	19	16	12	21	9	12	16	3	20	12	11	4	8	3	1	2	4	5	1	0
Total	64	64	61	72	64	66	76	67	77	56	54	47	40	47	41	36	35	40	23	26
Incidents Involving Fatality, Injury, or Aid	45	48	49	51	55	54	60	64	57	44	43	43	32	44	40	34	31	35	23	26

Incident Type

Type	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05
Caver Fall	25	14	20	19	22	22	22	19	20	15	21	27	15	20	17	13	20	14	5	10
Trapped/Stranded	-	-	-	-	-	-	-	1	13	18	18	13	9	17	14	9	10	15	6	5
Difficulty on Rope	-	-	-	-	-	-	-	-	11	4	6	5	1	4	3	1	5	5	1	2
Rockfall	12	17	7	11	11	12	16	11	12	10	5	5	2	4	2	3	3	5	3	7
Lost	8	5	3	9	4	3	4	5	12	7	4	5	3	3	3	1	1	5	4	2
Flooding	1	3	3	4	2	2	1	3	1	4	5	2	1	4	1	1	0	6	1	0
Hypothermia	1	2	0	5	0	2	4	0	3	6	6	2	2	2	3	1	1	3	0	1
Illness	0	0	2	3	2	1	0	3	3	0	1	1	8	0	2	2	2	1	2	2
Exhaustion	0	1	1	3	0	2	4	2	4	1	4	1	1	2	3	1	2	1	0	0
Drowning	1	2	0	2	2	2	2	0	0	0	1	0	0	1	0	1	0	3	1	0
Stuck	3	1	0	1	1	3	5	5	2	1	2	0	1	5	3	5	0	1	6	3
Bad Air	3	2	1	1	1	2	1	1	2	2	1	0	1	0	1	0	0	0	0	0
Acetylene-related	3	0	1	1	0	0	0	1	3	0	1	0	0	0	0	0	0	0	0	0
Equipment Problem	14	17	20	20	23	21	20	11	11	4	4	2	1	0	0	3	2	0	0	0
Other	3	4	8	6	8	4	5	4	6	6	3	2	3	2	3	3	2	1	1	1
Caving-related Incidents	-	-	-	-	-	2	1	0	2	0	1	1	5	2	11	2	9	4	19	9

Cave Diving Incidents

Result	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05
Fatality (one or more)	7	5	9	4	8	2	5	4	6	5	2	2	0	5	7	9	3	5	6	2
Injury and Aid	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Aid, no Injury	1	0	0	0	0	1	1	0	0	1	0	0	0	1	0	0	1	0	0	0
Injury, no Aid	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
No Consequence	1	2	1	1	0	5	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Diving Incidents	9	7	10	5	8	8	7	4	7	6	2	2	1	7	8	9	4	5	7	4

reported in this issue. Cavers can reduce the risk of falls by wearing sturdy boots with lug soles and maintaining "three points of contact" while moving through uneven terrain.

In April, 2004, a 15-year-old caver broke his leg in New River Cave, Virginia, when he fell while climbing over breakdown. He was able to get out of the cave with the help of his companions. Also in April, a caver was injured in a pit near Spokane, Washington, when she lost control of her rappel and fell about 20 feet. In May, 2004, a caver suffered fractured ribs when he slipped and fell while climbing a slope during a mock rescue in Fort Stanton Cave, New Mexico. In July, 2004, a caver was seriously injured in Ape Cave, Washington, when he fell after jumping over a crevice. The December 2004 fatality at Devils Punchbowl, Guam, occurred when a man fell at the cave entrance.

There were ten reported incidents involving caver falls in 2005. In January, a caver fell and was injured while getting on rope at the top of a pit in Surprise Cave, New York. In February, a caver was injured when she slipped and fell back against a rock projection while traversing a stream canyon in Breathing Cave, Virginia. Also in February, several cavers on a trip in Sharps Cave, West Virginia fell at various climbdowns in the cave, sustaining minor injuries and delaying the group's exit from the cave. A woman was rescued from Copperhead Cave, Arkansas in April after she fell down a pit just inside the entrance.

In June, 2005, a caver was injured in a fall during a multi-day trip in Lechuguilla Cave, New Mexico. He suffered a dislocated shoulder, but was able to leave the cave the next day with some assistance from his companions. A caver was injured in Meeks Triple Well during the 2005 NSS Convention in July when he lost control of his rappel after passing a knot. He was also able to make it out of the cave on his own.

One inexperienced caver suffered minor injuries in a fall in Greenville Saltpeter Cave in July, and another was rescued after falling into breakdown and becoming stuck in Island Ford Cave in August. An experienced caver fell in Green Valley Cave, Alabama, in October, when a ledge collapsed under his weight, and a caver carrying supplies to an underground camp in Carroll Cave, Missouri, fell when his heavy pack shifted, throwing him off balance as he crossed an exposed slope.

Drowning

Drowning incidents are infrequent in "dry caving," but have occurred when cavers became trapped by flooding or when they attempted to free-dive through sumped passages. One such fatality occurred in 2004 when a man exploring Beware Cave in Utah without proper equipment apparently became wedged in a low-airspace passage and drowned.

In caving-related incidents, however, several drownings occurred. In August, 2004, a man was reported to have drowned while "free diving" at a lava tube at Kiholo Bay, Hawaii. In 2005 there were several drowning incidents. In May, a man died while diving in a quarry near Rutland, Vermont. In an incident which captured national attention, four young people drowned in August, 2005, while exploring an abandoned mine in Utah known locally as "Gollum's Cave." In September, a snorkeler drowned in a sea cave at Black Rock on Kaanapali Beach in Hawaii.

Equipment Problem

This catch-all category includes rigging failures, slipping ascenders, light failure, rope failure, and misuse or lack of equipment. There were no reported incidents of this type for 2004 or 2005.

Flooding

The only flooding incident reported for 2004 or 2005 was the multi-day entrapment of a group of British cavers in Cueva De Alpazat, Mexico, in March of 2004. In that incident, the cavers were aware of the possibility of a lengthy entrapment and had prepared by stocking an underground camp. Unfortunately, the flooding lasted far longer than expected as a series of storms moved through the area. The cavers were eventually evacuated by divers, who escorted them through the sumped passage one at a time.

The lesson taught by flood entrapments is simple: pay attention to the weather conditions. Check the forecast for the caving area, and be alert for the possibility of flooding. If the cave is known to flood and you don't have a clear forecast, go somewhere else. It's just not worth the risk of entrapment, rescue, media attention, closed caves, injury, or death. For more on the dangers of water caves, see George Dasher's editorial in the June, 2003, *ACA*.

Hypothermia

Hypothermia is usually a secondary result in the reported incidents, occurring subsequent to cavers becoming injured, stranded, or trapped in a cave. There were several incidents involving lost or stranded cavers in which some of those rescued required treatment for hypothermia. Remember: hypothermia can kill you all by itself, but it also impairs your thinking and judgment, making potentially deadly mistakes more likely.

Hypothermia was a complicating factor in several reported incidents involving cavers stuck in crevices or trapped by rockfall. In February, 2004, a 14-year-old caver was rescued and treated for hypothermia after being stuck for two hours in a crevice in Sweet Potato Cave, Kentucky. In March 2004, a caver stuck in a crevice in Cave of the Farside, Colorado, became seriously ill due to hypothermia and dehydration during his 16-hour entrapment.

In October, 2005, a caver was hospitalized and treated for hypothermia and exhaustion after a trip through Wyoming's Fossil Mountain Ice Cave. She lost her boots after removing them to wade through a pool, and was forced to complete the cave trip wearing sandals. The trip was prolonged when the cavers had difficulty finding the route through to the lower entrance, and the caver became hypothermic. She also suffered cold injuries to her feet when she had to hike through snow to get back to the vehicles after the group finally found the way out of the cave.

Illness

There were no reported incidents of histoplasmosis infections due to caving in 2004 or 2005. Two incidents in 2004 involved people who suffered heart attacks while in a cave. In January, a man died from a heart attack during a guided youth group trip in Cumberland Caverns, Tennessee. In April, a woman was evacuated from a tour in Oregon Caves National Monument after suffering an apparent heart attack.

In 2005, a woman was rescued from Island Ford Cave, Virginia, after she became unable to exit due to a flare-up of

symptoms from multiple sclerosis. In July, a man was rescued from Alexander Cave, Arkansas, after suffering a heart attack in the cave.

Lost

Most of these incidents involve untrained and ill-equipped cavers with little experience. Many escalate to the "stranded" category when the batteries run out or flashlights get broken. When found, lost cavers often require treatment for hypothermia, sometimes including hospitalization.

A group of young people spent several days lost and stranded in a lava tube cave at Cerro Estrella, Mexico, before being found by searchers. They entered the cave with a few candles and flashlights, and had not told anyone of their plans. They were rescued after their families reported them missing and their car was located near the cave. A similar ordeal was narrowly avoided by an Arizona man and his son after they became lost in Peppersauce Cave in June. They had not told anyone of their caving plans before entering the cave, and were lost for 24 hours before finding the way out.

In May, 2004, two young cavers were rescued from Catacombs Cave, California, after they left their group and took a wrong turn, accidentally heading deeper into the cave. Upon reaching the cave entrance, the group leader noticed their absence. After a lengthy search, the kids were found in the terminal room of the cave.

Only one incident involving lost cavers was reported for 2005. In December, two cavers exploring Pettijohns Cave, Georgia, were surprised when they came upon two other cavers who had been lost and stranded in the cave since the previous day. The lost cavers had not told anyone that they were going to the cave, and had been looking for the way out for about 24 hours. They were escorted to the surface.

Rockfall

As always, rockfall incidents accounted for several serious accidents and incidents during the reporting period, resulting in injuries and rescues as well as several cases of entrapment. The most notable rockfall incidents were those in which cavers were pinned or trapped in caves. Examples include the October, 2004, incident at Narrows Cave, Colorado, in which a caver was pinned for several hours when a large slab fell on to his head and arm.

Stuck

Getting stuck is not usually much of a problem for experienced cavers. Most of us have been stuck in a tight passage at some point, and have learned that a calm head and careful movement can usually remedy the situation. Sometimes, however, extracting a stuck caver from a tight passage or crevice can be extremely difficult. Incidents reported in this issue include two at Nutty Putty Cave, Utah, and three at Devils Den, Arkansas, which illustrate the serious nature of crack and crevice rescues. Even experienced cavers may sometimes get badly stuck, as demonstrated by the March 2004 incident at Cave of the Farside in Colorado.

Trapped/Stranded

This category is used to describe incidents in which the caver or cavers were prevented from exiting the cave by rockfall, light failure, lack of equipment, equipment failure, or other causes. In many of the reported incidents, "spelunkers" became stranded due to inexperience, inadequate equipment and/or poor judgment. Examples include the cavers who were stranded in a lava cave at Cerro Estrella in Mexico for several days due to inadequate lights, as well as well as a group stranded in Colorado's Bell Cavern in May, 2004. Tennessee's Ten Mile Pit has been the scene of several incidents similar to the August 2005 incident reported in this issue. Two boys climbed down into the pit entrance without proper vertical gear, and only one was able to climb back out.

Exhaustion

Several incidents have occurred in recent years involving cavers who became exhausted while climbing, either on rope or on cable ladders. This type of incident is potentially fatal due to the rapid onset of harness-induced pathology (also known as "harness-hang syndrome" or "suspension trauma"). Studies have shown that an immobile caver hanging on rope can lose consciousness in a matter of minutes, with death occurring soon after.

A number of articles on the subject are now available on the Internet and can be found with any search engine. A 2002 report prepared by Paul Seddon for the British Health and Safety Executive provides the most comprehensive review of research and literature on the subject published to date.[2] Additional reports and information may be found on the Internet by searching for the terms "suspension trauma," "harness-hang syndrome," and "harness pathology."

A serious incident of this type occurred in May, 2005, at Raulston Pit, Tennessee. One caver became exhausted and stranded on rope when he was unable to resolve a problem with his climbing system and did not know how to perform a changeover to get off rope. A companion got on rope and climbed up to help, but also became stranded. Both cavers were suspended on rope for several hours before rescuers could come to the cave and pull them out of the pit. One caver suffered serious injury from suspension trauma, and was hospitalized for several days for treatment.

Difficulty on Rope or Ladder

This category includes cavers who become stranded on rope and require assistance, or who experience significant difficulties and require assistance to complete their ascent or descent. The Raulston Pit incident mentioned above was the only reported incident of this type for 2004 or 2005.

Cavers involved in these incidents are often relatively inexperienced and sometimes unfamiliar with their gear. Others may be experienced cavers who are simply out of practice or out of shape. Some incidents occur when cavers are unable to deal with situations such as crossing the lip of a pit with weight on the rope below, crossing an undercut or overhanging lip, changing from rappel to ascent and vice versa, or climbing a cable ladder.

Competent cavers must master their systems and know how their equipment works. With practice, skilled cavers can perform a change-over in less than 60 seconds. Spend some time practicing; it could save your life.

Other

This catch-all category includes sinkhole collapse, cuts by sharp rocks, dislocated shoulders, twisted ankles and other joint injuries, animal attacks, and other incidents not covered above, including drug labs, explosives, or bodies found in caves. (*Continued on page 8.)*

[2] http://www.hse.gov.uk/research/crr_pdf/2002/crr02451.pdf

Previously Unreported Incidents

Date	Cave	Location	Result	Incident Type
March 10, 2001	Devils Den Cave	Arkansas	aid, no injury	stuck
August 14, 2001	Lick Creek Cave	Montana	injury and aid	caver fall
April 25, 2002	Colander Cave	Alaska	injury, no aid	rockfall

2004 Reported Caving Accidents and Incidents

23 caving incidents reported

Date	Cave	Location	Result	Incident Type
January 24	Cumberland Caverns	Tennessee	fatality	illness, heart attack in cave
February 27	Sweet Potato Cave	Kentucky	aid, no injury	stuck, hypothermia
March 17	Cueva de Alpazat	Puebla, Mexico	aid, no injury	flood entrapment
March 20	Cave of the Farside	Colorado	aid, no injury	stuck, hypothermia, dehydration
March 23	Beware Cave	Utah	fatality	drowning
April 3	lava cave at Cerro Estrella	Mexico DF	aid, no injury	lost, stranded, inadequate equipment
April 8	New River Cave	Virginia	injury and aid	caver fall
April 10	Oregon Caves	Oregon	aid, no injury	illness, fainted in cave, heart problems
April 18	Lost Fossil Cave	New Mexico	aid, no injury	rockfall entrapment
April 24	unspecified cave near Spokane	Washington	injury and aid	caver fall, lost control on rappel
May 2	Fort Stanton Cave	New Mexico	injury and aid	caver fall
May 14	Bell Cavern	Colorado	aid, no injury	lost, stranded, inadequate equipment
May 27	Catacombs Cave	California	aid, no injury	lost
June 17	Smiths Crack	Idaho	aid, no injury	stuck
June 25	Peppersauce Cave	Arizona	no consequence	lost
July 5	Ape Cave	Washington	injury and aid	caver fall
July 28	Long Cold Cave	Nevada	injury and aid	rockfall entrapment
August 18	Devils Den Cave	Arkansas	aid, no injury	stuck
August 20	Nutty Putty Cave	Utah	aid, no injury	stuck
September 4	Nutty Putty Cave	Utah	aid, no injury	stuck
October 9	Narrows Cave	Colorado	injury and aid	rockfall entrapment
October 9	Waterworks Cave	Tennessee	injury and aid	dislocated shoulder in cave
December 1	Devils Punchbowl	Guam	fatality	fell into pit entrance

2004 Reported Cave Diving Accidents and Incidents

7 incidents reported

Date	Cave	Location	Result	Incident Type
January 25	Forty Fathom Grotto	Florida	injury and aid	lost consciousness
March 16	Cenote Dos Ojos	Yucatan, Mexico	fatality	lost consciousness, contaminated gas
March 16	Nohoch Nah Chich	Yucatan, Mexico	fatality	lost consciousness, contaminated gas
April 8	Cueva Oztoquito	Puebla, Mexico	fatality	cause unknown
June 12	Eagles Nest	Florida	two fatalities	siltation, lost guideline, out of air
August 21	Devils Ear	Florida	fatality	no guideline, out of air
December 9	Sac Actun	Yucatan, Mexico	two fatalities	lost, out of air

2005 Reported Caving Accidents and Incidents

26 caving incidents reported

Date	Cave	Location	Result	Incident Type
January 15	Surprise Cave	New York	injury and aid	caver fall
February 19	Breathing Cave	Virginia	injury and aid	caver fall
February 19	Sharps Cave	West Virginia	injury, no aid	caver fall
March 5	Devils Den Cave	Arkansas	aid, no injury	stuck
April 9	Devils Den Cave	Arkansas	aid, no injury	stuck
April 23	Copperhead Cave	Arkansas	injury and aid	caver fall
May 14	Raulston Pit	Tennessee	injury and aid	stranded on rope, suspension trauma
May 29	Island Ford Cave	Virginia	aid, no injury	illness, stranded
June 8	Lechuguilla Cave	New Mexico	injury, no aid	caver fall
June 11	Hellhole	West Virginia	injury, no aid	rockfall
June 29	Talucah Cave	Alabama	injury and aid	rockfall
July 5	Meeks Triple Well	Alabama	injury, no aid	caver fall, lost control on rappel
July 21	Greenville Saltpeter Cave	West Virginia	injury and aid	caver fall
July 23	Big Manhole Cave	New Mexico	injury, no aid	rockfall
July 28	Alexander Cave	Arkansas	injury and aid	illness, heart attack in cave
August 2	Island Ford Cave	Virginia	aid, no injury	caver fall, stuck
August 2	Ten Mile Pit	Tennessee	aid, no injury	stranded, inadequate equipment
August 13	Spanish Cave	Colorado	injury and aid	injured knee while climbing chimney
August 20	Ellisons Cave	Georgia	injury, no aid	rockfall
September 24	Empire Mine Cave	New Mexico	aid, no injury	rockfall entrapment
October 1	Green Valley Cave	Alabama	injury, no aid	caver fall
October 2	Lost Creek Cave	Tennessee	injury, no aid	rockfall
October 7	Flowing Stone Cave	Georgia	aid, no injury	rockfall entrapment
October 29	Fossil Mountain Ice Cave	Wyoming	injury, no aid	lost, hypothermia
November 5	Carroll Cave	Missouri	injury, no aid	caver fall
December 4	Pettijohns Cave	Georgia	aid, no injury	lost

2005 Reported Cave Diving Accidents and Incidents

4 incidents reported

Date	Cave	Location	Result	Incident Type
January 4	Peacock Springs III	Florida	fatality	diving beyond training, lost, out of air
May 12	Devils Eye	Florida	no consequence	equipment problem
August 19	Dogwood Spring	Florida	fatality	free diving in cave
September 11	Eagles Nest	Florida	injury and aid	incorrect gas mixture, out of air, rapid decompression

(*Continued from page 6.)*

Cave Diving Incidents

In 2004, there were seven reported cave diving incidents. Three occurred in Florida, and the rest occurred in Mexico. Two of the incidents resulted in double fatalities, five resulted in single fatalities, and one resulted in the rescue of a cavern diver who lost consciousness under water. Factors contributing to these incidents included contaminated or improper breathing gas, lack of a guideline, and a route-finding error that led to an out-of-air situation.

Four cave diving incidents were reported in 2005. All took place in Florida, with fatalities occurring during dives at Peacock Springs III and Dogwood Spring. A diver was seriously injured at Eagles Nest sink when she passed out underwater due to an incorrect gas mixture and was brought to the surface without undergoing decompression. Factors contributing to these incidents included diving beyond training, following the wrong guideline, free-diving in a cave entrance, and improper gas mixture. One report involved a diver who successfully exited despite a leaking air tank.

2004 Reported Caving-related Accidents and Incidents

19 incidents reported

Date	Cave	Location	Result	Incident Type
January 10	unnamed cave at La Joya	San Luis Potosí, Mexico	injury and aid	fall outside cave entrance
January 18	unnamed pit near Rancho del Cielo	Tamaulipas, Mexico	fatality	fall into roadside pit
January 18	unnamed sinkhole near Apopka	Florida	injury and aid	woman swallowed by sinkhole
February 23	unspecified Warren County cave	Kentucky	no consequence	drug lab found in cave
March 22	Wabasha Street Caves	Minnesota	no consequence	explosives found in old tunnels
March 26	unnamed sea cave on Oahu	Hawaii	fatality	cause unknown
April 15	Sotano de La Garza	Puebla, Mexico	fatality	suicide in pit
April 26	unspecified cave near Oden Ridge	Alabama	no consequence	lost, overdue
April 27	unnamed sea cave on Highway 1	California	no consequence	car washed into sea cave after accident
April 27	Wabasha Street Caves	Minnesota	three fatalities	asphyxiated by carbon monoxide in tunnel
May 13	sea cave at Panther Beach	California	aid, no injury	stranded in sea cave by rising tide
June 21	unspecified cave on Lewis Peak	Utah	aid, no injury	stranded in cave entrance on cliff
June 28	McFails Cave	New York	no consequence	dog stranded in cave
July 3	Climax Cave	Georgia	injury, no aid	attacked by wasps at cave entrance
July 11	Sotano de Xoconostle	San Luis Potosí, Mexico	fatality	fell into pit beside trail, intoxication
August 4	unspecified lava tube, Kiholo Bay	Hawaii	fatality	drowned while free diving in lava tube
August 23	Matacanes Canyon	Nuevo Leon, Mexico	injury and aid	fall, broken ankle on caving and canyoneering trip
October 31	unnamed cave near Jochib	Chiapas, Mexico	two fatalities	children stranded in cave, apparently drowned
December 14	unnamed cave near Scottsville	Kentucky	no consequence	dog stranded in cave

2005 Reported Caving-related Accidents and Incidents

11 incidents reported

Date	Cave	Location	Result	Incident Type
February 2	Waterman Mountain Bat Cave	Arizona	injury, no aid	killer bee attack at cave entrance
April 14	abandoned limestone mine	Kansas	no consequence	lost, inadequate equipment
May 18	Stephens Gap Cave	Alabama	injury and aid	caver fall outside cave
May 29	abandoned quarry near Rutland	Vermont	fatality	drowned while diving in quarry
August 18	Sotano de la Cochera	San Luis Potosí	fatality	fell into pit beside trail
August 18	Gollums Gave	Utah	four fatalities	drowned in abandoned mine
September 18	sea cave at Black Rock, Kaanapali	Hawaii	fatality	drowned while snorkeling
October 17	unspecified cave at Peak's Corner	Alabama	no consequence	meth lab found in cave
October 21	unnamed lava tube on Kilauela	Hawaii	injury and aid	fell into lava tube entrance
November 14	Panther Cave	Tennessee	aid, no injury	dog stranded in pit
December 14	Cato Cave	Tennessee	no consequence	marijuana farm found in cave

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Previously Unreported Incidents

10 March 2001
Devils Den Cave, Arkansas
stuck in crevice

Kenny Nelson (14) was exploring Devils Den on a Saturday outing with a church group. At about 11:30 a.m., while exploring in an area known as Satans Maze, Nelson slipped and became wedged in a 12-inch-wide, 15-foot-deep crevice. He was lying on his side, and could not move in any direction. When they were unable to get Nelson out of the crack, members of the group left the cave to get help.

Park rangers responded, and called in local cave rescue team members to assist. Nelson's horizontal position made it difficult for the rescuers as they attempted to get ropes around him and lift him. They struggled for several hours, but made little progress in extricating Nelson from the crevice.

Changing tactics, the rescuers decided to apply grease to see if that would help Nelson move sideways in the crack. With encouragement, Nelson was eventually able to slide forward, inching his way out of the crevice. Once free, he was able to walk out on his own, exiting at about 6:00 p.m. He was stuck in the crevice for about five hours.

1. *Steven Bonds, "Rescue squad saves teen trapped at Devil's Den,"* Northwest Arkansas Times, *11 March 2001.*
2. *Steven Bonds, "Rescue squads save stuck teen spelunker,"* Arkansas Democrat-Gazette, *11 March 2001.*

Comments: Park officials noted that a similar incident had occurred in the same area about 13 years earlier. Crack and crevice problems are among the most difficult in cave rescue. Many useful techniques have been developed and are taught by the National Cave Rescue Commission.

14 August 2001
Lick Creek Cave, Montana
caver fall, inadequate equipment

Jennifer Rocheleau (19), Chris Castle (19), Vanessa Rocheleau (17), Andrew Castle (17), and Derek Lute (17) entered the main entrance of Lick Creek Cave and soon arrived at the top of a 15-foot climb-down. The drop was rigged with a knotted rope, which Chris Castle descended hand-over-hand. Jennifer Rocheleau followed. As she lowered herself down the rope, her sweatshirt became snagged on one of the knots. Rocheleau struggled to free herself, but lost her grip and fell about ten feet to the breakdown below.

Castle rushed to her aid while the other three cavers found an alternate route to the bottom. Lute, who had trained as a medical specialist with the National Guard, assessed Rocheleau's condition. She was conscious, felt severe pain in her back and pelvis, could feel and move her arms and legs, but was unable to stand or walk.

After some discussion, the cavers decided that it would be safe to move Rocheleau and that they should get her out of the cave and to a hospital. Chris Castle crawled toward the entrance, carrying Rocheleau on his back until the passage was large enough for the others to help. Rocheleau's companions then took turns carrying her out of the cave and to their vehicle. They drove her to a hospital, where she was found to have several fractured vertebrae and a fractured pelvis. In a six-hour operation, five of her vertebrae were fused and her pelvic fracture was repaired. She was reported to be in good condition following the surgery.

1. *Steve Allum, Incident report, 1 August 2004.*
2. *Jennifer Perez, "Friends rescue teen after fall in cave,"* Great Falls Tribune*, 22 August 2001.*

Comments: Handlines and knotted ropes such as this one provide a false sense of security. They may seem simple and safe, but small diameter ropes and webbing are difficult to grip. Many cavers lack the strength necessary to hang on and prevent a fall if their feet slip. The cavers might have avoided the accident by using a belay, or by searching for an alternate route down before committing to the exposed climb.

The decision to move a person who has fallen and has a back injury is a very serious one, involving the risk of spinal cord damage that may result in paralysis or death. If you are not trained in evaluating potential spinal injuries and in moving a person who may have one, and there are no immediate threats that require you to move the person out of danger, it is usually best to keep the person still, take steps to prevent hypothermia, and send for help.

Cave and mountain rescue teams almost always have spinal stabilization equipment including cervical collars, spine splints, and backboards, as well as personnel trained in their use. These devices, when used by trained personnel, can greatly reduce the risk of additional injury during the rescue.

Allum reports that the cave is very popular with "flashlight cavers" lacking proper equipment. The climb-down is a short distance inside the main entrance and can be avoided by using a smaller entrance a few feet from the main one.

25 April 2002
Colander Cave, Alaska
rockfall injury

Kevin Allred, Jean Krejca, and Terry Brown went to Colander Cave on a survey trip during the 2002 Coronation Island Expedition. They moved a boulder that was blocking a drafty side passage, and began to survey. The passage continued as a chimney leading upward. Brown climbed to the top and Allred followed. As he climbed the chimney, a flake of rock that Allred was using as a handhold came loose. Allred quickly moved his hand to another hold, but the flake fell on his little finger severely cutting the tip and exposing the bone.

Allred cleaned the wound as much as he could and headed out of the cave and back to camp, where Krejca used the expedition medical kit to sew up the nearly-severed fingertip. Allred took a few days off from caving to allow the finger to begin healing, and after that wore a glove to protect it.

Kevin Allred, "Coronation Island Expedition 2002 Log," The Alaskan Caver, *v24n3, July 2004.*

Comments: Fortunately for Allred, the expedition was equipped with a good medical kit, and one of the members had experience in suturing wounds.

2004 Caving Accident and Incident Reports

24 January
Cumberland Caverns, Tennessee
fatality, heart attack in cave

During an overnight camping trip in Cumberland Caverns, members of a scout group were about three-quarters of the way through the customary wild tour loop in the cave when one of the adult leaders, Bill Domin (47), began experiencing chest pain and collapsed. Another scout leader and a Cumberland Caverns guide began administering CPR while other members of the group left to get help. When paramedics arrived, they used an automatic external defibrillator (AED) but were not able to revive Domin. He was pronounced dead at the scene. Cave rescuers and caverns staff members carried his body from the cave.

1. *Buddy Lane, Incident report, 25 January 2004.*
2. *Kris Beckwith, Incident Report, 29 September 2006.*

Comments: It was later determined that Domin had suffered a massive heart attack. Cumberland Caverns guides are trained in first aid and CPR, and some have completed NCRC training as well.

27 February
Sweet Potato Cave, Kentucky
stuck, hypothermia

Jesse Gott (14) was exploring Sweet Potato Cave with his scout troop when he slipped and became wedged "up to his chest" in a crevice about 200 feet from the cave entrance. According to Andrew Duncan, one of the scout leaders, "He just went into this tight spot and got stuck. We tried to get him out, but he was just squeezed." Duncan and four other scouts stayed with Gott while others went to summon assistance.

Firefighters and rescue squad members worked to enlarge the constriction and were able to free Gott from the crack at about 3:00 p.m. He had been stuck for about two hours. Gott was taken to a local hospital where he was treated for mild hypothermia and released.

Associated Press, "Boy Scout rescued after being trapped in cave," Louisville Courier-Journal, *29 February 2004.*

Comments: Youth group leaders who plan to take their young people caving should consider obtaining NCRC training in addition to first aid and CPR. BSA guidelines for caving, along with other information for youth group leaders, is available on the NSS web site at http://www.caves.org/youth.

17 March
Cueva de Alpazat, Puebla, Mexico
flood entrapment, international incident

Six members of a British caving expedition were trapped for eight days in Cueva de Alpazat when heavy rains flooded a 100-meter section of the cave 500 meters inside the entrance, preventing their exit. Jonathan Sims, Charles Milton, Simon Cornhill, Chris Mitchell, John Roe, and Toby Hamnett were members of the Combined Services Caving Association (CSCA), a caving club for current and former members of the British armed services. They had entered the cave system on March 15 during a 4-week, club-sponsored expedition known as Cuetzalan Tiger 2004. The group had been systematically exploring and surveying the cave for several years in cooperation with Mexican and other international caving groups, using underground camps to support survey trips deep into the extensive system.

The expedition members were well aware that the entrance section of the cave is prone to flooding, sometimes taking as much as a week to re-open after heavy rainfall. Taking this into consideration, they had established Camp 1 in a dry passage about one kilometer into the cave and stocked it with enough food and supplies to allow a group to comfortably wait out any flood entrapment. The flood-prone section was also pre-rigged with a guideline to facilitate entry and evacuation by cave divers if necessary. Communications to the surface were provided using a low-frequency cave radio system.

On the evening of March 17, a group of three cavers entered the cave, planning to relieve the six cavers already in the cave and continue the survey. About 500 meters into the cave, they discovered that the route was flooded and impassable. The cavers returned to the surface and reported the problem to the expedition leaders, who contacted the in-cave party at Camp 1 by radio to discuss the situation. The only viable course was to wait for the water level to drop, but there was little concern since the trapped cavers were comfortable and well-prepared.

Over the next few days the water level began to drop, as expected, but the weekend brought more rain. For several days, storms continued to move through the area, and the exit passages remained flooded. Mexican authorities and rescue groups offered support and assistance, including divers. The available divers were not trained in cave diving, however, and it was ultimately decided that the conditions were too dangerous for divers lacking specialized training and equipment. Expedition members called home to contact the British Cave Rescue Organization and request assistance. Two British cave divers who were familiar with the system flew to Mexico with their equipment on March 23. Upon arrival, they began preparing to take in supplies or to bring the trapped cavers out through the sump if the flooding did not abate.

Word of the cavers' predicament spread, and reporters gathered to cover the story. With little activity to report, the media accounts soon turned to rumor and speculation. Press reports stated erroneously that the cavers had refused help from Mexican divers and rescuers, and had insisted on waiting for British divers. Reporters and readers did not understand the need for special training and equipment, or that the trapped cavers were in no real danger, and viewed the expedition with suspicion and resentment. Descriptions of the British cavers as soldiers engaged in a military training exercise fueled public outrage and drew government attention to the expedition.

Further concerns were raised when the expedition's equipment for radon gas testing was mentioned, and media reports suggested that the cavers might be secretly prospecting for uranium. As the days passed, speculation and rumor

spiraled out of control, driven by national pride, inaccurate reporting, and ill-founded statements by British and Mexican officials. The incident came to a head when the president of Mexico lodged a formal diplomatic protest and demanded an explanation from the British government. Unaware of the diplomatic storm raging outside, the trapped cavers passed the time playing cards, checking the water level, and sleeping.

The water in the sumped passage remained high, and the inclement weather continued. Finally, on March 25, British cave divers Rick Stanton and Jason Mallinson were able to traverse approximately 100 meters of flooded passage and reach the trapped cavers at Camp 1. They were found to be in good condition, as expected, but were anxious to leave the cave. Over the next nine hours, the two divers escorted each of the six trapped cavers through the flooded section. Once through the sump, the cavers were able to exit without assistance.

They emerged into a circus of international media attention, public indignation, and diplomatic sparring, and were escorted to a military hospital in Puebla for examination. None of the cavers reported any ill effects, other than boredom, from their stay underground.

1. *Catherine Bremer, "Britons trapped in Mexican caves," Reuters, 24 March 2004.*
2. *"British cavers rescued in Mexico,"* BBC News World Edition, *news.bbc.co.uk, 26 March 2004.*
3. *"Mexico expels British explorers," CNN.com, 29 March 2004.*
4. *"Protesta Fox por la presencia de militares británicos en Puebla," Milenio.com, 24 March 2004.*
5. *"Expelled cavers return home to UK,"* BBC News World Edition, *news.bbc.co.uk, 30 March 2004.*
6. *"Cuetzalan Tiger 2004,"* UK Caving Forum, *www.ukcaving.com, 24 March 2004.*
7. *"Cuetzalan Expedition,"* CSCA Bulletin Board, *www.cs-caving-association.com, 26 March 2004.*

Comments: The entrapment and rescue developed into an international incident when miscommunications, rumors, and inaccurate media reports sparked official and public indignation in Mexico. Most of the cavers were current or former members of the British armed services, and their expedition was described as a military training exercise. Apparently, this description had been used at home to help justify the trip as something more than just a holiday for the cavers. Unfortunately, statements by the expedition leaders and by British officials fed Mexican perceptions of foreign soldiers conducting a clandestine military operation in Mexico.

Immediately after the successful completion of the rescue, all 13 members of the expedition were arrested and detained by Mexican authorities on suspicion of immigration and other violations. They were held in Mexico City for three days while an investigation was conducted. In the end, the cavers were charged with failure to reveal the "scientific" nature of their trip and failure to obtain special visas required for scientific research and exploration, and were expelled from Mexico.

20 March
Cave of the Farside, Colorado
stuck, hypothermia, dehydration

Rob Gillespie (38) and two companions entered Cave of the Farside on a Saturday evening to continue work on a digging project. The cave is near Glenwood Caverns, a well-known commercial cave, and the cavers hoped to make a connection to the larger system. They descended about 80 feet into the cave entrance using a home-made ladder installed earlier, and then traveled through about 200 feet of breakdown passage to a 20-foot handline climb up to the dig site.

Shortly before midnight, Gillespie squeezed into a body-sized fissure near the face of the dig to get to the work area. As he did so, he slipped down into the crack and became wedged. He could not move forward, and a rock pressing against his knee prevented him from backing up. His left arm was wedged underneath him at an awkward angle, and he could not lift himself enough to move in either direction. He was stuck, lying slightly head-down in the sloping fissure.

Gillespie's companions attempted to help, but the opening of the passage was very narrow and would only allow one person to reach his feet. For several hours the two cavers tried everything they could think of to help Gillespie, but could not free him from the crack. Finally, at about 7:30 a.m. Sunday morning, one of the cavers left to get help and contacted Tim Ray, a caver who had just arrived for work at Glenwood Caverns. Ray called Glenwood Caverns owner Steve Beckley, who notified the local fire department and the Colorado Cave Rescue Network while Ray gathered some tools and headed to the cave.

As the call for help went out and rescuers made their way to the site, Ray and the other cavers tried in vain to extract Gillespie. As more help arrived, they yielded to fresh rescuers, who used drills, wedges, and other rock-breaking equipment to try to enlarge the fissure and remove obstructions. Despite these efforts, Gillespie could wiggle around but still could not move forward or backward. By mid-afternoon Gillespie was exhausted and hypothermic. He had also become nauseous, and had vomited. His condition continued to deteriorate, and he was becoming unresponsive.

At about 4:10 p.m., Daniel Laos, who was the only person small enough to squeeze into the fissure, was finally able to reach Gillespie and help him just enough to allow him to slide back out of the crevice. Rescuers gave Gillespie some food and drink and allowed him to rest for about 30 minutes, massaging his arm to restore feeling. Eventually, Gillespie was able to make his way out of the cave largely under his own power, stopping a couple of times to rest and drink more fluids. He exited the cave at about 5:30 p.m. after a 16-hour entrapment. He was exhausted and dehydrated, but uninjured by the ordeal.

1. *Steve Reames, Incident report, 26 March 2004.*
2. *Phil Kriz, Press release, 25 March 2004.*
3. *Richard Rhinehart, "Durango Caver Rescued After 18-Hour Underground Ordeal,"* Rocky Mountain Caving, *v21n1, Winter 2004, pp. 8-9.*
4. *Tim Ray, "The Rob Gillespie Rescue,"* Rocky Mountain Caving, *v21n1, Winter 2004, pp. 8-9.*

5. *Greg Masse, "Caver rescued from tight spot,"* Glenwood Springs Post Independent, *25 March 2004.*
6. *Owen S. Good, "Caver is freed from tight spot,"* Rocky Mountain News, *25 March 2004.*
7. *Wayne Harrison, "Colorado Cave Stuck 18 Hours In Passageway," TheDenverChannel.com, 24 March 2004.*

Comments: Crack and crevice entrapments are among the most serious and difficult cave rescue problems. Constant contact with cold rock, combined with the inability to move or take food and water, can cause life-threatening hypothermia and dehydration. Extended entrapments have resulted in a number of deaths – the most notable being that of Floyd Collins. No one wants to call out a rescue needlessly, but cavers should remember that the clock is working against a trapped caver. The critical resource for many stuck cavers is a small, experienced, and aggressive caver.

23 March
Beware Cave, Utah
fatality, drowning

Jesus Chauarria Manriquez (34) was on an outing with family and friends at Crystal Ball Cave, a commercial cave near Gandy. Another nearby cave, known to cavers as Beware Cave, is the source of a spring that forms a popular swimming spot called Warm Creek Springs. While swimming in the spring pool, Manriquez decided to have a look inside the cave.

After a brief solo entry, Manriquez came out and encouraged friends to join him in exploring the passage. Inside the cave, they "collected some rocks," and the other members of the group carried them out while Manriquez remained to "collect" more. When Manriquez failed to return to the surface, family members alerted the cave managers and asked for help.

Rescuers entered the cave and soon found Manriquez' body. He had drowned, and his body had become wedged in the passage by the force of the water.

1. *Peter Ruplinger, Incident report, 27 January 2006.*
2. *"Man Drowns in Underground Cave,"* Salt Lake Tribune, *24 March 2004.*

Comments: Ruplinger reports that the cave is about forty feet long and that there is adequate breathing space above three to four feet of water for most of its length. About ten feet into the cave, the passage is partially blocked by a veil of stalactites that can only be passed by submerging.

3 April
lava cave at Cerro Estrella, Mexico DF
lost, stranded, inadequate equipment

Juan Manuel Gomez Urrutia (20), Roberto Carlos Mendosa Gomez (24), Maria de los Angeles Huesca (22), and Erika Sierra Lopez (20) were rescued from a lava tube cave at Cerro Estrella near Iztapalapa on Wednesday, April 7, after being stranded underground for more than three days. The young people had entered the cave around midnight on Saturday equipped with only one light, some candles and matches, and some fruit juice and water. Shortly after entering the cave they became lost and could not find their way out. When their light failed and the candles were expended, they were stranded. They spent the next three days in darkness.

When they did not return home by Monday, friends and relatives became concerned and reported them missing. The cavers had not told anyone where they were going, and it was not until Tuesday evening that their vehicle was discovered parked near Cerro Estrella, an extinct volcano cone with a number of lava caves. Authorities and volunteers began searching the area and caves. Sixteen hours later the stranded cavers were discovered about 300 meters inside one of the caves and were brought to the surface. All were suffering from dehydration and hypothermia. They were taken to area hospitals for treatment.

1. *"Rescatan a extraviados en cuevas de Iztapalapa," EsMas.com, 7 April 2004.*
2. *"After Brits, lost Mexicans spend four days in cave," Reuters, 8 April 2004.*

Comments: Always tell someone where you are going and when you'll be back. Every caver should carry at least three independent light sources, each sufficient to last the duration of the trip. At least one light, and preferably all, should be capable of being helmet-mounted to leave the caver's hands free. Candles are not an appropriate light source for caving.

8 April
New River Cave, Virginia
caver fall, broken leg

Cheryl Jones (51), Jerry Redder (51), Scott Jones (15), and Tyler Jones (15) had spent several hours exploring New River Cave and had just started for the entrance when they came to a breakdown pile beside the stream passage near the back of the cave. Tyler and Scott climbed up and over a large block, rather than duck underneath. As Tyler crossed over the top, he lost his footing and slipped, sliding about eight feet down the face of the block. During the fall, he struck his shin against a rock edge, causing a severe contusion and a transverse fracture of his tibia.

The other cavers went to Tyler's aid. They examined his leg and found that there was no bleeding or obvious displacement of the bone. Tyler could not stand to put weight on it, and the cavers could not be sure whether or not it had been fractured. The cavers treated Tyler for shock, keeping him warm while they wrapped his lower leg in gauze and fashioned a splint using a hard plastic knee pad and a foam knee and shin pad. Tyler took some Ibuprofen to help reduce the pain and swelling.

The initial plan was to help Tyler move to a drier and more comfortable area away from the stream. Once the cavers started moving, however, Tyler found that he could make slow but reasonable progress on three limbs with support and assistance from the other cavers. Crawling and hobbling, he continued toward the entrance. The cavers reasoned that as long as Tyler was in good condition and moving toward the entrance, this made more sense than keeping him immobile and sending for help. They decided to continue, obstacle by obstacle, and stop if it became necessary. In that event, Tyler would at least be that much closer to the surface when rescuers arrived.

Fortunately, the cave passages become larger and easier along the way, and the pain and stiffness in Tyler's leg abated, so they were able to keep moving. The trip out took about seven hours of careful, unhurried caving, including several stops for food and rest. The party reached the surface about 15 minutes before the "call-out" time that they had left with fellow cavers, and phoned to tell them what had happened and that they were out of the cave. They reported the incident to the cave owner and drove Tyler to a hospital for treatment.

Cheryl Jones, Incident report, 13 April 2004.

Comments: Tyler was wearing good-quality, lug-soled hiking boots and had been on several previous caving trips. Accidents like this can happen to any of us in any cave. The cavers were well prepared, with first aid supplies and training, as well as appropriate clothing and equipment.

The decision to self-rescue was carefully considered and was reasonable, given the nature of the injury, the fitness level of the injured caver, the nature of the cave, and the location of the accident. Tyler probably reached the surface much sooner than he would have if he had stayed put and waited for rescue. Notification and response time for cave rescue personnel, along with the time it takes to get through the cave and reach the accident site, typically result in several hours of delay before an injured caver even begins to move toward the surface.

10 April
Oregon Caves, Oregon
illness, fainted in cave, heart problems

On the morning of April 10, Ranger Ann Schlichting at the park Visitor Center received a call on the emergency phone from a cave guide, reporting that a woman on a tour had collapsed in the cave near one of the exits. Ranger Schlichting, a First Responder, quickly headed into the cave accompanied by other park personnel. They found a 65-year-old woman with a history of heart problems who had collapsed on the trail. She had regained consciousness prior to their arrival, but was having difficulty breathing. A few minutes later, the woman again lost consciousness. Schlichting administered oxygen and called for paramedics. The woman was placed in a stair-chair and carried out of the cave to the Visitors Center and a waiting helicopter. She was then flown to a hospital for treatment.

Tom Siewert, The Morning Report, *National Park Service, 15 April 2004.*

18 April
Lost Fossil Cave, New Mexico
rockfall entrapment

At about 5:15 p.m. on the evening of April 18, two cavers, Aaron Stockton and Jim Burke, were preparing to explore a newly-discovered cave a few miles from the Dark Canyon lookout tower. As Burke squeezed through the entrance, he dislodged some rocks, starting a slide that ended when three large rocks collapsed into the hole, trapping Burke inside.

Stockton dug and moved rocks until he had excavated a 6-inch by 12-inch opening through which the cavers could communicate. Burke was uninjured, but could not get out. Stockton used tree branches to help stabilize other rocks threatening to slide into the entrance, then hiked out to call for help.

Burke was healthy, uninjured, and in no immediate danger, so for safety reasons cavers and members of a multi-agency search and rescue team were called to help, but instructed not to meet at the lookout tower until first light.

A hasty response team led by Stockton gathered supplies and made a late-night, two-hour hike to the cave and flagged the route. They arrived at the cave around midnight, and used a long stick to push food, water, and a sleeping bag through the small opening to Burke. He reported that he was getting cold, but was otherwise in good condition. After that they settled in to await the arrival of rescue crews in the morning.

Efforts to stabilize the entrance and remove obstacles began early on the morning of the 19th. The rescuers quickly determined that shoring would not be needed. This determination, along with a forecast of wind gusts of up to 50 mph, resulted in the cancellation of a National Guard Blackhawk helicopter that was on standby.

Members of the rescue team removed most of the smaller rocks from the cave entrance by hand, and hauled out two large boulders, each weighing more than 300 pounds. The boulders were moved using bolt anchors, a come-along, and the muscle power of the rescuers. At around noon, the last obstacle was removed from the cave entrance and Burke was able to exit the cave.

Burke, Stockton, and the rescue team made the two-hour hike back to the Dark Canyon lookout tower without incident, and the last of the search and rescue personnel left for home around 4:30 p.m. Approximately 30 rescuers, mostly volunteers, were involved in the effort.

1. *Tom Bemis and Jay Melnick, Incident report, 17 May 2004.*
2. *Aaron Stockton, "Rescue Report: Lost Fossil Cave,"* Southwestern Cavers, *v42n3, May-June 2004, p. 32.*

Comments: This report demonstrates that it is not always necessary or appropriate to call rescuers out into the wilderness in the middle of the night for a cave rescue. The situation was not life-threatening, and there was no need to put people at risk by having them climb out of bed and drive on unimproved roads to the scene in the wee hours.

24 April
unspecified cave near Spokane, Washington
caver fall, lost control on rappel, broken ankle

Kim Allard (20) was descending the entrance pit of a cave near the Wandermere Golf Course in North Spokane when she lost control of her rappel and fell about 20 feet, breaking her ankle. Allard was visiting the cave with a group of students from Whitworth College when the accident occurred.

The cavers had rigged the narrow, 35-foot entrance pit and two other members of the group, Charlie Shepherd (22) and Rob Lange (20), had descended successfully before Allard's fall. When Allard was unable to climb back out, one of the group members on the surface went to a nearby house to call for help.

Rescuers soon arrived and a paramedic rappelled into the pit to assist. All three cavers were hauled up the drop and taken to a hospital for examination and treatment. Shepherd and Lange were uninjured. Allard was treated and released.

1. *"Woman Rescued From Cave," KXLY News Channel 4, www.kxly.com, 26 April 2004.*
2. *Associated Press, "Climbers safe after one falls in deep cave,"* Seattle Times, *27 April 2004.*

Comments: There was no information about the equipment or techniques used by the cavers in this incident. One report said that "her gear failed, and she fell" while the other stated that she "lost control of her climbing rope and fell." In small pits such as this, novice rappellers can often be protected with a quickly-applied bottom belay.

2 May
Fort Stanton Cave, New Mexico
caver fall, broken ribs

Kurt Anderson (62) was participating in a cave rescue training exercise when he slipped and fell while climbing up a steep slope. Anderson was climbing up out of the Bathtub Room when a loose rock shifted under his foot. He stumbled and fell backwards, tumbling about 12 feet before coming to rest. He was conscious, but complained of pain in his chest and had labored breathing. Another caver in the group, a Registered Nurse, assessed his condition. Anderson had no apparent injuries other than soreness in his chest area.

After some rest, Anderson felt that he was all right and could continue the training exercise. He remained in the cave, but was kept under observation and did not participate in any lifting or carrying operations. After the trip, Anderson sought medical attention and learned that he had fractured five ribs in his fall.

Bob Rogers, Incident report, 10 June 2004.

14 May
Bell Cavern, Colorado
lost, stranded, inadequate equipment

Paul Schmidt (48), Timmie Schramm (39), Daniel Warfield (34), Emilio Murphy (18), and Emilio's mother Anne Murphy entered Bell Cavern around 11:00 a.m. on Friday morning, planning to spend a couple of hours exploring. Shortly after entering, Anne Murphy decided to leave the cave and wait on the surface while the others continued. She left without incident.

The other explorers did not fare so well. As they made their way through the cave, they became confused by the many side passages and could not find the way out. When they had not returned by 6:00 p.m., Anne Murphy became concerned and called authorities.

Rescuers soon arrived and began a search of the cave. The missing explorers were located at about 8:30 p.m., and were found to be disoriented but unharmed. Everyone was back on the surface by 9:00 p.m. The cavers were lost for eight hours.

La Plata County Sheriff's spokesman Lt. Dan Bender observed that inexperienced spelunkers should be wary of caves and offered some tips for safe caving, such as carrying three sources of light, including a headlamp, wearing appropriate clothing, including a hard hat, never caving alone, and letting someone know your destination and expected time of return. "Caving can be rewarding," according to Bender, "But if you become lost or injured, we can't send a helicopter to get you out."

1. *Richard Rhinehart, "Explorers Rescued From Colorado's Bell Cavern,"* Rocky Mountain Caving, *v21n2, Spring 2004, pp. 4-5.*
2. *Dale Rodebaugh, "Rescuers save four explorers from abandoned mine,"* The Durango Herald, *16 May 2004.*
3. *Dale Rodebaugh, "Sheriff's Office: Inexperienced spelunkers should be wary of caves,"* The Durango Herald, *16 May 2004.*
4. *Associated Press, "Four Cavers Rescued From Durango Mine," TheDenverChannel.com, 16 May 2004.*

Comments: The cavers were reported to be inexperienced and poorly equipped. Anticipating a two-hour trip, they carried no food and only a single bottle of water.

According to Rhinehart, the cave is located in an abandoned quarry, and is a natural cavern in limestone. Media reports referred to both the quarry and the cave as Weaver Mine. The news stories also mentioned that there have been reports of "bad air" in the cave's lower-level passages.

Rhinehart also notes that the cave was the scene of a more serious rescue on June 19, 1986, when a 17-year-old boy became stuck in a crevice. The boy was ultimately freed after a lengthy rescue operation in which one rescuer was seriously injured in a fall in the cave.

27 May
Catacombs Cave, California
lost

Kyra Young (11) and Timothy "Ky" Ellinwood (11) were exploring caves in Lava Beds National Monument with a group of classmates and adult leaders on a field trip. The cavers were equipped with helmets, flashlights, and warm clothing, and had explored several smaller caves in the Monument without incident earlier in the day before arriving at the entrance to Catacombs Cave around 3:00 p.m. The group entered, not realizing that Catacombs is quite different from the caves they had explored earlier. Catacombs Cave is a braided lava tube, more than a mile long, with multiple levels, junctions, and connecting passages. It is one of the longest and most complex caves in the park.

The cavers traveled about 600 feet through easy, mostly walking passages before arriving at a mazy area with passages leading in all directions. It was about 4:00 p.m., and Young's mother, who was leading the group, announced that it was time to leave.

The group started out, but Young and Ellinwood had spotted a metal ladder in one of the side passages and wanted to see what was at the top. Without telling the others, they climbed up the ladder to the Boxing Glove Room and spent a few minutes looking around before climbing back down to the main passage. The other members of the group had not noticed their absence and were, by that time, too far away to be seen or heard. Young and Ellinwood hurried off down what they

thought was the passage out, expecting to catch up with the group. Unfortunately, they chose the wrong passage and went deeper into the mile-long cave.

When the rest of the group reached the cave entrance, Young's mother realized that Young and Ellinwood were missing. She waited a few minutes, thinking they would emerge. When they did not, she went back into the cave, calling their names. There was no sign of the missing pair. She returned to the surface to check on the other children, then made a second quick trip into the cave. There was still no sign of the missing cavers. Young's mother then called the Visitor Center on her cell phone to report the situation. She was told not to worry – that this was quite common and that there was only one way out of the cave. The staff person advised her to wait at the entrance and to notify the park rangers if the missing kids did not come out by 10:00 p.m.

Young's mother was not satisfied with that, and called Gary Griffith, the teacher in charge of the trip. Griffith was with another group in a different part of the park, but was an experienced outdoorsman and had a map of the cave. Accompanied by three other adult leaders, Griffith entered the cave and searched for about three hours. When this search failed to locate Young and Ellinwood, Griffith altered park rangers and asked for their assistance.

Park Ranger Terry Harris notified the Siskiyou County Sheriff's Office and requested their Search and Rescue Team. The team has a good relationship with local cavers, and leader Dave Nicholson called in local cavers who had trained with the team for just such an emergency. Liz Wolff of the Shasta Area Grotto served as a contact person, calling grotto members and cavers around the region before heading to the cave to join the search.

Cavers and other searchers gathered at the park Visitor Center throughout the night and early morning. Using maps of the cave, rescuers formulated search strategies and directed search parties into the cave. By mid-morning on Friday they had still not located Young and Ellinwood, and everyone was becoming very concerned. Reporters had also arrived and the incident was covered in television and radio news broadcasts around the region.

Yreka caver Bill "Bighorn" Broeckel heard about the incident on his car radio at lunchtime on Friday. He had been to Catacombs Cave more than 60 times, and knew the cave well. His initial thought was that the kids would soon be found. Broeckel, a physician, was on call that day and had a full schedule of patients to see in the afternoon. A short time later, however, his wife, Judy, arrived to tell him that Wolff had called and asked for their help. Broeckel sat down and thought for a moment – the kids had now been in the cave for almost 24 hours. They were probably cold, without light, and possibly even injured. He knew the cave well. Probably, he thought, they were in that room at the end of the cave. He decided to go and see.

Judy and Bill Broeckel drove down to Lava Beds, arriving at the Visitor Center around 5:00 p.m. Talking with the search directors, Broeckel pointed out the location of the terminal room on the cave map, and suggested that Young and Ellinwood might be there. He was met with skepticism – most of the rescuers did not believe the kids could have gone all the way to the end of the cave. Broeckel had a feeling that they could have, and was determined to go and look. Outside, he met cavers Jim Wolff and Russ Yoder and accompanied them to the cave. Once inside, they soon met other cavers engaged in the search. Broeckel and Yoder headed for the terminal room.

As they approached the end of the cave, Broeckel and Yoder came to a low crawl. Halfway through the passage they found shreds of black cloth matching the description of Ellinwood's sweatshirt. Encouraged by this discovery, they crawled forward and were soon rewarded when they heard voices ahead. Arriving at the terminal room, they found Young and Ellinwood cold and hungry, but otherwise in good condition.

After becoming separated, the kids had spent several hours wandering through the maze of passages searching for the way out. Lacking a map or compass, they did not realize that they were moving deeper and deeper into the cave. Eventually, they wound up in the terminal room where they decided to stay put and wait for rescue. During the day, searchers had examined nearby passages, but the sound-deadening nature of the cave prevented them from contacting the pair.

Broeckel and Yoder gave the kids some food and water and led them back through the crawl and toward the entrance. They met up with other searchers along the way and made a short stop for more food and water before reaching the surface just before sunset. Young and Ellinwood were in the cave for 27 hours.

1. *Bill Broeckel, "Catacombs Rescue,"* SAG Rag, *Shasta Area Grotto, v23n5, July-August 2004, pp. 5-12.*
2. *Terry Harris, "Children Found Following Major SAR,"* The Morning Report, *National Park Service, 2 June 2004.*
3. *Associated Press, "Two missing children rescued in lava cave,"* San Diego Union-Tribune, *29 May 2004.*
4. *Christina Jewett and Art Campos, "Doctor's hunch pays off in rescue of kids,"* Sacramento Bee, *29 May 2004.*
5. *Pamela Martineau, "Rescued kids home safe; town rejoices,"* Sacramento Bee, *30 May 2004.*

Comments: Adults leading caving trips for children must always be alert to the possibility that some of their young explorers may stray from the group, lured by curiosity and adventure. Encourage young cavers to stay together, and, if separated from the group, to stay put. It is a good idea to carry a map of the cave, if one is available, and to review it with all participants. A compass is also helpful. Youth group leaders are also advised to recruit some experienced cavers to accompany them underground.

This incident also underscores the need for searchers to check every lead and crawl, especially when searching for children. The young cavers had passed easily through the crawl and other low passages in the cave that presented obstacles to the adults searching for them. The searchers underestimated the kids' ability and determination.

17 June
Smiths Crack, Idaho
stuck

Steve Alborn and some friends from a church group were exploring Smiths Crack when Alborn, who was reported to be 6 feet, 2 inches tall and to weigh 250 pounds, discovered that

he could not get out. On the way into the cave he had slid down through a narrow slot to reach a lower passage. On the way out, with gravity working against him rather than assisting, Alborn could not squeeze back through. When his companions were unable to free him, they called for help, reaching the Elmore County Sheriff's office at about 8:00 p.m.

Search and rescue crews went to the cave and made several attempts to get Alborn out. Their efforts were ineffective until someone suggested using vegetable shortening to "grease him up." Rescuers took a set of coveralls and coated it liberally with Crisco, then sent them into the cave for Alborn to wear.

Donning the "slick suit," Alborn stood on a friend's shoulders and forced his body up into the crack while others grabbed his arms and pulled from above. Thanks to the lubricating action of the shortening, he finally slid through the constriction. He was able to leave the cave without further assistance, exiting at daybreak. He had been trapped for about ten hours. Alborn said that he might consider going caving again someday, "if I knew that the holes were big enough."

Brian Holmes, "Crisco helps man slip out of cave," Idaho's NewsChannel 7, www.ktvb.com, 17 June 2004.

25 June
Peppersauce Cave, Arizona
lost

Dan Garrison (38) and his son Justin (11) entered Peppersauce Cave on July 25 with few supplies and no spare batteries for their flashlights. After reaching the Book Room, they realized that they could not find the route back to the entrance. Unfortunately, Garrison had not told his wife or anyone else where they were going, so no one was likely to come looking for them anytime soon.

They spent some time searching without success, then decided to systematically map the passages as they explored in the hope that this would lead them to the correct route. Using the compass on Dan's wristwatch and a notebook and pen found in the Book Room, they began sketching the various passages as they continued their search.

After spending the night in the cave, the two cavers were saved when Justin went searching for water and came upon a rope that they had used on the previous day to get down to the lower level of the cave. Justin quickly fetched his father, and the pair made their way out of the cave. They were lost for about 24 hours.

1. *Rick Rhinehart, "Briefly,"* Rocky Mountain Caving, *v21n3, Summer 2004, p. 7.*
2. *"Conquering a Cave,"* The Arizona Republic, *7 August 2004.*

5 July
Ape Cave, Washington
caver fall

Eric Ball (20) went to explore Ape Cave on Mt. St. Helens with his girlfriend, Jenny Lee, and companions Jason Baidenmann, Kyle Christensen, and Aaron Asmann. Ball, who was born with an impairment that blurs and distorts his vision, is legally blind, but is nonetheless an outdoor adventure enthusiast, participating in bungee jumping, hiking, downhill skiing, and caving.

At about 1:00 p.m., Ball was exploring with his companions in an area about 3/4 of a mile from the entrance when he found a knotted rope hanging down from an upper level passage. Ball climbed up the rope about 20 feet to a ledge, and then attempted to jump across a crack to continue. He landed in a steeply sloping area and lost his footing, tumbling back to the floor below and landing on his left side in a sandy-floored section of the lower passage.

Ball was around a corner and out of sight of the rest of the group, but they heard his fall and came to investigate. Ball was sitting up, but was in a lot of pain and could not stand. He had broken several ribs, one of which punctured his lung, and fractured his pelvis in four places. His friends made him lie down, covered him with their sweatshirts and jackets to keep him warm, and kept him still. They realized that they needed help, so Lee and Asmann stayed with Ball while Baidenmann and Christensen left the cave to notify the authorities.

Rescuers from the Skamania County Sheriff's office and the U.S. Forest Service were called to the cave. They placed Ball in a litter and carried him out. The evacuation took about two hours. He was taken by helicopter to a hospital where he was reported to be recovering from his injuries.

1. *Holly Danks, "Beaverton man who fell in cave recovering,"* Portland Oregonian, *6 July 2004.*
2. *"Beaverton man in hospital after falling in Ape Cave," KATU.com, 6 July 2004.*

Comments: It appears from the news accounts that the cavers did not have much caving experience. Jumping in caves is usually not a good idea, especially when you know there is a 20-foot drop below. If you are determined to jump, at least be certain that you have a safe landing area. It may be that Ball could not see the landing area clearly. Even with perfect vision, jumping over an abyss in a dark cave is ill-advised. Climbing a knotted rope of unknown origin is also not generally advisable. Ball's companions did a good job of taking care of him after the accident.

28 July
Long Cold Cave, Nevada
rockfall entrapment

While rigging and surveying about 200 feet below the entrance in Long Cold Cave in Great Basin National Park, Rob Pleszewski (31) noticed the sound of rocks moving beneath a large boulder. Pleszewski expressed concern about the instability of the floor to the other members of the party, Matt Reece (30) and Jason Mateljak (28). All three cavers had walked across the boulder, which spanned the narrow passage, on the way into the cave. Pleszewski then began the climb to the surface, while the others continued to rig and descend two more drops.

After taking some photographs, Mateljak and Reece headed out. Mateljak reminded Reece of Pleszewski's discomfort with the large boulder, and they approached it warily. As Reece stepped on the boulder, it shifted to the left, pinning his foot against the wall.

Pleszewski was almost out of the cave when Reece became trapped. His companions called him using a radio and asked him to contact park dispatch and inform them of the incident. Mateljak and Reece worked diligently to try and move the boulder. Eventually they were able to shift the boulder, freeing Reece's foot. The foot-loop of his climbing system was still pinned beneath the boulder, however, and could not be retrieved. Mateljak gave his foot-loop to Reece, who began to climb out of the cave, and then tied a foot-loop from webbing for himself.

After the climb out, Pleszewski and Mateljak helped Reece hobble back to their truck and drove him to the hospital in Ely. Reece suffered severe bruising and sprained tendons in his left foot.

Matt Reece, Incident report, 11 August 2004.

Comments: Reece notes that the cavers were using Family Radio Service radios for communication at the vertical drops. These came in very handy during the incident, as Pleszewski, at the entrance of the cave, could hear nothing but unintelligible screams at first. Mateljak was able to convey the situation to Pleszewski, and get him headed to the truck for the park radio in case extra assistance would be required. Reece also observes that he is still not sure how they managed to move the boulder.

18 August
Devils Den Cave, Arkansas
stuck

Tim Smafield (15) was exploring Devils Den Cave with his twin brother Tom when he slid into a 20-foot long, 15-foot high, 12-inch-wide fissure called the Right Hand Crevice. When his foot became stuck in the bottom of the crack, Smafield's brother Tom ran to the Visitor Center to get help, arriving at about 5:30 p.m.

Park rangers Jeremy Bruce and Tim Scott gathered their equipment and followed Tom Smafield to the crevice. Scott also called park superintendent Jesse Cox to inform him of the incident. When they arrived at the crevice, the rangers found that Smafield was so deep into the narrow passage that they could not reach him.

Bruce and Scott had brought some rope and webbing along with their equipment. They tossed one end of a piece of tubular webbing to Smafield and tried to pull him out, but were unsuccessful. Realizing that the situation could become serious, they called Cox to tell him that they needed additional help, and asked him to call for cave rescue teams.

By 7:50 p.m., several cave rescuers and additional park rangers had gathered at the scene. The group decided that the best way to free Smafield would be to pull him up and out the top of the crevice rather than to the side. They fashioned a loop from the webbing, and Bruce climbed onto a ledge above Smafield and dropped the loop down to him. With some coaching, Smafield was able to get the loop around his chest and under his arms. Scott crawled underneath Bruce and as close to Smafield as he could get. Bruce then used the webbing to pull Smafield up about five feet, until he could reach the top of the crevice and Scott could help him climb out. He was freed at about 8:20 p.m.

Smafield was given food and water and a blanket. He was tired but able to walk, so he was escorted back to the Visitor Center. He had no injuries and was released to his mother. Smafield was stuck for about three hours.

1. *Jeremy Bruce, Incident report, 19 August 2004.*
2. *David Comstock, Incident report, 20 August 2004.*
3. *"Boy Rescued From Devil's Den Cave," TheHometownChannel.com, 19 August 2004.*

20 August
Nutty Putty Cave, Utah
stuck

Brock Clark (16) was exploring Nutty Putty Cave with a group of six friends on a Friday afternoon. At about 4:00 p.m. he climbed head-first down into a small passage. As he did so, he lost his grip and slid forward. It was a dead end, and Clark tried to turn around to get back out, but the passage was too tight. When he tried to bend and turn he became wedged.

Clark's friends tried to help, but could not move him. One stayed with Clark while the others left the cave to call for aid. They reached the Utah County Sheriff's Office at 6:00 p.m., and search and rescue team members were dispatched to the cave. When they arrived, the rescuers found Clark lying on his side, head-down, with his right leg sticking out and his left leg folded uncomfortably behind him. His contorted position had become painful.

For the next eight hours, the rescuers worked to free the boy from the passage. They could not reach his head, and could not get any food or water to him. Over time, Clark lost feeling in his left leg and eventually his entire left side. The work was tiring for the rescuers, as well as for Clark, who became exhausted in the struggle.

Eventually, the rescuers focused on straightening Clark's left leg. They were finally able to accomplish this around midnight. After placing a harness around him they were able to pull him back up out of the narrow passage.

Clark was exhausted and had no feeling in his left side. The rescuers gave him food and water and allowed him to rest and recover some strength for the trip out. He could not stand or walk, and it took two more hours for rescuers to pull and drag him through the tight passages and climbs to reach the surface. Clark was then taken to a hospital where he spent several days recovering from the ordeal.

1. *Utah County Sheriff's Office, Incident report, 21 August 2004.*
2. *"Teen Rescued From Cave," KSL-TV, tv.ksl.com, 21 August 2004.*
3. *Caleb Warnock, "Orem teen rescued in Nutty Putty Cave,"* Provo Daily Herald, *22 August 2004.*
4. *Richard Rhinehart, "Briefly,"* Rocky Mountain Caving, *v21n3, Summer 2004, p. 8.*

4 September
Nutty Putty Cave, Utah
stuck

David Crowther (23) and two companions entered Nutty Putty Cave at about 10:30 p.m. on Friday night. They spent

about two hours exploring, then started toward the entrance. They came to a narrow fissure, and two of the men squeezed through. Crowther entered with his arms extended in front, thinking that he would fit better. He made it partway through, but with both of his arms extended he could not push himself forward. One of his companions grabbed his hands and pulled, and Crowther became wedged like a cork in a bottle.

Crowther's friends tried in vain to get him out of the squeeze. Other people exploring the cave joined in the effort, pushing and pulling, but he could not be moved. Shortly after 1:00 a.m., one of his companions went to the surface and used a cell phone to call for help.

Members of the Utah County Sheriff's Office Search and Rescue Team went to the cave, along with members of Utah Cave Rescue. Rescuers were able to move Crowther forward about one foot, but no further. They brought in a portable air chisel and used it to chip away at the walls of the passage and enlarge the opening. After about three hours of work they were able to pull Crowther from the squeeze. He was uninjured, and left the cave without further assistance.

1. *Utah County Sheriff's Office, Incident report, 5 September 2004.*
2. *Shay Lelegren, Incident report, 5 September 2004*
3. *"Rescue Teams Save Man From Nutty Putty Caves," KSL-TV, tv.ksl.com, 4 September 2004.*

Comments: The two rescues in close proximity received substantial media coverage, resulting in calls for the cave to be sealed. It was later gated, and access is now managed by a local grotto.

9 October
Narrows Cave, Colorado
rockfall entrapment

At about 8:30 p.m. on Saturday evening, Ryan Gosciejew, Franz Hankins (35), and novice caver Jocey Goodloe were making a "loop trip" through Narrows Cave when they came to a crawlway at the top of Spring Canyon. Gosciejew went through first, followed by Hankins. As he moved through the crawl, Hankins pulled on a rock in the side of the passage, triggering the collapse of a boulder that pinned his head and arm. Dirt and small debris rained down, filling the area around his head. His companions were unable to free him, so Goodloe stayed with Hankins while Gosciejew left to get help.

Gosciejew reached the surface in about 30 minutes and called Mike Frazier, describing the situation and asking for help. Frazier grabbed his caving gear, some rescue equipment, and a hydraulic jack, and headed for the cave. As he drove, he called Dan Sullivan and asked him to call in other area cavers.

Frazier met Gosciejew at the parking area, and the two men returned to the cave. Frazier went to Spring Canyon and climbed up to reach Hankins' head, while Gosciejew went around to join Goodloe at his feet. Hankins was still pinned, and his head was partially buried in dirt and debris. He was responsive, but was having difficulty getting enough air.

Frazier began digging away the dirt with his hands, trying to get to Hankins' head. As he pulled the dirt and debris from the passage, he dragged it back through the crawl into the room about 15 feet beyond. After four or five trips he had dug down about 12 inches, exposing Hankins's left hand. He kept digging, eventually exposing Hankins' helmet, which was pinned against the wall by a large slab of rock. The sides of the helmet were buckling slightly inward under the pressure. Frazier kept digging, and finally managed to reach in and unbuckle the helmet's chin strap. Hankins' head was still pinned, but he was able to breathe more easily.

While Frazier attempted to lift and support the slab, Gosciejew grabbed Hankins' feet and pulled. Hankins screamed as he was dragged backward, and his head popped free while the helmet remained wedged under the rock.

The cavers then focused their attention on Hankins' arm, which was still pinned. Using the same approach, they tried twice without success to pull Hankins from the crawl. The passage ceiling was still unstable, and they decided that they could use a jack to lift and support the slab, but that they needed something to prevent further collapse. Gosciejew went out to get shoring material and help while Frazier continued to dig out the loose material from around Hankins' arm.

By 11:00 p.m. more cavers had arrived to help. Steven Kumpf, Daniel Laos, and several other cavers brought in jacks and some two-by-fours for shoring. The cavers used these to brace the slab at both ends and placed the jack underneath the rock. Frazier carefully extended the jack, and once the rock was lifted, the cavers were able to drag Hankins out by his feet. His helmet was still jammed in the crawl, and Frazier kicked if free. When he did so, the passage collapsed again, burying the jack.

Freed from entrapment, Hankins began to go into shock. The cavers treated him appropriately, and after a few minutes he began to recover. His arm was numb, swollen, and discolored, but after about 15 minutes the color improved and he started to regain some feeling and movement in his hand. The cavers secured Hankins' arm with a sling and prepared to help him out of the cave.

They started for the entrance just after midnight, belaying and spotting Hankins down the breakdown climbs in Spring Canyon. Soon they arrived at a series of long crawls. They were forced to remove the sling from Hankins' arm so that he could move himself through the crawls. Eventually, they met a group of rescuers who had brought in a Sked litter. By this time, Hankins was very tired, so the rescuers packaged him in the litter and then carried and dragged him through the remaining crawls.

Once they reached walking passage, Hankins was removed from the litter. He was lowered down a climb at Inquisition Dome and was then able to walk to the entrance. He reached the surface around 2:00 a.m. His wife was waiting outside, and drove him to an emergency room.

1. *Dan Sullivan, Incident report, 11 October 2004.*
2. *Mike Frazier, "A Narrow Escape,"* Rocky Mountain Caving, *v21n4, Autumn 2004, pp. 7-8.*
3. *Steven Kumpf, "Rescuing Franz Hankins From Narrows Cave,"* Rocky Mountain Caving, *v21n4, Autumn 2004, pp. 8-9.*
4. *John Ensslin, "Spelunker rescued by other cavers,"* Rocky Mountain News, *11 October 2004.*

Comments: Hankins' helmet undoubtedly saved his life. A good caving helmet is worth every dollar of its cost. How much is your head worth?

9 October
Waterworks Cave, Tennessee
dislocated shoulder in cave

Woody Vinzant (41) and four other cavers were exploring Waterworks Cave when Vinzant climbed down into a fissure to look at some formations. At the bottom, he was supporting himself with his hands on the walls when he squatted down to take a quick peek into a low area. When he did so, his shoulder became dislocated.

Vinzant's companions immobilized his arm by placing a rolled-up knee-pad in his armpit and securing the arm with some webbing. Vinzant's arm was sticking out at an odd angle and was very painful, but he was able to walk, so the group started out of the cave. His companions helped him up through several squeezes and belayed him up three climbs to reach the bottom of the 60-foot entrance pit. They helped him get on rope, and Vinzant then climbed out on his own. He reached the surface about two hours after the accident and was driven to a hospital where doctors were able to set his shoulder.

Woody Vinzant, Incident report, 21 October 2004.

Comments: Vinzant notes that his shoulder had been dislocated once before. Repeat dislocations are not uncommon.

1 December
Devils Punchbowl, Guam
fell into pit entrance

Two men were driving around on a Wednesday evening and decided to explore Devils Punchbowl, a 50-foot deep pit located in a land trust preserve near the Hilton Resort. At about 11:00 p.m., the men entered the preserve through an unlocked gate and walked to the cave. They had no lights or caving equipment. One of the men attempted to climb down into the pit, but lost his footing and fell to the bottom. His companion ran for help and flagged down a passing security guard, who called police.

Rescuers were dispatched to the scene, where they found that the man had died from his fall. His body was removed from the pit. An official responsible for the property said that while the property is well-known, it is not open to the public, and that the gate was supposed to be kept locked.

Theresa Merto, "Man killed in pit fall," Pacific Daily News, *www.guampdn.com, 3 December 2004.*

Common Caving Mistakes and Consequences

1. Primary light failed; didn't carry backup lights, or backup lights inadequate – stranded.
2. No map, no guide, and poor route-finding skills – lost.
3. Wore inadequate or inappropriate clothing for conditions – hypothermia.
4. Didn't bring extra clothing – hypothermia.
5. Moving but not paying attention – caver fall.
6. Free-climbing more than a body-length without belay – caver fall.
7. Traversing above drop without belay or safety line – caver fall.
8. Ignored rainy weather forecast; entered water cave – flood entrapment or drowning.
9. Careless movement in tight passage or crevice – stuck.
10. Entered bat cave or passage without precautions – histoplasmosis.
11. Solo caving and something went wrong – stranded.
12. Didn't tell anyone of plans – delayed rescue by hours or days.
13. Didn't clear loose rocks from lip – struck by falling rock.
14. Climbing or descending rope hand-over-hand – lost grip and fell.
15. Climbing cable ladder without belay – fell off.
16. Lost control of rappel; no bottom belay or rappel safety – fell to the bottom.
17. Out of shape or unfamiliar with climbing system – stranded on rope.
18. Didn't know how to change from rappel to climb or from climb to rappel – stranded on rope.
19. Hair or clothing stuck in rappel device; didn't know how to recover – stranded on rope.
20. Rappelling without wearing climbing system – stranded in pit or on rope.
21. Attempted pull-down trip without map or guide – stranded.
22. Sharing vertical gear; lost equipment passing it up or down the pit – stranded.
23. Didn't tie a knot in the end of the rope – rappelled off the end and fell.
24. Moving around lip of pit without being belayed or being on rope – fell into pit.
25. Didn't check attachment of rappel device to harness – became detached from rappel device and fell.

2005 Caving Accident and Incident Reports

15 January
Surprise Cave, New York
caver fall

Matthew Johnson (25), Tom Oakes, David Oakes, and Hannah Schoch entered Surprise Cave around 1:30 p.m. on a January afternoon. The cave is gated and is closed from September to April to protect hibernating bats. The cavers were aware of the closure and chose to enter the cave anyway.

They crawled through the ice-trimmed entrance and made their way through the cave to the Mystery Dome, where they rigged a rope to rappel to the bottom. At about 3:30 p.m., Johnson crawled up to the lip of the pit to get on rope. As Johnson attempted to rig his rappel device, he lost his footing and fell about 20 feet to the bottom. He suffered multiple injuries to his feet and legs, including fractures, sprains, and torn ligaments.

Johnson was conscious and able to move, but was in a lot of pain and could not walk. The cavers decided that they needed help to get him out, so David Oakes remained with Johnson while the others left the cave and went to the nearest house, where Tom Oakes called fellow caver Mike Warner at about 6:30 p.m. After describing the situation, Oakes went back into the cave carrying supplies, while Warner alerted authorities and began a call-out of cavers around the region.

Local law enforcement and emergency response personnel arrived fairly quickly, but had limited caving experience, equipment, or rescue training. It was Saturday evening, and several hours passed while the experienced cavers who could be contacted gathered their equipment and drove to the site.

While waiting for hours at the bottom of the pit, Johnson had gotten cold. When Tom Oakes returned, he was able to help Johnson get back up the pit and start moving toward the entrance. The first rescuers, Mark Folsom and Dan Werner, entered the cave shortly before 10:00 p.m. As they approached Mystery Dome, they met Johnson, who was crawling slowly with help from Oakes. Folsom and Werner gave Johnson some water and warmed him with heat packs while Oakes continued out of the cave.

More cavers arrived around midnight and were able to help Johnson through the passages to the bottom of the 23-foot pit in the Entrance Room. Rescuers hauled Johnson up the pit and helped him through the entrance crawl. He reached the surface at 3:11 a.m. Johnson was ferried down the hill by snowmobile to a waiting ambulance, and then taken to a hospital for treatment.

1. *Joe Levinson, "Surprise Cave Rescue – Jan. 15, 2005,"* Speleothemes, *Northern New Jersey Grotto, February 2005.*
2. *Mark Folsom, "Surprise Cave Rescue,"* The Northeastern Caver, *March 2005.*
3. *Carl Heitmeyer, "Surprise/Mystery Cave Rescue, January 15, 2005,"* Central Jersey Caver, *February 2005.*
4. *Jessica Gardner and Ramsey Al-Rikabi, "Caver gets nasty surprise,"* Times Herald-Record, *www.recordonline.com, 17 January 2005.*
5. *Associated Press, "Conn. Man Rescued From N.Y. Cave Where He Suffered Injuries," www.wnbc.com, 17 January 2005.*

Comments: The area at the lip of the drop in Mystery Dome is reported to be a muddy crawl. Johnson slipped and fell into the pit while attaching his rappel rack. Accidents like this can usually be prevented by clipping in to the rope or anchor before approaching the lip. Use a lanyard or cow's tail and carabiner to clip in to the anchor rigging, or attach an ascender to the rope. Do not remove your safety attachment until you have rigged your rappel device and tested its operation.

19 February
Breathing Cave, Virginia
caver fall

Eric Berge (43) and Janet Tinkham (41) entered Breathing Cave leading a group including college students Yvette Camperud (20), Brian Stafford, (18), Aliela Ryan (18), plus Eric's son Earle Berge (11). Tinkham and Eric Berge were very experienced cavers and Earle Berge had been to the cave on several previous trips, but the three students were new to caving.

The cavers made their way through the cave, descending several climb-downs, squeezing through the Nutcracker, negotiating mud slopes and breakdown, wading through the Grand Canyon, and descending along the Serpentine Way to reach the waterfall. There, they took a snack break and spoke with some other cavers who were surveying nearby, then started out.

The Serpentine Way is a narrow, winding passage that has a slight upgrade to it. Water flows along this passage in spots, and the level fluctuates. On this day the water wasn't very high, but the damp passage made for slippery footing. As they climbed up the passage, Tinkham was in the lead with Camperud behind her. As she stepped up onto a foothold, Camperud's foot slipped and she fell back against a protruding formation that impacted her back just below her shoulder blade, bruising and breaking several ribs.

The injury was painful, but Camperud could move her arm and climb, so the cavers headed for the entrance. They made it out of the Serpentine Way and through the Grand Canyon, but by the time they reached the Cathedral Passage, Camperud was having difficulty. Stafford had an Ace bandage, which they used to wrap Camperud's chest, giving her some relief. Berge had a 50-foot piece of webbing, which they used to lower Camperud down some of the mud slopes. At several points she felt nauseous from the pain, but kept going.

At the Nutcracker they took a rest. Berge knew that it would be difficult to get Camperud through the tight passage and up the two climbs beyond. Camperud struggled through the squeeze, becoming stuck briefly before the others could get her through. The ordeal left her feeling faint and nauseous from the pain and exertion. Berge and Tinkham realized that they needed help to get Camperud up the two climbs and through the remaining passages to the entrance.

The cavers moved to a more comfortable area at the bottom of the first climb, where they would be out of the breeze and away from dripping water. Tinkham knew the way out and headed for the surface to call for rescue. Berge went back through the cave to find the surveyors and enlist their aid, while the other cavers stayed with Camperud, wrapping her in extra clothing and huddling together to keep her warm.

Berge soon located one of the surveyors, Bob Hoke, and told him what had happened. Hoke gave Berge some extra clothing for Camperud, and rounded up the rest of his crew while Berge returned to the Nutcracker.

Camperud felt a little better after the rest. Tinkham had returned with a blanket and the news that rescuers were on the way. The surveyors soon arrived, and the assembled cavers decided that together they could get Camperud up the climbs. In preparation, they immobilized her right arm with a sling and tied a seat harness on her.

With a belay from above and help from below, Camperud was pulled and boosted up the two climbs. She continued through the cave with assistance, eventually crawling out into the main passage where members of the local rescue squad were waiting. They strapped her into a litter and carried her out the entrance and down the hill to a waiting ambulance. She was driven to a hospital where she was treated and released the next day.

1. *Rick Lambert, Incident report, 20 February 2005.*
2. *Janet Tinkham, Incident report, 15 February 2007.*
3. *Eric Berge, "Something to Tell Your Grandchildren,"* Front Royal Column, *v10n3, September 2005, pp. 3-5*.
4. *Bob Hoke, "Breathing Cave Survey and Rescue, February 19, 2005,"* The Region Record, *v18n2, Spring 2005, pp. 7-8.*

Comments: Tinkham, Berge, and Lambert all commented on Camperud's determination and perseverance. She undoubtedly got out much sooner than she would have if rescuers had been forced to carry her the whole way. The cavers in both groups were carrying extra clothing, food, batteries, and short lengths of rope and webbing, which greatly facilitated the rescue. Tinkham points out that it is easy to become complacent about what you carry in your pack, and leave these things out. Fortunately, these cavers were well prepared.

19 February
Sharps Cave, West Virginia
caver fall

Ten cavers from the Charleston Grotto entered Sharps Cave, a multi-level cave known for its big passages and waterfalls. It has a tight, vertical entrance that opens into extensive passages leading east and west. The group chose to go west and, as they left the western end of Halloween Hall, several hundred yards from the entrance, Tom Hailer stated that he felt sick and could not continue. After some discussion, Hailer decided to wait while the others explored.

The group continued to the J18 Junction, where they climbed down to the stream, waded upstream, and looked at the two waterfalls. The stream was in flood and the water was cold, but the waterfalls were very impressive. The cavers returned to J18, climbed back to the upper level, and continued west to Blackfish Junction, a very high room with breakdown and mud slopes leading down to two streams.

Several cavers chose not to follow the leader down to the lower level, descending instead by an "easier" route. As Kim Beech-Shaffer (42) descended the very last part, helped by her husband, Brian Shaffer, both cavers slipped, fell about six feet, and tumbled into the stream.

They appeared to be unhurt, so the group continued downstream for several hundred yards, where they left the stream and climbed up to another section of the upper level. However, when they had left the cold water and stopped to eat, Kim complained of pain in her leg. She rolled up her pants and discovered that her lower leg was badly bruised. Another caver gave Kim some aspirin, and the cavers decided to abort the trip and head out.

Returning to the stream level, George Dasher had trouble with one spot and climbed back up to find a better route. Kim was able to descend with help from Brian and George. Another caver climbed down, and the first four cavers started upstream. Amie Nottingham, the next person in line, attempted to climb down where Dasher had turned around, but fell about five feet and tumbled into the waist-deep water. After catching her breath, she was able to continue. The group again started upstream, now with two people limping and others shivering. Kim was moving very slowly and could not be rushed. Several cavers were very cold, and Hailer was still waiting in Halloween Hall. The situation was complicated by the fact that only Dasher knew the way out of the cave.

Dasher divided the party into two groups. Kim, Brian, and another caver continued out at a slow pace while Dasher took the rest and headed east to get Hailer. After traveling a few hundred yards, Dasher sent one person back to show the trailing group the way, then sent two more back from a point near the J18 Junction.

At the J18 Junction, the cavers encountered another group from the Front Royal Grotto, who immediately offered to help. While they were discussing the situation, the trailing group arrived at the Junction. Kim was still moving slowly but it was apparent that she would be able to make it out, so the Front Royal cavers climbed down to look at the waterfalls and the Charleston Grotto group continued toward the entrance. Dasher and two others retrieved Hailer and rejoined the main group, who then slowly made their way out of the cave. The cavers belayed Kim at the entrance climb, and everyone exited without further incident

George Dasher, Incident report, 28 March 2005.

Comments: What would have happened to the group if Dasher had become injured and unable to lead the way out? One also wonders about the decision to leave a sick caver alone in the cave. Caving is generally regarded as a team activity.

5 March
Devils Den Cave, Arkansas
stuck

Reports of the April 9, 2005, rescue at Devils Den Cave mentioned that a similar incident had occurred about a month earlier, on March 5. Park rangers were reported to have rescued a man who became stuck in a tight passage in the

cave. The cave rescue team was called, but rangers were able to free the man before their arrival. No other details were available.

1. *David Comstock, Incident report, 3 May 2005.*
2. *Kate Ward, "Man rescued from Devil's Den cave after more than 5 hours,"* Northwest Arkansas Times, *10 April 2005.*

9 April
Devils Den Cave, Arkansas
stuck

Richard Harness (20) was accompanying a group of about 12 children in exploring the cave when he became stuck in a tight passage. Harness was following the kids through the cave at about 11:30 a.m. when he came to a tight vertical fissure connecting two larger horizontal passages. He forced himself into the crack and squeezed partway through before becoming wedged and unable to retreat. When the group did not return to the surface by the appointed time, Melissa Jones, an adult member of the group who had remained outside, alerted park personnel.

Rangers and local firefighters entered the cave and attempted to enlarge the passage using a sledgehammer and chisel. The effort was unsuccessful, yielding only a broken hand for one of the rangers. About two hours into the rescue, the Washington County Search and Rescue team arrived. Members of the team had been trained in cave rescue techniques, and suggested a different approach. They determined that Harness could probably be freed by cutting away his blue jeans and lifting him up higher in the fissure. Using slings fashioned from tubular webbing, Harness was lifted out of the crack about 10 minutes later. He had been stuck for about five hours, but was able to leave the cave under his own power.

1. *David Comstock, Incident report, 3 May 2005.*
2. *Kate Ward, "Man rescued from Devil's Den cave after more than 5 hours,"* Northwest Arkansas Times, *10 April 2005.*

Comments: Comstock notes that emergency personnel who are not trained or experienced in cave rescue often underestimate the difficulty of crack and crevice rescue and delay calling for additional help. Park officials should be aware of cave rescue resources and have a pre-plan for emergency response to ensure that trained cave rescuers are called promptly. As several incidents in this issue demonstrate, a caver trapped in a tight passage is in serious danger from hypothermia, dehydration, exhaustion, and compression syndrome – all potentially life-threatening conditions.

23 April
Copperhead Cave, Arkansas
caver fall

Angela Anders (27) was exploring Copperhead Cave with several companions when she fell down a pit about 20 feet inside the cave. Her companions went for help, and park rangers from the Buffalo National River responded, along with local rescuers and emergency services personnel.

Ranger Lee Brumbaugh rappelled into the pit and determined that Anders had injured her back. She was placed in a litter and hauled out of the pit, then transported by helicopter to a hospital. Anders had suffered a fractured vertebra in the fall. Heather Hinshel, another member of the caving party, had also suffered a minor leg injury and was taken by ground ambulance to an emergency room where she was treated and released.

Bob Maguire, "Rescue from Copperhead Cave," The Morning Report, *National Park Service, 2 May 2005.*

Comments: The cave is reported to be well-known locally, and many poorly-equipped visitors apparently use a cedar log to climb in and out of the pit. The cause of Anders' fall is unknown, but it appears that the group did not have proper vertical equipment.

14 May
Raulston Pit, Tennessee
stranded on rope, suspension trauma

On Saturday, May 14, 2005, Van Cain (33), Ken Thomas (42), and Boston Dulcie (29) left the SERA Cave Carnival in Mentone, Alabama, to go to Raulston Pit, a 750-foot-long pit-cave in Marion County, Tennessee. The cave entrance is a 140-foot pit in a large stream gully, and the pit is broken by a major ledge 60 feet off the floor. There is a single bolt at the ledge that is sometimes used as a re-belay anchor.

The cavers rigged the pit with a 300-foot rope anchored to a large tree. Cain rappelled first, stopping at the ledge to anchor the rope to the re-belay bolt and waiting for Dulcie and Thomas to descend. All three cavers then rappelled the remaining 60 feet to the bottom, where they spent about 45 minutes exploring the cave.

When it was time to climb out, Cain ascended to the ledge, where he got off rope and waited to help the others if needed. At about 1:30 p.m., Dulcie started his ascent. Dulcie was new to vertical caving and had recently purchased a ropewalker system, which he had used only a few times before the trip. His system included a quick-attach safety ascender (QAS) on an adjustable-length lanyard. Unfortunately, he neglected to attach his chest roller to the rope. He also began his climb with the QAS lanyard in the fully-extended position.

Dulcie noticed right away that his system did not feel right. He had to hang on to the handle of the safety ascender to keep himself upright, and soon found himself struggling to make progress. Dulcie was about 12 feet off the floor when his arms tired and he lost his grip on the ascender. He dropped into a supine position in his harness, hanging from the extended lanyard and the safety strap attached to his knee ascender.

Once Dulcie caught his breath, he realized that his chest roller was not attached. Dulcie pulled himself back upright and tried to attach it to the rope, but was unable to do so. Tension in the rope from his lower ascenders and interference from the pinch protector on his chest roller thwarted his efforts. He was becoming tired from the struggle and getting wet from the spray of a small waterfall in the pit.

Dulcie wanted to get back down, but did not know how to change over to rappel. Cain called down suggestions from above and Thomas offered direction from below, but Dulcie could not resolve the problem.

Thomas then got on rope and climbed up to try to help Dulcie by supporting him while he tried to attach the roller. The extra weight on the rope only made the maneuver more difficult, and the cavers soon abandoned the effort. Thomas climbed back down and got off rope. Dulcie had managed to reach his QAS and slide it down the rope enough to keep it within reach, but the struggle to remain upright had left him exhausted. He still could not figure out how to attach the roller. When he let go of the QAS he found himself hanging partially upside down, with his left leg jammed underneath him and the QAS once more out of reach.

Thomas got back on rope, climbed past Dulcie, and tried to help him climb back down by operating the QAS for him. They had managed to descend about two feet when Thomas accidentally disconnected the Croll chest ascender of his frog system from the rope while down-climbing. When he was unable to reattach it, the two cavers realized that they were both stranded. They called up to Cain and told him to go for help. About one hour had elapsed since Dulcie had started his climb.

Cain climbed the rest of the way out, hiked down the mountain, and called 911 at about 3:30 p.m. Kimball Fire and Rescue and Marion County EMA responded, assessed the situation, and called the Chattanooga Hamilton County Cave and Cliff Team at about 4:30 p.m. to request their assistance. Some team members were at SERA, and drove from there to the cave while others responded from Chattanooga and brought the rescue trucks and equipment. The first members of the Hamilton County team reached the cave around 5:30 p.m., several hours after Dulcie and Thomas had become stranded. Others, including the team doctor, arrived soon after.

One rescuer rappelled down to check on the stranded cavers while the rest worked to set up a haul system at the pit and another on the steep slope above the entrance. The two cavers had been hanging in the spray of a small waterfall the whole time and had become soaked and hypothermic. Dulcie had not been able to move his left leg for hours. He was in a lot of pain and had lost sensation in his lower legs. He was also shivering uncontrollably, and suffering from nausea and dizziness.

Because of the likelihood of suspension trauma, the cavers were not immediately lowered to the bottom or taken off rope. When a person has been hanging in a harness for a long time, releasing the constriction and pressure of the harness suddenly can cause serious illness, including cardiac arrest. This can be prevented with appropriate procedures and with medication, which the team had available.

Since Dulcie was in the more serious condition, he was the first to be evacuated. The haul line was attached to his seat harness, a rescuer removed his ascenders, and he was lifted from the pit while the rescuer climbed beside him. As soon as he reached the top, the medical team took over, treating him for suspension trauma and hypothermia. He was wrapped in blankets and placed in a litter, then hauled up the steep slope above the pit. This process was then repeated for Thomas.

The Marion County rescuers had cleared an ATV trail from the parking and staging area down to the top of the slope, and were able to ferry Dulcie and Thomas in turn up the hill to a waiting ambulance. They were both taken to the hospital. Thomas was released after examination, but Dulcie remained in the hospital for several days undergoing treatment for the effects of suspension trauma before being released. Several weeks passed before his recovery was complete.

1. *Boston Dulcie, Incident report, 14 September 2005.*
2. *Ken Thomas, Incident report, 30 May 2006.*
3. *Van Cain, Incident report, 17 May 2005.*
4. *Bill Putnam, Incident report, 16 May 2005.*
5. *Laura House, "Rescuers save men stranded in Marion cave,"* Chattanooga Times Free Press, *17 May 2005.*

Comments: Dulcie concedes that he was unfamiliar with his climbing system, and should have practiced more before going to the pit. He also notes that if he had learned and practiced changing over from ascent to rappel, he could have gone back down and gotten off rope to sort things out.

Dulcie also did not realize that his adjustable lanyard needed to be shortened to place the QAS ascender within reach. A prusik knot is incorporated into these lanyards for just that purpose. It is standard practice to start out with the lanyard shortened rather than extended, so that the ascender is in reach and the lanyard can be lengthened during a change-over to transfer weight from the ascender to the rappel device.

If Dulcie had shortened the lanyard at the beginning of the incident, he would have been able to sit comfortably in his harness, with his hands free and no tension on the rope from his lower ascenders to interfere as he attached the chest roller. When he slid the ascender down the rope without shortening the lanyard, he inadvertently made things worse. Cavers using lanyards of this type should consider trimming the length to ensure that the ascender remains within reach even when the lanyard is fully extended. Practice also helps in fine-tuning your equipment.

Thomas became stranded when he unintentionally removed the Croll ascender of his frog system from the rope while down-climbing. This happened because he was releasing the cam by pulling down on the safety catch on the bottom of the cam. He writes that he was taking a step downward when he was startled by Cain yelling down from above and pulled too hard on the safety catch, opening the cam and allowing the rope to pop out. This left him hanging from the cow's tail connected to his foot ascender. Hampered by Dulcie's weight below him, Thomas could not get the Croll back on rope.

The proper technique for releasing the cam on a frog chest ascender is to push down on the top of the cam, not pull down on the safety catch. Using the safety catch to down-climb is a common mistake for users of the frog system, even among those who have used that system for many years.

Suspension trauma, or harness-hang syndrome, can be fatal. When you are suspended and immobile in your caving harness, the circulation in your legs is restricted. This can cause muscle damage and adverse effects on your blood chemistry that become apparent when the pressure of the harness is released, resulting in shock, unconsciousness, and even death. Moving your legs while suspended helps to improve circulation and reduces the risk of suspension trauma.

There are procedures and medications that can be used by trained medical personnel to reduce the risk when taking a suspended person off rope. If you do not have access to these and have to take someone off rope, most authorities recommend that you keep the person in an upright position and do not remove the harness. Be prepared to treat for shock.

The first members of the cave rescue team reached the scene about two hours after the 911 call. The entire rescue operation took about three hours from their arrival at the entrance to the departure of the second patient in the ambulance. That's pretty fast for a wilderness rescue, but we should all remember that help is a long time coming when you're stuck in a cave – Dulcie was suspended for more than five hours. What if the pit had been thousands of feet into the cave instead of at the entrance, or the cavers had been hanging in a larger waterfall? Know your system and practice those change-overs.

29 May
Island Ford Cave, Virginia
illness, stranded

Savonna Lessley and her nine-year-old niece, Harley Patterson, entered Island Ford Cave on Sunday afternoon, planning to spend a few hours exploring the cave as they had done on several previous trips. After traversing most of the cave, they were on the way out when Lessley began having trouble walking. She suffers from multiple sclerosis, and while she had not had any symptoms for some time, she apparently experienced a flare-up in the cave.

Lessley realized what was happening and tried to find the easiest route out of the cave, but was eventually unable to continue. Holding her niece in her lap, and wrapping her in extra clothing, she waited for help.

The two were reported missing the next day, and Lessley's car was located near the cave. Rescuers began searching the passages and soon found them. Patterson was able to walk and was escorted out, but Lessley could not stand, and was carried out in a litter. She reached the surface after 24 hours in the cave.

1. *Savonna Lessley, "Island Ford Cave Rescue," posted by Sean Ryan on www.cavechat.org, 3 August 2005.*
2. *Kerry McQuone, "Cave rescue," WSLS News Channel 10, www.wsls.com, 30 May 2005.*

Comments: Always let someone know where you are going and when you expect to return. A safe caving party should include at least two adults. Cavers with chronic medical conditions should use extra caution.

8 June
Lechuguilla Cave, New Mexico
caver fall, dislocated shoulder

Shortly after 11:30 p.m., Mark Andrich, Daniel Chailloux (57), and Doug Warner were on their way back to camp after spending eleven hours surveying when they came to a small climb over some breakdown in the Giant Chiclets Room. Chailloux used a small pocket on the face of a boulder as a foothold. As he stepped up, Chailloux's foot slipped from the slick, calcite-coated rock and he fell backward, striking his right elbow sharply against the rock. As Chailloux fell, Andrich reflexively grabbed him under the arms from behind to keep him from tumbling down a hole between the boulders. In the process of arresting the fall, Chailloux's right shoulder was dislocated.

The dislocation was painful, but Chailloux was able to move his arm and elbow and felt that he could make it back to camp. He took some ibuprofen, and the cavers continued slowly onward. They arrived at their camp at 12:30 a.m. and decided to eat and sleep before starting out of the cave.

After resting for about six hours, the cavers packed up their gear and headed for the entrance. Chailloux had not slept well due to the pain of his injury, and took some more ibuprofen, as well as some prescription anti-inflammatory medication. He chose not to have his arm immobilized in a sling, preferring to have the ability to use it when necessary during the trip out. Andrich and Warner carried some of Chailloux's equipment to lessen his load.

The team moved slowly through the cave, and Chailloux climbed Apricot Pit and several other drops with minimal assistance. Warner helped Chailloux negotiate some of the lips by acting as a human bipod to hold the rope out from the lip while Chailloux climbed over. There were also several rope traverses along the route. Chailloux passed these by clipping in to the traverse line with a pulley while other team members pulled him across using lengths of webbing.

The cavers reached the surface at about 4:00 p.m. and hiked back to the parking area. After reporting in at the park, Chailloux was taken to a hospital in Carlsbad. An X-ray confirmed the dislocation, which was reduced under mild sedation. Chailloux was released after treatment.

1. *Ron Miller, "Lechuguilla Cave Expedition Report, Near East and Far East, June 1-9, 2005," Carlsbad Caverns National Park, 9 June 2005.*
2. *Mark Andrich, Incident report, 5 February 2007.*

Comments: The cavers were very experienced and well-prepared, and the incident serves as a nice example of small party self-rescue. Andrich notes that the accident occurred at the end of a long day of surveying while on the way back to camp, and that the cavers were on the seventh day of a week-long expedition. The cavers had brought two small pulleys and several 20-foot lengths of one-inch tubular webbing – items that proved very useful in negotiating the rope traverses. Warner's "human bipod" technique was also helpful.

Given the number of shoulder dislocations reported in recent years, cavers (especially those with a history of previous dislocations) should be aware that there is a simple and non-invasive technique that may be effective in reducing a dislocated shoulder in the field. The injured person should lie face down on a waist-high rock or ledge, with the injured arm hanging loosely down and holding a lightly weighted (about 8-10 pounds) cave pack. Do not pull or twist the arm; let gravity and relaxing muscles do the work. When used soon after the dislocation, this method can be effective and has little risk of harm.

If this method doesn't work, it is probably best to immobilize the injured arm to reduce discomfort and prevent further injury and to go to an emergency room for treatment. There are a number of different methods for reducing a

dislocated shoulder, but most are beyond the scope of this report, and are best left to trained medical personnel.

11 June
Hellhole, West Virginia
rockfall

Dave West (57), Karen Willmes, and Mike Manke were on a survey trip in Hellhole when Willmes showed West a possible lead in some breakdown. West decide to enlarge the opening by removing some rocks, As he removed the last rock blocking the passage, it fell onto his left hand, breaking his little finger and nearly severing the tip.

West climbed back up out of the breakdown and took off his glove to examine the damage. The cavers had first aid kits in their packs, including antibiotic ointment and gauze. After applying the ointment, Manke fashioned a splint using a spoon and a popsicle stick, bending the spoon to fit over the end of West's injured finger and using the gauze to wrap the little finger, third finger, popsicle stick, and spoon handle into a package. A rubber surgical glove held the splint and dressing in place.

The cavers had a snack and some water, and then started for the entrance. They exited without incident, and went to a hospital where West's finger was cleaned and dressed.

Dave West, Incident report, 22 September 2005.

29 June
Talucah Cave, Alabama
rockfall

During the Summer 2005 NCRC cave rescue seminar, a group of students and instructors conducted a training exercise at Talucah Cave. The scenario for the exercise involved hauling a patient out of the cave through a 35-foot pit entrance at the Skylight Room. Under the supervision of the instructors, the students constructed a hauling and lowering system at the pit. Tymme Laun (41) volunteered to serve as the patient to test the operation of the system by being lowered into the pit and hauled back out.

After a safety check of the system, Laun was lowered into the pit in his seat harness, assisted by two other students serving as edge attendants. The lowering operation went smoothly, and the team changed the system over to haul. Laun was about 15 feet above the bottom of the pit when several rocks broke free at the lip and fell down the drop. Cavers who saw the rockfall shouted a warning, and Laun raised one arm to protect himself. The first rock stuck his arm, and the blow spun him around. A second rock struck his lower back.

Laun was quickly lowered to the floor and the cavers at the bottom ran to help him. He was in a lot of pain, but was conscious and had no head injuries. He was able to move with assistance, so the instructors decided to take him out through a nearby horizontal entrance. Once on the surface, he was driven to an emergency room for treatment. He suffered abrasions and severe bruises on his arm and lower back, including a bruised kidney and a bone bruise on his pelvic crest, but no broken bones. He was released after treatment.

Anmar Mirza and Tymme Laun, Incident report, 7 July 2005.

Comments: Laun notes that he and the edge attendants checked the lip area carefully for loose rocks before he was lowered and did not see anything problematic. He feels that the rope was moving across an unstable area but kept the rocks in place during the lowering, then dislodged them when pulled upward during the haul. Mirza writes that one of the edge attendants thought he might have dislodged the rocks, but that no one was certain.

Rockfall is always a danger at pits, and the risk is increased when there are multiple ropes and cavers over the edge. In a training exercise, students may focus on equipment and procedures and may overlook an environmental hazard, such as loose rock. Mirza points out that attendants should only be at or over the edge when the patient is at or just below the lip, to minimize the patient's exposure to anything they may drop or dislodge. Moving ropes in a hauling or lowering operation can also undermine and dislodge rocks. This incident also illustrates the importance of keeping people out of the fall zone at the bottom of a drop.

5 July
Meeks Triple Well, Alabama
caver fall, lost control on rappel

Meeks Triple Well is a multi-drop cave system with five pits and a total depth just over 300 feet. Sean Lewis (18) and six other cavers from the 2005 NSS Convention entered the cave and descended two closely-spaced pits of 25 and 19 feet to reach the Triple Well – a set of parallel shafts, each about 120 feet in depth, that connect at the bottom. They rigged the nicest of the three pits and rappelled to the floor.

Lewis was the third to descend, and carried the rope for the next pit, a 60-footer. He had been told that it is a nice drop, and was enthusiastic about finding it. Lewis looked around for a lead and found the drain for the main pit going under a ledge and into a tight crawlway.

Lewis went first, carrying the rope, and after about 30 feet he came to the lip of a pit. He had been told that the way to the last pit is tight, and the depth of this pit seemed about right. There were supposed to be bolts for the rig point, but he could not find any. The only natural rig point was a projection on the wall that offered no good way to get on rope.

Aaron Atz, who was following Lewis, felt that something about the pit did not look right and backed out of the crawl to search for another route. Lewis initially had similar feelings, but he began to consider the possibility that his pit was virgin, which seemed likely because the mud on the ledge was undisturbed. He decided that the pit was either virgin or was the drop that he was seeking. Either way, he was committed to rigging and descending it, even though he figured that the others were probably getting impatient.

Lewis asked the others to tie a rope onto the end of the rope in the main shaft so that he could descend. The cavers complied, and Brian Killingbeck delivered the end to Lewis. Killingbeck pointed out that the rope would probably not reach the bottom, but Lewis was not concerned. He had a second rope attached to his harness, ready to use if needed.

The lip of the pit was undercut and there was nothing for Lewis to grip or stand on as he went over. Once over the edge, he could tell right away that the rope was too short. The knot

at the end was 30 or 40 feet from the floor of the pit, which was a nice free drop into a good-sized room.

Lewis rappelled to the knot, attached his safety ascender and foot ascender, and tied the second rope onto the end of his rappel line. He had never crossed a knot on rope before, and was figuring out what to do as he went. It took Lewis a while to work through the procedure. At one point he was getting frustrated and thought that he had seen enough of this pit and was about ready to climb out. He finally succeeded in transferring his weight to his rappel rack below the knot, and removed his safety ascender from the rope.

As soon as Lewis began to descend he lost control of his rappel and fell the remaining length of the drop, landing hard and injuring his right ankle. Lewis thought the ankle might be broken, and called up to Killingbeck to tell him what had happened. He couldn't use his right foot, but he thought he would be able to climb out using his left leg.

Killingbeck pulled up the rope and re-rigged the pit, so that Lewis wouldn't have to pass the knot on the way up. The other cavers set up an anchor for the rope outside the crawl, so that they could begin climbing back up the main shaft. While they arranged the ropes, Lewis used his rappel rack and some rope to make a splint for his injured ankle.

Lewis climbed back up the 60-foot pit by frogging with one leg. He struggled at the undercut lip for about 10 minutes before getting over it with Killingbeck's help. The tight crawl to the main shaft was difficult, and Lewis had to take off some of his equipment to get back through.

After resting and having some food and water, Lewis climbed the 120-foot shaft and the two smaller pits, then squeezed through the entrance to reach the surface. Alan Cressler helped him crawl and hobble down the mountain to the truck. Deciding that the injury was probably "just a sprain," the cavers drove to a local store where Lewis bought a pair of crutches, then had dinner at a Chinese restaurant before returning to the Convention. When his ankle was still painful after several days, Lewis went to a doctor, who determined that he had a sprained ligament and a broken fibula. A week after the incident he had surgery to repair the injury.

Sean Lewis, Incident report, 24 July 2005.

Comments: Lewis was very lucky – cavers have been seriously injured and even killed in similar incidents. When passing a knot, or changing over from ascent to rappel, leave your safety ascender or cow's tail attached until you have transferred your weight to the rappel device and established that you can control it during descent. Then, secure the rappel device, remove the safety, and proceed.

In his report, Lewis offers the following analysis: "The most obvious mistake I made was not tying off my rack. There are other possible mistakes and contributing factors, however. I may have had only four bars on the rope, which seems more likely the more I consider the situation. The rope was extremely slimy from being handled on the excessively muddy lip of the pit, and gripping it with my hand as I slid out of control was pointless. More abrasive gloves might have made more of a difference. If I had had a little more time, I might have tried to pull the rope around my back to arrest my fall, but my reaction time was too slow. Further, had I worn more supportive boots that reached my mid-shin rather than hiking boots, my injury might have been less severe. Also, as the knot tightened with my weight, it yielded some slack, which may have initially contributed to my lack of control."

"I was fortunate that the result of my accident was a self rescue. Here I was with a broken leg and sprained ankle 250 feet down a cave in Alabama. Brian said just the right thing to me right after the accident: that we were going to get out of here, and the best way for me to do it was under my own power. All I remember was a sense of unreality and a strong desire to get out."

"In retrospect, I can say some very important things that you should remember in similar situations. If the pit feels wrong, don't do it! It's not worth the risk even for the sake of a virgin drop. Don't let impatience get to you. Always tie off your rack when beginning a rappel after an on-rope maneuver. Using six bars is also helpful. Always take time to think through what you are doing."

Perceptive comments from a young, aggressive, and now wiser, caver.

21 July
Greenville Saltpeter Cave, West Virginia
caver fall

At about 3:00 p.m., a crew led by Roy Powers was finishing the construction of a gate on the Water Entrance of Greenville Saltpeter Cave in Monroe County when a group of about 15 people came out of the cave entrance. They said that one of their companions had hurt his knee and was on the way out with the rest of their group. The gating crew still had two of the angle-iron gate bars to weld into place, so the members of the caving party squeezed through the narrow gap.

At about 4:00 p.m., the remaining members of the party emerged. One of them was obviously injured, and was hopping along with help from his friends. The injured caver said his name was Keaton, and that he had slipped and jammed his foot between two rocks in the Ballroom, which is quite some distance from the Water Entrance. He had injured his knee when he pulled his foot out of the crack. Another member of the party said that Keaton's knee had been injured previously. Keaton hopped and hobbled back to the road, where a member of the gating crew drove him back to his group's vans.

The cave gating crew finished welding the gate and had everything packed away by 7:00 p.m., about five and a half hours after their anticipated 1:30 p.m. completion time. No one in the crew had known anyone was in the cave. The design of the gate leaves no opening for human entry or exit. If the construction project had gone according to schedule, the cavers would have been trapped inside.

Bob Liebman, "Another Accident in Greenville Saltpeter," The West Virginia Caver, *v23n6, p. 8, December 2005.*

Comments: The cavers were young men and women between the ages of 18 to 20. They were equipped with kayaking helmets and inexpensive headlamps. Many, including Keaton, were wearing tennis shoes. Nevertheless, some people might think that it is incumbent upon cave gate installers to make certain that no one is inside before sealing a cave entrance.

23 July
Big Manhole Cave, New Mexico
rockfall

Steve Peerman was working at an ongoing dig project in Big Manhole Cave, attempting to remove a suitcase-sized rock from the wall. Using a 12-pound sledgehammer, he managed to undermine the rock and separate it from the wall so that it was only attached at the top. Before striking the final blows, he braced himself in the passage, placing his right leg in an alcove and pressing his left foot against the wall. He expected the rock to fall straight down, but when he struck it with the hammer it rotated to the left as it fell, landing on his left foot as it hit the floor.

Peerman extricated his foot from beneath the rock without much difficulty, but could tell that something was wrong with his foot. He climbed out of the dig shaft and into the main chamber to assess the damage. His foot began to swell, so he decided to climb out of the pit entrance while he was still able.

Favoring the injured foot, he made the climb up to the surface and went back to his vehicle. He took off his boot, put an ice pack on the injured foot, and decided to rest for a while with his foot elevated. After resting and having something to eat, he drove back to Las Cruces that evening.

The next day he went to his doctor. An X-ray showed broken bones, and he was referred to a podiatrist for treatment. His foot was placed in a cast while the fracture healed.

Steve Peerman, "Accident report: Big Manhole Cave, Saturday, 7/23/05," Southwestern Cavers, *v45n5, September-October 2005, p. 65.*

Comments: Peerman writes, "I would remind others that rocks don't always do what you expect as they fall." Several similar incidents reported in this issue serve to prove his point.

28 July
Alexander Cave, Arkansas
illness, heart attack in cave

As Gerald Elsner (59) and a companion hiked up the steep hillside to Alexander Cave, Elsner felt an unusual "heaviness" in his chest. The feeling passed as he rested outside the entrance, so he decided to continue with the trip. The two men entered the cave and traveled through several thousand feet of passage. After a while, Elsner began to feel nauseated, but he kept going. The heaviness in his chest returned, and its intensity increased. At about 2:15 p.m., his symptoms became so severe that he could no longer move. Elsner collapsed in a small passage and told his companion to go for help.

It took the man about an hour to find his way back out of the cave and get to a telephone. He called 911 at about 3:30 p.m. and reported that Elsner was in the cave and was having a heart attack. Rescuers from local fire departments, rescue squads, and caving organizations were called to the cave. They soon located Elsner, who had been waiting for several hours. He was conscious but in severe pain and still unable to move. Rescuers assessed his condition and packaged him in a litter. It took rescuers about four hours to move Elsner through the cave to the entrance. There he was placed in a full-body harness and hauled up the 30-foot entrance drop.

Elsner reached the surface at about 11:00 p.m. and was taken by helicopter to a hospital, where surgeons placed a stent in his coronary artery. He was released after several days in intensive care. Full recovery was expected to take several months. The rescue operation took more than eight hours and involved about 35 people, including a number of local cavers.

1. *Armando Rios, "Four-hour cave rescue successful,"* The Baxter Bulletin, *www.baxterbulletin.com, 30 July 2005.*
2. *Julie Stewart, "Stricken spelunker pulled from Stone County cave in delicate 8-hour rescue,"* Arkansas Democrat-Gazette, *30 July 2005, p. B-1.*
3. *Van Jensen, "Thought he'd die in cave, man says,"* Arkansas Democrat-Gazette, *31 July 2005, p. B-1.*
4. *"Arkansas Units Rescue Man from Cave,"* Fire-Rescue Magazine, *v23n12, December 2005, p. 65.*
5. *Associated Press, "Rescuers save experienced spelunker who fell ill in Arkansas cave,"* The Baxter Bulletin, *www.baxterbulletin.com, 30 July 2005.*

Comments: In recent years there have been a number of fatalities from heart attacks during caving trips. Cavers should know and heed the warning signs and symptoms, which include: pain or uncomfortable pressure ("heaviness"), tightness, or burning in the center of the chest lasting more than a few minutes; pain spreading to the shoulder, neck, or arms; shortness of breath; cold sweats; nausea; light-headedness or fainting; increased or irregular heart rate; and feelings of anxiety or impending doom. While CPR may not always be practical or effective in a cave, all cavers should consider becoming certified in the technique.

2 August
Island Ford Cave, Virginia
caver fall, stuck

A 15-year-old girl was rescued from Island Ford Cave after being stuck for about an hour. She was exploring the cave with a group from Camp Kum-Bay-Ah in Lynchburg when she slipped and became wedged in some breakdown about 500 feet into the cave. Camp counselor Tom Watson tried to help, but could not free her. One of her legs was stretched out and wedged, and she could not get enough leverage to pull it loose. Another counselor left the cave to call for help, and led rescuers to the girl. They were soon able to free her leg, and she was placed in a litter and carried out of the cave. She was taken to a hospital where she was examined and allowed to rest for several hours before being released.

Melissa Martin, "15 year old girl Gets Trapped in Cave," WSLS News Channel 10, www.wsls.com, 4 August 2005.

2 August
Ten Mile Pit, Tennessee
stranded, inadequate equipment

At about 4:00 a.m. Tuesday morning, Brad Pruitt (21) and his brother Blake (19) climbed down into the stair-stepped 75-foot deep entrance of Ten Mile Pit to explore the cave at the bottom. They were dressed in cotton pants and t-shirts, and equipped with flashlights, but did not have helmets or climbing equipment.

The men spent some time exploring the cave before returning to the entrance. When they tried to climb out of the pit, Blake found that he lacked the strength to pull himself back up. He became stranded on a ledge about 25 feet below the top.

Fortunately, Brad made it out and called 911 for help. Rescuers rappelled into the pit and put a harness on the stranded explorer, then hauled him up. He reached the surface at 8:10 a.m. Neither brother was injured in the incident.

1. *Jim Balloch, "Brothers' morning of cave exploration ends in 911 call,"* Knoxville News Sentinel, *3 August 2005.*
2. *"Teenagers caught in cave," WVLT Volunteer TV, www.volunteertv.com, 2 August 2005.*

Comments: This cave was the scene of a similar but more serious rescue on March 20, 2002, when a man fell and was injured while trying to climb out of the pit. The cave is gated, but in both incidents the men claimed it was unlocked.

13 August
Spanish Cave, Colorado
injured knee while climbing chimney

Marty Morey (30) was on the third day of a caving expedition at Marble Mountain when she hiked up to Spanish Cave with a group of seven cavers who planned to make a through-trip between the upper and lower entrances. Spanish Cave is cold and wet, with an inside temperature around 34 degrees Fahrenheit, and is considered to be the most difficult cave in Colorado. Morey was dressed for the conditions, wearing a wetsuit under her outer clothing and carrying an extra shirt in her pack.

The cavers gathered at the upper entrance, which is at an elevation of 12,239 feet, shortly before 11:00 a.m. Frank's Pit, a 140-foot drop, is a short distance inside, so the cavers donned their vertical gear before entering. The cave begins with a tight and awkward chimney leading down to a "step-across" where cavers must climb down from a ledge by stepping onto a rock several feet away. The top of Frank's Pit is a short distance beyond.

Morey was the last to enter, and had a little difficulty at the "step-across" before catching up with the others at the top of the pit. One of her companions, Richard Dieter, was having trouble with his headlamp, and had become wet from a leaking water bottle in his pack. Dieter was not wearing a wetsuit and was already feeling cold, so he decided to go out. After a moment's hesitation, Morey decided to go with him. She told the others of the change in plans, and started back toward the entrance.

Morey caught up with Dieter at the "step-across." After some effort, both cavers made it over to the ledge below the chimney. Morey decided to go first, and began to climb up the chimney. She was forcing herself up through the tight squeeze when she felt two "pops" in her left knee, followed by excruciating pain. Morey screamed, and Dieter grabbed her, thinking that she was falling. This caused more pain, and Dieter let go. Morey remained wedged in the chimney, trying to catch her breath.

After a few minutes she tried to continue up the chimney without using her injured leg. She struggled for several moments, but only succeeded in getting her right leg stuck in the crack. Dieter reached up and removed her boot, and she was able to pull her foot free and back down to the ledge.

Over the next hour, Morey made three more attempts to climb the chimney. Each time she reached a point where she could not get any higher without using her left leg, which would not support her weight. The cavers discussed the situation, and Dieter offered to climb up and try to pull Morey through. With no one below her, however, Morey was afraid that she might slip back down the chimney and fall into the pit. She decided to wait on the ledge while Dieter left the cave to get help.

Dieter exited the cave at 1:15 p.m. and ran down to the lower entrance. There, he encountered Mike Mobley and his sons David and John, who had just hiked up to the cave for the day. They did not have much caving experience or equipment, but they did have a rope, some pulleys, and a construction-type full body harness. The men quickly agreed to help. They accompanied Dieter back to the upper entrance, arriving at 2:20 p.m.

David Mobley climbed down the chimney and helped Morey put on the harness while the others rigged a hauling system. When everything was ready, the men hauled Morey up through the chimney. After about 30 minutes of effort, she was on the surface.

Sleet had begun to fall, and Morey was now confronted with a difficult hike back down the scree and talus slopes to the camp, just below the timber line at 11,155 feet. She could not bear any weight on her left leg. The slope was too steep and treacherous for the others to carry her, so she decided to slide and "crab-walk" down, holding her left leg up to protect her knee and foot. In this fashion she descended over 1,000 feet and covered the half-mile distance to the camp.

It was raining hard by the time they reached the camp. Morey climbed into her tent, changes into dry clothes, and got into her sleeping bag. It was too late in the day to start the three-mile hike to the trail head. After some discussion, the cavers decided to use Morey's cell phone to call for help. After several calls they had arranged for a horse-packing team to come up the following day to take Morey down. Morey spent an uncomfortable night, with only Advil for pain medication.

At 7:00 a.m. the next morning, the horse team called to say that they would be at the camp site around noon. The cavers broke camp and packed up their equipment, dividing Morey's gear among them. Three cavers stayed with Morey to wait for the horses while the rest of the group hiked off the mountain. The horse team arrived just after noon and took Morey down the six-mile horse trail. Twenty-seven hours after her injury, Morey arrived at the parking area. A few days later she was diagnosed with a torn ACL and later underwent surgery to repair the damage.

1. *Marty Morey, Incident report, 3 September 2005.*
2. *Marty Morey, "Getting Home From Spanish Cave,"* Rocky Mountain Caving, *v22n4, Autumn 2005, pp. 21-27.*

20 August
Ellisons Cave, Georgia
rockfall

Stephen Adcock (21), and Matthew Garrett (24) were climbing tandem up the 586-foot Attic drop in Fantastic Pit while three companions waited above. When Adcock reached the lip, he transferred to a "pigtail" rope rigged next to the main climbing line so that he could climb over the lip without being hindered by Garrett's weight below him. Garrett was on the main line just below Adcock's feet, resting, with his right arm raised and leaning against the wall.

Suddenly a large rock broke loose, bounced off the wall, struck Garrett's arm, and fell past his face before dropping into the pit. The impact made an impressive sound, but fortunately there were no other cavers at the bottom. Garrett's arm was bruised, but he considered himself lucky to have escaped more serious injury.

Matthew Garrett, Incident report, 22 August 2005.

Comments: As Garrett and Adcock demonstrated, it's a good idea for cavers climbing tandem to stay close together to reduce the impact from falling objects, especially at the lip, where the chance of rockfall is increased. When rockfall is known to be likely, tandem climbing should be avoided.

24 September
Empire Mine Cave, New Mexico
rockfall entrapment

A group consisting of eight people including cavers, park rangers, and archaeologists, headed up to Empire Mine Cave in Sequoia National Park to study and photograph mine ruins from the 1870s. After rigging the entrance pit, Shane Fryer descended, followed by Mindy Goldberg (25), who proceeded past Fryer down a short chimney.

Dave Bunnell (53) entered the cave next. He rappelled the initial drop without incident, but as he started to climb down the chimney a large rock shifted, pinning his cave pack and his leg against the wall. Bunnell managed to free himself, but the rock had closed off most of the passage, trapping Goldberg at the bottom.

Joel Despain hurried down to help. After about an hour of work, the three men managed to move the rock and open up just enough space for Goldberg to climb up, over, and out. Several attempts to reposition the rock failed. Everyone exited the cave safely and no one was injured in the incident.

Mindy Goldberg, Incident report, 30 September 2005.

Comments: Goldberg notes that Empire Mine Cave is indeed a true cave, despite its name. It was briefly used as a silver mine.

1 October
Green Valley Cave, Alabama
caver fall

Andy Porter (35) and two other cavers were traversing a canyon passage about 1,200 feet inside Green Valley Cave when a two-foot-wide by three-foot-long section of a ledge broke under Porter's feet. He dropped about six feet into a canyon before he was able to arrest his fall. Porter was shaken, but did not notice any injury, and continued into the cave.

Porter had undergone surgery on his arm two weeks before the trip, and when he caught himself, he tore the incision back open. He discovered the injury when he removed his shirt to squeeze through a tight spot. Porter left the cave and went to an emergency room where the wound was cleaned and closed with stitches. The exposure to the cave environment resulted in an infection of the wound, which was treated with antibiotics.

Andy Porter, Incident report, 14 November 2005.

Comments: The ledge was made of cemented clastic deposits of cobbles, mud, and sand. Porter notes that three other cavers had crossed the ledge without incident before it broke underneath him. He also observes that he probably should have waited until the incision was completely healed before going caving.

2 October
Lost Creek Cave, Tennessee
rockfall

John Hickman (37) was leading a group of Vanderbilt University students through Lost Creek Cave when they came to a small climb-down. Hickman helped the students as they made the climb, then started to descend. As he did so, one of his handholds broke. A 50-pound rock fell and landed on his foot, injuring it. Hickman was able to exit without assistance. An X-ray later confirmed that he had broken his big toe.

John Hickman, Incident report, 21 October 2005.

7 October
Flowing Stone Cave, Georgia
rockfall entrapment

A group of eleven cavers went to Flowing Stone Cave on Pigeon Mountain, Georgia. The cave has a tight, excavated entrance passage that drops ten feet before opening into a 224-foot pit. The cavers decided to do the pit in shifts, with half the cavers remaining on the surface while the others bounced the pit, so that the wait at the bottom would not be as long.

The first group of cavers rappelled and climbed the pit without incident, and the second group then descended. Three cavers were still on the bottom when Jeff Harrod (32) climbed the rope and began squeezing through the tight passage at the top. As he forced his body through the tightest part, a "fat" 30-inch by 18-inch rock broke loose from the ceiling, rolled off his back, and pinned his right leg at the ankle.

Other rocks began to break loose and fall into the pit. The offset drop and tight entrance hampered communication and the cavers had been relying on rope tugs to signal "off rope." As a result, the cavers at the bottom were waiting near the rope, watching for Harrod's signal. He yelled "Rock!" and the cavers below dove for cover as falling rocks hit the bottom and shattered on impact.

Harrod tried to pull his leg out but it was firmly pinned. He called out to the surface, a few feet away. The first group had just left to hike down the mountain, but a caver from Harrod's

group heard his cry and called them back to help. Harrod couldn't reach the rock, so another caver was lowered by his ankles to put a sling around it. The cavers on the surface were then able to hold the rock in place while they pulled the climbing rope out of the pit.

When they tried to pull the rock out, it rolled painfully onto Harrod's ankle, and they were forced to stop. Harrod was also afraid that more rocks would collapse as the larger one was removed. As the cavers pondered the situation, the rock suddenly shifted, and they were able to pull it out. Harrod was quickly extricated and checked for injuries. His ankle was bruised but not broken.

The cavers cleared the remaining loose rocks in the entrance passage and at the lip. Once they felt that the pit was safe, they lowered the rope to the waiting cavers, checking for damage as they fed it into the pit. The three cavers at the bottom ascended without incident.

1. *Jeff Harrod, Incident report, 25 November 2005.*
2. *Jeff Harrod, "Trapped in Flowing Stone Cave,"* Birmingham Grotto Newsletter, *v35n11, November 2005, p. 111.*

Comments: Harrod notes that he was the largest caver in the group. Cavers would do well to be suspicious of excavated passages and entrances, which may be more likely to collapse than those occurring naturally. Flowing Stone Cave was dug open by cavers in 2002.

29 October
Fossil Mountain Ice Cave, Wyoming
lost, hypothermia, inadequate equipment

Brigham Young University senior Christy Martinsen went to Fossil Mountain Ice Cave with a group of friends from school. One member of the group had been to the cave before, and planned to lead the group on a through-trip from the upper Ice Cave entrance to the lower Wind Cave entrance. The trip requires several rappels and climbs, and finding the correct route through the lower section of the cave to the Wind Cave entrance can be challenging.

About three hours into the trip, the cavers realized that they could not find the exit. After rappelling several drops just inside the upper entrance, they had pulled down their rope and could not go back. The cavers spent hours searching the lower levels of the cave, retracing their steps, and looking for the connection to the Wind Cave entrance. Their food and water were eventually consumed, and their lights began to fail as the batteries were exhausted. Along the way, Martinsen swapped her boots for water sandals while wading through Crotch Lake and lost the boots in the water when her pack broke. Her feet were very cold, and she became hypothermic.

By the time they found the correct passage and emerged from the Wind Cave entrance, the group had been underground for over 16 hours. About 18 inches of snow had fallen while the group was in the cave, and Martinsen hiked several miles down the valley to the trailhead in her wet sandals. She arrived back at her apartment at 6:00 a.m. Sunday morning, still cold and exhausted, and collapsed into bed.

A few hours later, Martinsen's roommates woke her for church, and she told them what had happened. Martinsen's feet were still painful, and she did not feel well, so they convinced her to go to the hospital. She was treated for pneumonia, hypothermia, and nerve damage in her toes. She also had extremely elevated enzyme levels, indicating muscle tissue breakdown, and was hospitalized and treated for three days before being released.

Amanda Keisel, "Lost: Students stuck in ice caves for 16 hours," Idaho Scroll, *Brigham Young University, www.byui.edu/Scroll, 6 December 2005.*

Comments: The cavers should not have pulled down their ropes without being sure of the route. They could have made sure by going into the Wind Cave entrance and having a look before hiking up to the Ice Cave entrance. Martinsen would have been better off to keep her boots on her feet, along with wool or synthetic socks or neoprene booties. The cave has been the scene of many similar incidents, with several resulting in rescues. It is listed in several hiking guides, and is a popular destination for inexperienced and poorly equipped spelunkers. The connection to the lower entrance is somewhat obscure.

5 November
Carroll Cave, Missouri
caver fall

Mike Freeman and four other cavers entered Carroll Cave to carry supplies to an underground camp and to continue the survey of lower Thunder River. They were enroute to the camp site when they came to Thunder Falls. To pass the falls, the cavers climbed onto a ledge and crawled across a steep mud slope above a funnel-shaped hole to reach a ladder leading down to the stream.

As Freeman crawled across the slope his heavy pack shifted, throwing him off balance. He lost his footing and slid about 20 feet down the slope and into the hole, rolled around its rim, and fell through the opening, dropping 16 more feet to the stream. Freeman landed on his side in the water, which broke his fall. He was shaken, but not seriously injured, and was able to continue the trip, complaining only of some minor discomfort.

Rita Worden, Incident report, 17 July 2006.

Comments: Worden writes that the incident "was a big wake-up call for us all." The traverse across the slope was later modified to make it safer by excavating a path across the slope. Cavers should consider rigging and using a traverse line in such situations, especially for frequent travel routes in project caves, where heavy packs may increase the risk.

4 December
Pettijohns Cave, Georgia
lost

Heath Courtney and Chuck Rowland were exploring Pettijohns Cave, and were well into the back section of the cave when they heard voices down the passage ahead calling for help. They investigated and found two flashlight-carrying teenagers who had entered the cave the day before and become lost. Courtney and Rowland gave the stranded pair

some food and water and then led them out. They had been lost for more than 24 hours.

Heath Courtney, Incident report, 4 December 2005.

Comments: It's the first rule of safe caving: always tell someone where you are going and when you expect to return. Fortunately for the lost cavers, Pettijohns is a very popular cave with frequent visitation.

2004 Cave Diving Accident and Incident Reports

25 January
Forty Fathom Grotto, Florida
lost consciousness, rapid decompression

Linda Sanner was diving with her husband and an instructor at Forty Fathom Grotto when she lost consciousness at a depth of about 118 feet. According to reports, Sanner floated to the surface where other divers pulled her from the water. She was not breathing and showed signs of decompression injury from the uncontrolled ascent. Bystanders called for an ambulance while other divers administered CPR. Paramedics arrived and transported Sanner to a hospital for treatment.

Mabel Perez, "Scuba diver almost dies in Grotto," Ocala Star-Banner, *27 January 2004.*

16 March
Cenote Dos Ojos, Yucatan, Mexico
fatality, lost consciousness, contaminated gas

Canadian diver Clement Pouillot was diving with a companion in Cenote Dos Ojos when he lost consciousness. He was brought to the surface but could not be revived. Reports stated that analysis of the air remaining in Pouillot's tank found that it was contaminated with carbon monoxide. The source was reported to be a faulty compressor used to fill Pouillot's tanks. Other divers who used the same air station were also affected, and a second fatality occurred on the same day at Nohoch Nah Chich.

1. *"Death of Clement Pouillot," www.scubaboard.com, 17 March 2004.*
2. *"Canadian diver dies in Cenotes," www.thedecostop.com, 23 March 2004.*

16 March
Nohoch Nah Chich, Yucatan, Mexico
fatality, lost consciousness, contaminated gas

According to reports, Geoff Kalavant was reported missing when he failed to return from a solo dive to the Pet Cemetery section of Nohoch Na Chich. His body was retrieved, and it was reported that an investigation determined that his tanks were contaminated with carbon monoxide. The report indicated that Kalavant had filled his tanks at the same air station used by Clement Pouillot before his fatal dive at Cenote Dos Ojos on the same day.

1. *"Death of Clement Pouillot," www.scubaboard.com, 17 March 2004.*
2. *"Canadian diver dies in Cenotes," www.thedecostop.com, 23 March 2004.*

Comments: Later reports indicated that a number of divers experienced headaches and other problems after using tanks filled at the same station used by Pouillot and Kalavant.

8 April
Cueva Oztoquito, Puebla, Mexico
fatality, exceeded training, inadequate equipment, out of air

On Thursday, April 8, Mariano Fuentes (32), Jose Montiel, and Alberto Maldonado entered the cave through the 125-meter entrance drop and proceeded upstream about 500 meters to an unexplored sump, while expedition member Fernando Chávez and his young son remained on the surface in support. Fuentes and other members of the Draco caving club had been exploring the caves near San José Balvanera for several years, and were especially interested in finding a connection between Oztoquito and Oztoque, two caves separated by a distance of about one kilometer on the surface. Fuentes planned to dive the sump in Oztoquito, hoping to make a connection to Cueva del Oztoque.

With the help of his companions, Fuentes entered the sump using modified open-water scuba equipment and two line reels loaded with polypropylene line. Montiel and Maldonado remained at the sump pool with one reel, feeding out the line as Fuentes explored. If necessary, Fuentes planned to attach his second reel of line to the end of the first to continue.

Fuentes' first attempt on the sump ended after about 15 minutes when his guideline became tangled, forcing him to return to the sump pool. After untangling the line, Fuentes reentered the sump for a second attempt. Eventually, Montiel fed out the last of the line on his reel, and the two support cavers were left to wait while Fuentes explored.

After some time, they decided that Fuentes must have passed the sump and was probably exploring dry passage on the other side. Several hours passed with no sign of Fuentes, and the two cavers became concerned. Thinking that Fuentes might be stranded on the other side of the sump, Montiel left the cave to rig the Oztoque entrance pits. He hoped that Fuentes would be able to get out through the other side of the system. Maldonado waited at the Oztoquito sump, in case Fuentes should return by that route.

Upon reaching the surface, Montiel asked Chavez to call for help, then continued to Oztoque to rig the cave and look for Fuentes. Maldonado eventually left Oztoquito and followed Montiel to help rig and to search for Fuentes. When they reached the bottom of Oztoque, however, they found no sign of their missing companion.

When Fuentes failed to return from the sump, his companions notified authorities and called fellow cavers for help. They were able to contact a cave diving instructor from Mexico City, who came to the cave and made a dive but was unable to find Fuentes in the extremely low, silty, passage. Two cave diving instructors from Quintana Roo were flown in, but they were also unable to locate the missing caver.

As word of the incident spread, more than 70 people gathered at the base camp established near the cave entrance to participate in the rescue. A unit of the Mexican Army, members of the National Guard, state police, City of Puebla firemen and paramedics, four state delegations of the Red Cross rescue organization, and numerous cavers and friends of Mariano were among the people assisting in the effort. The press arrived as well, with three satellite television trucks, a radio station, and several newspapers represented.

On Monday, April 12, the Mexican Consulate in Austin arranged special visas for travel into Mexico, and the following day U.S. sump divers R. D. Milhollin and Steve Ormeroid arrived at the site. In a series of dives that lasted until the following afternoon they were able to locate Fuentes' body floating in a lake chamber on the far side of the sump.

An examination of Fuentes' gear found all equipment in place, the valves open and regulators fully functional, but the air cylinders were empty. The sump divers were unable to bring Fuentes' body back through the underwater restriction without great difficulty, and upon consultation Fuentes' family elected to leave his body in the chamber.

1. *R. D. Milhollin, "Recovery Effort at Oztoquito Cave, Puebla Mexico,"* The Maverick Bull, *v17n5, May 2004.*
2. *Steve Ormeroid, Incident report, 29 September 2006.*
3. *Grupo University Espeleologico UNAM, Informe Oficial Del Rescate De La Cueva De Oztoquito, www.montanismo.org.mx, 28 May 2004.*
4. *José Montiel, Primer Reporte de la A. B. Draco, www.montanismo.org.mx, 17 April 2004.*
5. *Alberto Brave Maldonado, Accidente en el Oztoquito, www.montanismo.org.mx, 11 May 2004.*

Comments: The incident summary above was adapted from a report by R. D. Milhollin, who participated in the recovery effort. Milhollin observed that while Fuentes was an experienced open-water diver, he was not certified in cave diving. He did not have the necessary training, experience, and equipment for safe diving in the silty and constricted environment of the Oztoquito sump.

Rescue diver Steve Ormeroid contributed the following analysis, based on his personal examination of the victim and his equipment, along with information provided by others involved in the recovery operation. Ormeroid writes:

"Three of the five major rules of cave diving (NSS-CDS Accident Analysis) were violated: 1) Be trained; 2) Use a continuous guideline; and 3) Reserve at least two-thirds of your air to exit.

"The victim had no cave diving training. According to those who knew him, the victim had been given some cursory information about the equipment and techniques in conversation from a European cave diver. The equipment configuration used by the victim was a poorly modified open water diver arrangement. The water visibility was extremely limited, the cave passage was silty and very low, and the water temperature was in the range of 50 degrees Fahrenheit. All of these factors made the operation of his equipment difficult and certainly hazardous in an emergency situation.

"While the victim did in fact run a guideline, the manner in which it was used was a tremendous hazard. The line was pulled behind the diver, while being un-reeled at the sump opening in air. This made it impossible to correctly make wraps and maintain directional control of the line. The line was also a floating polypropylene, which created a major hazard of entanglement. The first rescue divers on the scene encountered great difficultly dealing with this line in the extremely low visibility.

"According to information provided at the scene, the victim made two, if not three attempts to penetrate the sump without changing tanks. Based on our dives, we concluded that at the start of his last dive, the victim's air supply was at a low level that could not have allowed for emergency."

12 June
Eagles Nest, Florida
two fatalities, silt, lost guideline, out of air

John Robinson Jr. (36) and Craig Simon (44) began their dive into Eagle's Nest sink at about 1:00 p.m. on Saturday afternoon. Their dive plan called for 40 minutes of bottom time, with a penetration of 1,800 feet at a maximum depth of 300 feet, and a total dive time of two and a half hours, including decompression. They were equipped with scooters for propulsion and stage tanks for decompression.

The two divers entered the sink, submerged, and descended about 40 feet, then dropped through a chimney into the Ballroom, a 150-foot-wide chamber with large passages leading both upstream and downstream. The men followed the Downstream Tunnel, which descends gradually to a depth of 200 feet before dropping steeply down The Pit to 290 feet, and then opening into a series of large rooms and passages. They planned to spend some time exploring the rooms beyond The Pit, and then make their way back out, with a decompression stop at 200 feet and another in the entrance pool. They staged their decompression tanks as they made their way into the cave.

When the divers had not returned by 3:30 p.m., another diver noticed their absence and became concerned. There was no sign of Robinson or Simon at their decompression stage locations, so the diver left the water and called for help.

Rescue divers came to the sink and began searching for the missing men. Robinson's body was found at about 2:00 p.m. on Sunday, about 1,100 feet into the cave on the main line in the Downstream Tunnel. His scooter was missing and his air tanks were empty. Divers removed the body from the cave.

The search for Simon was suspended Sunday evening due to bad weather, and resumed on Monday afternoon. Simon's body was located on Tuesday, in a small side passage off the Downstream Tunnel known as John's Pocket. Searchers first discovered Robinson's scooter, covered in silt and lying on the floor of the room, and then found Simon's body and scooter floating on the ceiling, entangled in line.

In the course of the search, recovery diver Larry Green suffered decompression sickness after diving to 300 feet on

three consecutive days. He was treated in a decompression chamber overnight, and released the next day.

1. *Patricia Kim, "1 Dead, 1 Missing After Cave Dive,"* Tampa Tribune, *14 June 2004.*
2. *Logan Neill and Aaron Sharockman, "Hernando cave claims diver,"* St. Petersburg Times, *14 June 2004.*
3. *"Fateful Expedition in Eagles Nest Pond,"* Bay News, *baynews9.com, 14 June 2004.*
4. *Dan DeWitt and Duane Bourne, "Lost diver found in inky nook,"* St. Petersburg Times, *16 June 2004.*

Comments: Both men were certified cave divers with appropriate training and equipment, and both had dived at Eagle's Nest previously. Some reports speculated that the men may have inadvertently stirred up the silt, lost contact with the guideline, and become lost and separated, exhausting their air supply before they could find the guideline and the way back to their stage tanks.

21 August
Devils Ear, Florida
fatality, out of air, exceeded training

Brian Luke Tindale (24) and three friends arrived at Ginnie Springs at about 8:30 p.m. Friday evening, set up their camp for the weekend, and then went to Devil's Ear spring. Two members of the group paddled a canoe around the spring while another snorkeled behind them. Tindale donned scuba gear and went diving.

Tindale made several brief descents, visiting the Little Devil and Devil's Eye entrances, and then surfacing to talk with his friends. According to reports, he had only about 500 psi in his air tank and carried a single D-cell flashlight. At about 2:00 a.m., Tindale told the others that he had about 12 minutes of air left, and that he would not be down long. He then submerged and swam into the Devil's Ear entrance. When he failed to return, his friends went for help. A Ginnie Springs diving instructor entered the spring, found Tindale's body just inside the cave entrance, wedged in a dome, and brought it to the surface.

1. *Heather Sorentrue, "Diver Drowns in Area Cave," WCJB Channel 20 News, www.wcjb.com, 23 August 2004.*
2. *Deborah Ball, "Tallahassee man dies at area springs,"* Gainesville Sun, *24 August 2004.*
3. *Incident report, International Underwater Cave Rescue and Recovery, www.iucrr.org, 26 August 2004.*

Comments: Reports stated that Tindale was certified for open water diving, but had no cave diving training or equipment.

9 December
Sac Actun, Yucatan, Mexico
two fatalities, lost, out of air

A group of nine divers, including a guide, went to the Cenote Calimba entrance of Sistema Sac Actun. The group had been diving together for several days, including one earlier dive in another part of the Sac Actun system. Their dive plan for the day called for a traverse between the Cenote Calimba and Cenote Bosh Chen entrances along a route notable for small but well-decorated passages and several junctions.

The divers divided themselves into two teams. The first team, comprised of four divers and the guide, planned to enter at Cenote Calimba, follow fixed lines to the Cenote Bosh Chen entrance, and return via the same route. Along the way they would encounter two junctions, where they planned to leave markers to indicate the correct exit route. The second team, comprised of Kent Hirsch (53), Michael Nast (37), William Downey (53), and Jeanne Downey (53), planned to enter after the first team and travel along the same route, taking pictures, and turn back at an appropriate time rather than making the complete traverse to the Bosh Chen entrance. The divers discussed the plan at length before the dive, reviewing a map and making diagrams of the junctions that would be encountered along the route.

The first team entered Cenote Calimba and proceeded downstream through about 1,500 feet of small, well-decorated passage to reach the first junction, known as "the Snap & Gap." At that point, the main line from Cenote Calimba ends. A second line leaves the junction and enters a passage called the Paso de Lagarto, which leads to the Cenote Grande and Cenote Ho Tul entrances. The ends of the two lines are separated by a gap of about 20 feet. The Snap & Gap is a 20-foot section of line that is left coiled at the end of the Calimba line and used to bridge the gap and connect to the Paso de Lagarto line.

The first team connected the two lines and proceeded about 65 feet down the Paso de Lagarto line to a second junction, where the Lagarto line makes a sharp turn to the right, while another passage leads left to the Bosh Chen entrance. There, the divers used a jump reel to connect to a fixed line in the Bosh Chen passage. Once again, they marked the junction to indicate the correct route for their return. They then proceeded to the Bosh Chen entrance where they surfaced briefly before starting back through the cave to retrace their route.

The second team, comprised of Hirsch, Nast, and the Downeys, had entered the cave behind the first and followed the same route, making the connection to the Paso de Lagarto line at the Snap & Gap, following that line for 65 feet, and switching to the Bosh Chen line according to plan. After following the Bosh Chen passage for some distance, they turned their dive and started back toward Cenote Calimba.

When they reached the junction with the Paso de Lagarto line they needed to turn right to follow the line to the Snap & Gap and the Calimba line. Instead, they went left, following the Paso de Lagarto line toward the Cenote Grande and Cenote Ho Tul entrances. They did not realize their mistake until they reached the end of the Paso de Lagarto line, some 1,400 feet downstream from the Snap & Gap junction.

Two days earlier, all four divers had been on a dive from the Cenote Grande entrance upstream to the Snap & Gap via the Paso de Lagarto, and they knew that the end of the line leading to Cenote Grande and Cenote Ho Tul line was somewhere in the room about 65 feet from the end of the Paso de Lagarto line. The Cenote Grande entrance was only about 700 feet away, and the Cenote Ho Tul entrance was somewhat closer. Hirsch attached the line from his safety reel to the end of the Lagarto line and began searching for the Cenote Grande line. Nast, however, started back upstream along the Paso de

Lagarto, with Jeanne Downey following. Bill Downey started after them, and Hirsch abandoned his search, picking up his spool and following.

The four divers made their way back along the Paso de Lagarto to the Snap & Gap and the Calimba line. As they traveled along the Calimba passage, they became separated. Bill and Jeanne Downey were in the lead, with Hirsh and Nast a short distance behind. Bill Downey's air supply began to run low, and he and Jeanne were forced to share. They reached the Calimba entrance and the surface with their tanks almost exhausted.

Meanwhile, the first team had made their way back through the Bosh Chen passage, made the correct turn to reach the Snap & Gap, and followed the Calimba line to the surface. When the Downeys surfaced and told them what had happened, divers from the first team went back into the cave to help Hirsch and Nast. Unfortunately, they were too late. Hirsch and Nast were found together, and 250 feet short of the entrance, their tanks empty. The men had drowned after exhausting their air supply.

1. *Cindy Stauffer, "Two experienced cave divers dead in Cancun scuba diving accident,"* Lancaster New Era, *12 December 2004.*
2. *Terrie Morgan-Besecker, "Diving accident claims former ADA,"* Wilkes-Barre Times Leader, *14 December 2004.*
3. *Incident report, International Underwater Cave Rescue and Recovery, www.iucrr.org, 27 January 2005.*

Comments: All of the divers were properly equipped and certified for the dive. It was also reported that the Snap & Gap has been replaced with a permanent fixed line.

2005 Cave Diving Accident and Incident Reports

4 January
Peacock Springs III, Florida
fatality, diving beyond training, lost, out of air

David Jones (34), Alan Heck, and Gene Page entered Peacock Springs III at about 1:00 p.m. for a dive to an area called Hendley's Castle. Each diver carried one travel tank and one stage bottle. Jones and Page dropped off their stage bottles about 500 feet into the cave, while Heck kept his with him.

Following the permanent line, the divers traversed about 1,000 feet of passage and reached the Castle at a depth of 184 feet without incident. As they started out of the cave, however, Jones signaled to the others that he was out of air. He had used up his air more quickly than expected, and did not have enough to get back to his stage bottle. Heck had carried both of his tanks to the Castle, and gave his stage bottle to Jones, who took the tank and signaled that he was OK.

The three divers continued, with Jones in the lead, but Page developed a problem and had to stop. Heck stopped to help while Jones continued toward the entrance. Page's problem was soon resolved, and he and Heck continued their exit. When they reached the stage location, Jones was not there, and his bottle was sitting unused. The men continued, expecting to catch up with Jones at the entrance, where all three divers would need to decompress.

When they reached the cave entrance, however, there was still no sign of Jones. Heck went back into the cave to look for Jones while Page completed his decompression and left the water to get help. At about 2:30 p.m., just as rescue divers were entering the water, Heck surfaced and reported that he had found Jones' body in a side passage about 300 feet from Hendly's Castle, and clipped it to the guideline. The two rescue divers retrieved the body while Heck finished his decompression.

1. *Incident report, International Underwater Cave Rescue and Recovery, www.iucrr.org, 7 January, 2005.*
2. *"Newberry man dies in cave,"* High Springs Herald, *6 January 2005.*
3. *Yvette Hannon, "Diver drowns in Peacock Springs,"* Suwanee Democrat, *6 January 2005.*

Comments: Jones swam ahead of the other divers, and apparently left the main line to the entrance at a junction where the main line continued while a second line led to the left and down a side passage. The two lines are separated by a "jump gap" to help prevent mistakes, but Jones apparently did not notice the gap. He followed the second line down the wrong passage and died when his air supply ran out.

Jones was certified as a cavern diver, and was reportedly enrolled in a cave diving course at the time of his death. He was not yet certified for full cave diving at the level required for the dive to Hendley's Castle. Page was also reported to be cavern-certified, but not certified for full cave diving. Heck was reported to be certified as a full cave diver and an instructor for the "Intro to Cave Diving" course.

12 May
Devils Eye, Florida
equipment problem

Peter Doege entered Devil's Eye spring and swam about 750 feet to an area known as the Parallel Lines, crossing three "jumps" or junctions en route. While he was connecting his line at the third jump, he bumped his tank against the ceiling. The contact caused one of the burst disks on the tank to start leaking. Doege heard the sound of escaping gas, and quickly closed a valve to isolate the leaking tank and preserve his remaining air. He continued to breathe from the leaking tank as he prepared to make a quick exit from the cave.

Leaving his diving reels in place, Doege headed for the entrance. With help from the out-flowing current, he made it back to his decompression bottle with about 2,400 psi in his good tank and 1,200 psi in the leaking tank. He completed his decompression successfully and left the water without further incident.

Peter Doege, Incident report, 21 December 2005

Comments: Burst disks are used to protect against overfilling and rupturing a tank. Doege checked the tank after the dive and found that the burst disk assembly had not been properly tightened and checked before the dive. It had worked loose, and the impact with the ceiling caused it to leak. He notes that the isolation manifold on his rig allowed him to protect his good tank from the effects of the leak and permitted a safe exit.

19 August
Dogwood Spring, Florida
fatality, free diving in cave entrance

Matthew Lund (20) apparently drowned while free diving alone in Dogwood Spring. His body was found in the entrance of the underwater cave after he was reported missing by his girlfriend. She had awakened early Saturday morning and discovered that Lund had left their campsite, taking his mask, snorkel, and swimsuit. When his car was located near the spring, rescue divers were called to search the cave. They found his body at about 8:15 a.m.

1. *Alice Wallace, "Man found dead in Ginnie Springs cave,"* The Gainesville Sun, *21 August 2005.*
2. *Grayson Kamm, "UNF Student Drowns While Cave Diving," First Coast News, www.firstcoastnews.com, 21 August 2005.*
3. *Associated Press, "UNF Student Dies in Cave Diving Mishap," First Coast News, www.firstcoastnews.com, 21 August 2005.*
4. *Adam L. Neal, "MCHS grad dies during diving excursion in North Florida,"* Stuart News, www.*TCPalm.com, 22 August 2005.*

Comments: Lund was apparently practicing an extreme version of snorkeling – holding his breath and swimming as deep as 60 feet. He was found with a small headlamp attached to the strap of his mask. A gash on his head indicated that he had struck his head on the rock at some point during his fatal dive. According to reports, Lund's friends said that he engaged in this type of diving frequently, and had dived at the spring "dozens of times" before.

11 September
Eagles Nest, Florida
decompression sickness, incorrect gas mixture, out of air, rapid ascent

Judi Bedard (48) and Rudy Banks entered Eagle's Nest sink at about 4:30 p.m. planning a deep dive on mixed gasses. They left oxygen tanks at 30 feet for decompression, and breathed a nitrogen-oxygen mixture as they descended to 130 feet, where they switched to tanks filled with a mixture of nitrogen, oxygen, and helium. Bedard immediately began to have problems, and switched back to her nitrox tank and began to ascend. Banks realized that Bedard was having trouble and becoming disoriented, and he tried to help her.

Bedard lost consciousness at about 100 feet as Banks brought her to the surface, and by the time they reached 60 feet she had stopped breathing. Banks decided to skip decompression to get her out of the water. Bystanders helped pull Bedard from the spring and administered CPR as others summoned an ambulance. She was not breathing and had no pulse. Rescuers were able to get her breathing again, and she was taken to a hospital, where she was reported to be in critical condition.

Bedard suffered multiple injuries from the dive and the rapid ascent, including arterial gas embolisms, multiple cardiac arrests, and kidney failure. According to reports, she spent almost four months in the hospital, and was discharged in January, 2006.

1. *Rick Gershman and Saundra Amrhein, "Cave diver pulled to surface barely alive,"* St. Petersburg Times, *13 September 2005*.
2. *"Diver pulled from sink; in critical condition,"* Hernando Today, *12 September 2005.*
3. *Rick Gershman, "Racing for life, 130 feet down,"* St. Petersburg Times, *29 September 2005.*
4. *Rick Gershman, "Better access urged for dive rescuers,"* St. Petersburg Times, *2 October 2005.*

Comments: An investigation determined that the gas in Bedard's tri-mix tanks was almost entirely helium, with almost no oxygen, and that the tanks were unevenly pressurized. In addition, the isolation valve between the tanks was incorrectly left closed. One report stated that the investigators concluded that the tanks were improperly filled and that Bedard had not followed the proper safety protocols to check her tanks and gas mixture before the dive.

Report accidents and incidents via the Internet at **www.caves.org/pub/aca**

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American Caving Accidents
National Speleological Society
2813 Cave Avenue
Huntsville, Alabama 35810-4431

2004 Caving-related Accident and Incident Reports

10 January
La Joya, San Luis Potosí, Mexico
fall at cave entrance

A group of young people climbed down into the large doline know as La Joya ("The Jewel") located near the village of Estacion Ventura to explore a cave entrance visible on the wall of the 400-meter by 500-meter sink. At about 11:00 a.m., just as they reached the entrance, one of the explorers, a 26-year-old man, slipped and fell. He tumbled about nine meters before coming to rest at the top of a 120-meter drop. He sustained numerous injuries in the fall, including head and facial trauma, as well as fractures of the right femur, left tibia, and left fibula.

One of the other members of the group went for help, and members of the cave rescue group of the Mexican Red Cross responded. Due to the remote location, it took several hours to assemble personnel and equipment at the scene and begin the rescue operation. The injured man was placed in a litter and hauled to the lip of the doline, then carried to a waiting ambulance. He was treated for hypothermia and transported to a hospital. The rescue operation was concluded at about 2:00 a.m.

Antonio Aguirre Álvarez, "Reporte de Accidente en 'La Joya' SLP, 10 de Enero del 2004," Espeleo Rescate Mexico, ermexico.tripod.com, undated.

18 January
pit near Rancho Cielo, Tamaulipas, Mexico
fatality, fell into roadside pit

Cornelieo Garcia (30) reportedly was on his way home from a party when he strayed off the path and fell into a 150-foot pit. He was killed by the fall.

When Garcia did not return home as expected, friends and family members began searching for him along the old road between Gómez Farías and Alta Cima in the El Cielo Biosphere reserve. When they came to the pit, about 200 yards from the junction for Rancho Cielo, they noticed that the area around the lip had been disturbed, but could not see the bottom. After several days of searching found no other sign of the missing man, Garcia's brother called Jean Muzquiz, a caver in Mante, and asked him to come look in the pit.

Muzquiz and several other cavers went to the cave, accompanied by members of the Fire Department. They rigged and descended the pit, and immediately located Garcia's body at the bottom. It was recovered from the pit.

Jean Louis Lacaille Muzquiz, Incident report, 22 January 2004.

Comments: The eight-foot diameter pit entrance is just a few feet away from a four-wheel-drive road at a point where the road makes a curve. Garcia, who was reported to have been drinking before his departure from Gómez Farías, apparently missed the curve and walked into the pit.

18 January
unnamed sinkhole near Apopka, Florida
woman swallowed by sinkhole

Linda Sharp (57) was walking her dog along the road near her home in Apopka, Florida when a section of pavement collapsed beneath her, and she fell into a sinkhole. "I stepped on a little bubble in the ground, and it just swallowed me up," Sharp said afterward. Neighbors found Sharp's dog, Bouncer, running loose with his leash dragging behind. They took the dog back to Sharp's home, where her daughter was waiting for her. Realizing that Sharp was missing, they began searching for her. When they found her in the sinkhole, they called 911.

Fire and rescue personnel came to the scene, but had to work carefully to rescue Sharp without collapsing the unstable edges of the sink. When preparations were complete, a rescuer was lowered into the sinkhole. He placed Sharp in a harness, and she was lifted from the hole and taken to a hospital for treatment. She was trapped for about three hours and suffered back injuries in the incident.

"A Walk to Remember," ABCNews.com, 25 January 2004.

23 February
unspecified cave in Warren County, Kentucky
meth lab found in cave

A group of geology students from Western Kentucky University made an unusual discovery while surveying a cave in Warren County. They were mapping the cave as part of a groundwater study when they found a methamphetamine lab about 75 feet into the cave. After completing their survey, the group reported the lab to authorities, providing them with the cave location and a copy of the map. Investigators examined the site, and emergency management personnel in protective suits and respirators removed the chemicals and paraphernalia from the cave.

Associated Press, "Students Find Meth Lab In Cave," WTVF NewsChannel 5, Nashville, 24 February 2004.

Comments: The article noted that the investigators were surprised to find a meth lab in a cave, but a number of similar incidents have been reported in recent years. Just as caves were used by moonshiners in decades past, they are now used for marijuana growing and drug manufacturing. Cavers should use extreme caution if such a facility is encountered, and should report it immediately to the proper authorities – the chemical ingredients and residues involved can be extremely toxic.

22 March
Wabasha Street Caves, Minnesota
explosives found in old tunnels

Teenagers exploring a group of tunnels known as the Wabasha Street Caves contacted authorities after they discovered buried crates containing about 300 pounds of

gunpowder about 75 feet inside one of the tunnels. Police investigated and summoned the bomb squad to remove the explosives.

The powder was packaged in crates and tubes and had been buried about two feet deep in a four-foot by five-foot pit. The crates were in poor condition, and some of the powder was loose. In the process of removing the gunpowder and cleaning up the site, investigators found a second and larger cache buried nearby. The second cache was estimated to contain between 1,100 and 1,700 pounds of gunpowder.

In the news report, a researcher at the Minnesota State Historical Society noted that the tunnels had been excavated long ago and used as "cheap, convenient storage facilities for everything from beer to cheese." The tunnel where the gunpowder was found was thought to have been part of a brewery that closed in the 1950s. There were reportedly no markings on the crates to indicate the origin of the gunpowder, but a police spokesman suggested that it appeared to have come from the U.S. military.

Associated Press, "Roughly 2,000 pounds of gunpowder found in St. Paul cave," KSTP-TV Channel 5 News, www.kstp.com, 24 March 2004.

26 March
unnamed sea cave on Oahu, Hawaii
fatality, cause unknown

At about 10:00 a.m., a 26-year-old man was pulled, unconscious, from a sea cave on the Leeward Coast of Oahu. He was reportedly diving with a companion, who summoned police to the scene. The unconscious diver could not be resuscitated.

"Diver found lifeless in sea cave later dies," Honolulu Star-Bulletin, *28 March 2004.*

Comments: No indication was given regarding the cause of the accident, which apparently occurred during an open-water dive.

15 April
Sótano de La Garza, Puebla, Mexico
fatality, suicide in pit

Cave rescuers were called to Sótano de La Garza on April 15 to recover the body of a man who had reportedly committed suicide by throwing himself into a 60-meter deep pit near Zitlala in Municipio Huitlalpan. After meeting at the pit with municipal authorities and civil defense personnel, the cavers rigged and descended the pit. The body was located on a ledge about 50 meters down. It was packaged in a litter and brought to the surface.

While they were at the cave, authorities asked the rescuers to examine the bottom of the pit to investigate a rumor that a person had been thrown into the pit some 20 years earlier. The cavers checked the area at the bottom, but found only a few animal bones and some trash.

Antonio Aguirre Álvarez, "Reporte de Rescate en el Sótano de La Garza," Espeleo Rescate México, ermexico.tripod.com, 17 April 2004.

26 April
unspecified cave near Oden Ridge, Alabama
lost, overdue

Donnie Burns (39), Kevin Burns (20), and two 13-year old boys were the subjects of a search in Morgan County, Alabama, after they failed to return from a caving trip on Sunday evening. The four had gone to explore a cave near Oden Ridge off Wilson Mountain Road on Sunday and had become lost in the cave for several hours before finding their way back to the surface. Night had fallen, and they decided to wait in the cave entrance until daylight.

When the four explorers did not come home Sunday evening, family members called authorities. Fire department and cave rescue personnel were called out early Monday morning and had just begun searching for the missing cavers when they walked out of the woods on their own just before 8:00 a.m. They were unharmed by the experience.

Ronnie Thomas, "Lost hikers found safe after night in ravine," The Decatur Daily, *26 April 2004.*

27 April
unnamed sea cave on Highway 1, California
car washed into sea cave after accident

Coast Guard and Highway Patrol personnel were dispatched for a search and rescue effort near the Devil's Slide area on Highway 1 in San Mateo County after motorists reported that a vehicle had left the road and plunged over a cliff into the sea. A rescuer rappelled down the cliff to look for survivors, and spotted debris near the entrance of a six-foot wide, 35-foot high sea cave. No survivors were located. The sea cave could not be entered, but parts of the partially submerged vehicle were later spotted in the cave. Authorities were not sure whether the vehicle could be recovered.

"Truck in Ocean Could Be Missing Man's," KRON Bay City News, www.kron4.com, 27 April 2004.

27 April
Wabasha Street Caves, Minnesota
three fatalities, asphyxiated by carbon monoxide in tunnel

Shortly before 4:00 p.m. on a Tuesday afternoon, Patrick Dague (17), Natalie Van Vorst (17), Nicholas Larson (17), Justin Jensen (17), and Jay Boucher (19) squeezed through the entrance of a tunnel in the bluff behind the Department of Agriculture building on Plato Boulevard. The opening is part of a complex of tunnels known locally as the Wabasha Street Caves, which were excavated approximately 100 years ago in a sandstone bluff overlooking the Mississippi River.

As they entered, members of the group noticed the smell of smoke in the tunnel, but they proceeded anyway. They did not realize that the tunnel contained dangerous amounts of carbon monoxide, apparently from a campfire built underground. Several hundred feet into the tunnel, some members of the group were overcome by the fumes and collapsed. Boucher was able to find his way back to the entrance, and called 911 at about 4:00 p.m.

Police and rescue units came to the scene, and firefighters using air packs crawled into the tunnel to search for the missing young people. They found Jensen a short distance inside the tunnel, unconscious but still alive, and brought him out. The other three were not as fortunate – rescuers found their bodies and brought them to the surface. Jensen was taken to a hospital where he was successfully treated for carbon monoxide poisoning. The tunnel entrance was sealed the following day.

City officials noted that the tunnel complex has long been known as a hazard, and that previous attempts to seal the entrances have been thwarted by the soft rock, which makes it easy for explorers to dig them back open. One news report quoted St. Paul Deputy Mayor Paul Flaherty, who said people sometimes go into the tunnels and build campfires. Ventilation in the tunnels is limited, and the fumes can linger for days. "It appears that may very well have been what happened last night," Flaherty said. "The firefighters tested the CO level and it was lethal."

1. *Lonny Goldsmith, "Three students die in St. Paul cave,"* Minnesota Sun, *www.mnsun.com, 29 April 2004*
2. *"Three Dead in Cave, Cave Sealed," KARE Channel 11 News, www.kare11.com, 28 April 2004.*
3. *Jill Burcum, "Cave survivor's recovery amazes doctors,"* Minneapolis Star Tribune, *www.startribune.com, 30 April 2004.*
4. *Allen Powell II, "Classmates grieve,"* St. Paul Pioneer Press, *www.twincities.com, 28 April 2004.*

Comments: The reports did not indicate the source of the smoke and carbon monoxide, but suggested that the fumes resulted from a fire built in the tunnel by previous visitors. Building a fire of any kind in a confined space such as a cave or tunnel can be extremely hazardous, as this tragic incident demonstrates. The tunnel complex is reported to be quite extensive, with many entrances along the bluff. Several rescues and deaths have occurred in the tunnels, including a similar incident in 1992 in which two 17-year-old girls died from carbon monoxide. A sign outside the tunnel reportedly warned of the danger of entry.

13 May
sea cave at Panther Beach, California
stranded in sea cave by rising tide

A man was rescued by lifeguards after becoming stranded in the entrance of a sea cave at Panther Beach. The man, who was in his 20s, was walking on the beach with a friend, and the two men ventured into the cave entrance. When they tried to leave, the rising tide had partially flooded the entrance, making the passage difficult.

One of the men was able to swim out to some rocks and climb to the beach, but the other could not get out. His companion went for help. Two lifeguards were able to enter the cave and help the stranded man swim out to a waiting harbor patrol boat. He was then taken back to the beach, unharmed. There have been several similar incidents at Panther Beach in recent years.

"Lifeguards rescue man trapped in cave," Santa Cruz Sentinel, *14 May 2004.*

21 June
unspecified cave on Lewis Peak, Utah
stranded on cliff at cave entrance

A 14-year-old boy was hiking with friends on Lewis Peak, near Ogden, when he decided to climb up a cliff face to reach what appeared to be a cave entrance. The entrance turned out to be just an overhang, but the boy soon discovered that he could not climb back down the cliff. He decided to stay put while his companions went for help. He was stranded for several hours before rescuers were able to reach the site and bring him down safely.

"Ogden Boy Rescued in Cliff Cave," KSL Channel 5 News, www.ksl.com, 22 June 2004.

Comments: News reports described the overhang as a cave.

28 June
McFails Cave, New York
dog stranded in cave

A five-year-old black Labrador retriever named Mallory was rescued from a pit entrance of McFail's Cave after a hiker reported hearing noises coming from the cave. The man had been riding his motorcycle in the area when he stopped to rest and walk through the woods where the cave is located. When he passed near the cave entrance, he heard noises coming from the hole. The following day, the man called the Schoharie County sheriff's office and told them that he thought a dog might be stuck in the cave.

The Sheriff's department sent an officer to investigate and also called Emily Mobley, the coordinator of the local cave rescue team. Mobley, Mike Warner, and Deputy Lenny Price met at the McFail's Cave Preserve property to check out the cave entrances. At first, they did not hear anything, but when they checked again, the dog howled and barked. Mobley called in other members of the cave team, and a rescue was quickly organized.

The rescuers rigged the 55-foot pit and Joe Armstrong descended, stopping a few feet off the floor to make sure the dog was friendly. Once he felt confident that the dog would not attack him, Armstrong got off rope and checked her condition. Mallory had suffered a dislocated leg when she fell into the pit, so the rescuers contacted a vet, who came to the scene and provided a sedative and instructions on its use. Davis descended to administer the sedative and help Armstrong place the dog in a harness. Mallory was then hauled out of the pit and taken to the animal hospital for treatment.

Mallory's owners were surprised the next day when their lost pet appeared in the news. The dog had been missing for about two weeks, after pushing through a screen to escape from the house. Mallory had lost a lot of weight but was expected to recover. "We are going to be feeding her a lot," said her owner.

Patricia Breakey, "Dog rejoins family after cave rescue," The Daily Star, *www.thedailystar.com, 30 June 2004.*

3 July
Climax Cave, Georgia
stung by wasps at cave entrance

Rodney Clark (26) and Kathryn Gatton (24) climbed down into the sink at the entrance to Climax Cave at twilight. As they prepared to enter the cave, they inadvertently stepped on a yellow jacket nest in the ground just outside the entrance. As they scrambled to climb out of the confines of the sink and escape, both cavers were attacked by the wasps and stung repeatedly. Clark received 52 stings, and Gatton was stung 96 times. They fled the area and went to an emergency room as a precaution, due to the number of stings.

Rodney Clark, Incident report, 20 January 2005.

10 July
Sotano de Xoconostle, San Luis Potosí, Mexico
fatality, fell into pit while intoxicated

A weekend party turned to tragedy for a group of young people when a 23-year-old man accidentally stumbled into a pit and fell to his death. The man had been with friends attending a rave party near the Cueva de los Caballos, and was on his way back to his campsite at about 11:00 p.m. when the accident occurred. It had been raining, and the night was foggy, but the group had no flashlights or headlamps. One member of the group was walking a short distance ahead of his companions, carrying a sack containing several bottles of beer, when he apparently strayed off the trail and fell into the entrance of Sotano de Xoconostle, which consists of a 24-meter initial drop, followed by a steep 6-meter slope, another drop of 19 meters, and a final drop of 7 meters.

The man's companions heard him stumble, followed by the sound of the bottles breaking in the pit. They could not see him, and he did not respond to their calls. They went for help, and authorities called cave rescuers to the scene. They rigged the pit, descended, and found the man's body at the bottom. He had suffered severe head injuries and had been killed by the fall.

Antonio Aguirre Álvarez, "Reporte Oficial del rescate efectuado en el Sotano del Xoconostle," Espeleo Rescate Mexico, ermexico.tripod.com, 11 July 2004.

4 August
unspecified lava tube, Kiholo Bay, Hawaii
fatality, drowned while free-diving in lava tube

Bradford Orwell (28) was reportedly free diving with friends in "a fresh water pond in an underwater lava tube" at Kiholo Bay when he failed to surface. A companion searching for Orwell found him, unconscious but still alive, in about 15 feet of water. Fire and ambulance personnel were called to the scene, and Orwell was taken to a hospital. Unfortunately, he had been under water for too long, and died three days later.

"*Big Island man dies while free diving,*" The Honolulu Advertiser, *6 August 2004.*

Comments: It was not clear from the news report whether or not the men were actually diving in the lava tube. The article said that Orwell was "pulled from the waters of Kiholo Bay."

23 August
Matacanes Canyon, Nuevo Leon, Mexico
fall, broken ankle on caving/canyoneering trip

Kara Dittmer went to Matacanes Canyon in a group of 16 cavers for a canyoneering trip following the Espeleo Coahuila conference. The route through the canyon is about 15 kilometers long and passes through two short caves along the way. Visitors equipped with wetsuits and vertical gear rappel or jump down a series of waterfalls and swim through plunge pools during their descent of the canyon, which usually takes six or seven hours to complete.

Dittmer and her companions had an enjoyable trip for most of the day, rappelling or jumping into plunge pools as they followed the stream down the canyon. At about 3:00 p.m., Dittmer was climbing down a rock chute at one of the waterfalls. She reached a point where she thought she could slide to the pool at the bottom, and let go. As she landed in the pool, she stuck some submerged rocks and injured her ankle.

Dittmer's companions helped her out of the pool, and examined her leg. Her ankle was clearly broken, and she could not walk. They decided that the best course would be to keep moving down the canyon, sending some members of the group ahead to get help. While they constructed an emergency litter from rope and some tree branches, Dittmer's injured leg was wrapped in padding and duct-taped to her good leg to keep it stable. When the litter was completed, the cavers began moving Dittmer down the canyon.

They moved slowly, lowering Dittmer down each drop or waterfall, and carrying or floating her along the stream. As the evening approached, they came to the first of two caves on the route. Dittmer was lowered down a waterfall and into the upper entrance of the cave, then floated and carried through the passage and out the lower entrance. As night fell, they decided to make camp beside the stream and wait for morning before continuing. They built a fire, and Dittmer tried to rest as they passed a mostly sleepless night in their wetsuits.

The next morning the cavers resumed their march down the canyon. About two hours later, they were relieved when a rescuer coming down the canyon caught up with them, bringing a Sked litter and the news that a helicopter evacuation was being arranged. Dittmer was repackaged in the Sked, and the group continued downstream, heading for an area large enough to permit access for the helicopter, which they soon heard overhead.

Once the group had reached a wide enough spot, two rescuers and a litter were lowered from the helicopter using a winch. The rescuers placed Dittmer in the litter, clipped in to the winch cable, and signaled the helicopter, which then lifted all three from the canyon. After a short flight, they landed farther down the canyon and loaded Dittmer into the helicopter for the flight to Monterrey, where she was taken to a public hospital for treatment.

Unfortunately, Dittmer had no identification, insurance card, or credit card with her, and her companions had been detained by authorities investigating the accident. She spent a

very uncomfortable afternoon and evening before friends arrived and arranged a transfer to a private hospital, where she underwent surgery to repair her broken ankle.

1. *Kara Dittmer, "Rescue in Matacanes,"* The Texas Caver, *December 2004.*
2. *Terri Whitfield, Fofo Gonzales, and Rob Meyers, "Rescue in Matacanes!"* The Texas Caver, *October, 2004.*

Comments: The reports noted that another caver in the group, Becky Jones, also suffered an ankle injury at the same waterfall where Dittmer broke her leg. Jones' ankle was only sprained, and she was able to continue with the aid of a makeshift crutch. In hindsight, it appears that it might have been wiser to rappel that particular drop, at least for some of the participants. Dittmer noted that she was not able to see how the cavers ahead of her negotiated the last part of the descent.

31 October
unnamed cave near Jochib, Chiapas, Mexico
children reported missing in cave, apparently drowned

A small cave near the village of Jochib was the scene of an intense, multi-day rescue effort when a local man reported that his two sons had become trapped in the cave. Pascual Saraos Jimenez (11) and his brother Miguel (6) were reportedly helping their father hunt tepezcuintles (a type of agouti, also known as a paca) on Sunday evening. The cave has several entrances, and the boys were supposed to go in through one entrance and flush the animals out through another, where their father waited with a machete.

The father managed to wound one of the animals, and when it retreated into the cave he sent Miguel in after it. When Miguel did not come out, his father sent Pascual in to look for him. When time passed and neither of the boys emerged, the father enlisted other family members and friends to help. Eventually, they notified authorities and rescuers were called to the cave. Over the next several days, a massive rescue effort developed, attracting the attention of the news media, as well as large number of area residents.

The boys had apparently gone down a small side passage off the chamber connecting the two entrances. The passage was low and narrow, and none of the rescuers could fit. Some rescuers reported that they could hear the boys' voices down the passage, and efforts focused on enlarging it by digging out fill material and chiseling rock from the walls. Rescuers also tried to push or toss food and water down the passage, hoping that the boys would be able to reach it.

After working for several days, rescuers were able to penetrate about 20 feet to a 90-degree bend. After that, the passage became even smaller. A small woman rescuer was able to squeeze past the constriction and crawl another 15 feet down the passage, only to be stopped by another sharp bend and constriction. She retreated from the passage, but reported that she had been able to hear the children's voices ahead.

The rescue effort was suspended on the fourth day when heavy rains moved into the area. A stream began flowing into the cave entrance, and rescuers' worst fears were realized as the cave began to flood. Despite attempts to redirect the stream, the water level rose until the entire cave was filled. The rescuers were forced to abandon the effort. No sign of the missing boys was ever found.

1. *Antonio Aguirre Álvarez, Incident report, 22 November 2004.*
2. *Manuel de la Cruz, "Mexican rescuers fight against clock to rescue children trapped in cave," Associated Press, 4 November 2004.*
3. *"Hope Fades for Saving 2 Boys Stuck in Mexico Cave," Reuters, www.reuters.com, 5 November 2004.*
4. *"Crews abandon search for children trapped in cave," Associated Press, 5 November 2004.*

Comments: The accounts of this incident were somewhat contradictory regarding the circumstances of the boys' entry into the cave. None of the reports mentioned any lights used by the boys, and it is hard to imagine how or why they would have pushed and squeezed through the low passage, around two sharp turns, and through several constrictions to become stranded, or why they could not crawl toward the rescuers trying to reach them.

News reports consistently indicated that rescuers were able to hear the boys and communicate with them at various times during the first four days of the rescue effort. Hostility from the local villagers discouraged some rescuers from returning to the cave after the flood, but during the following week an effort was made to recover the bodies of the two boys. No signs of the children were found, and officials concluded that their bodies had been swept deeper into the cave by the flood waters.

14 December
unnamed cave near Scottsville, Kentucky
dog stranded in cave

Daniel Spurlock and his dog, Sam, were hunting when Sam chased a raccoon into a small cave entrance near Scottsville. When Sam didn't come back out, Spurlock tried to crawl in to help him, but could not fit through the small passage. Over the next week, Spurlock returned to the cave several times, calling Sam and trying to coax him out of the cave. He could hear Sam whimpering, and the sound of the dog's cries stayed on his mind.

Spurlock decided he needed some expert help, and began looking for people who knew something about caves. Eventually, he made contact with members of the Green River Grotto at Western Kentucky University. Grotto members went to the cave and began searching for the stranded canine. They soon located Sam, who had crawled up into a small passage in the ceiling. The cavers brought him out of the cave and returned him to his grateful owner.

Courtney Craig, "Grotto club saves dog, Sam, from tight spot," Bowling Green Daily News, *23 December 2004.*

2005 Caving-related Accident and Incident Reports

2 February
Waterman Mountain Bat Cave, Arizona
killer bee attack at cave entrance

Tom Gilleland (43), Pete Fine, and Bruce Lynn had recently learned about this newly discovered cave, so they drove about 1.5 hours from Tucson to go visit it. While Lynn and Fine readied their gear, Gilleland started hiking up the hill to the cave. The rock in the area is very sharp limestone and the desert mountain environment is home to a variety of cacti and sporadic brush. The approach hike is a few hundred yards long, with about 200 feet of vertical ascent.

As Gilleland crossed a ridge and approached the cave entrance, a swarm of bees flew out of the entrance and attacked him. Gilleland suffered numerous stings as he scrambled back over the ridge and ran down the hill. After about fifty yards he came to a climb-down at a ledge, where he was stung again. Gilleland attempted to run down the climb-down and lost control, tumbling on the sharp rocks and injuring his left knee, hip, hands, and arms. When he landed, Gilleland noticed that his right ring finger was dislocated and sticking out at a 90-degree angle.

While re-setting his finger Gilleland was stung again, so he got up and ran another fifty yards until he encountered the other two cavers coming up the hill. All three continued quickly down the hill to the car. Lynn, a professional fireman, rinsed off Gilleland's gashed and bleeding knee and bandaged it with a clean sock, then drove him to the nearest emergency room, about an hour away. In addition to the bee stings, Gillelland's injuries included severe lacerations of his hand and knee, a broken thumb, two broken fingers, and a variety of scratches and bruises.

Tom Gilleland, Incident report, 9 March 2005.

Comments: Gilleland writes: "This cave was known to a few other cavers to contain killer bees, but due to the Arizona cave secrecy ethic of some cavers, this information was not made available. Sometimes cave secrecy has serious safety consequences."

14 April
abandoned limestone mine, Kansas
lost, inadequate equipment

At about midnight on Thursday evening, seven young people entered an abandoned limestone mine at South 34th Street and Steele Road. They built a campfire and spent some time "hanging out" before five members of the group decided to use a boat to explore the flooded tunnels. They soon became lost in the mine. Matters went from bad to worse when their boat began to leak, and their flashlight batteries began to die.

Eventually, the explorers found a place where they could cling to one of the pillars in the mine tunnels, so they decided to stay put and wait for help. They huddled together, talking and singing to pass the time, and praying for rescue.

When the explorers failed to return, the remaining members of the group left the mine to get help. Rescuers soon arrived and began searching the mine. The lost explorers were finally saved when they saw a light and were able to find their way to the entrance. They had been in the mine for 14 hours.

Peggy Breit, "Cave Party Turns Into Nightmare For Friends," www.The KansasCityChannel.com, 15 April 2005.

Comments: The news report first referred to the mine as a cave, but then described it as an abandoned limestone mine.

18 May
Stephens Gap Cave, Alabama
caver fall outside cave

Toni Amundson was injured during a Huntsville Grotto trip to Stephens Gap when she slipped and fell just outside the cave. The cavers had rigged a rope in the Keyhole entrance as well as in the main pit, and Amundson was walking up to the Keyhole when she lost her footing. She tried to control her fall, but landed awkwardly with her leg underneath her, breaking her ankle. Members of the group helped her get back to the parking area, and she was taken to an emergency room.

Dan Mattle, "May's Grotto Trip to Stephens Gap," Huntsville Grotto Newsletter, *v47n7, July 2005.*

29 May
Albertson's Quarry, Vermont
fatality, drowned while diving in mine

Tim Gagnon (43) and John Weymouth entered the flooded opening of Albertson's Quarry at about 10:00 a.m. The mine is a popular dive site, and both men had dived there many times before. They were equipped with standard cave-diving gear.

The divers followed the main guideline to its end, where they attached a jump reel and transferred to another line leading deeper into the mine. They did not go far, however, before turning the dive and starting back toward the entrance. As they made their way out, Weymouth's regulator failed, and began to free-flow. Gagnon passed the long hose of his rig to Weymouth and the two shared Gagnon's air as they continued, with Weymouth in front and Gagnon right behind him. About 400 feet from the entrance, Weymouth was surprised when the long hose was suddenly pulled away from him. Weymouth used his leaking regulator and kept going. He surfaced in the entrance with less than 500 psi left in his tanks. There was no sign of Gagnon.

Weymouth left the water and called for help. Rescue divers were called to the scene, where they spent the rest of the day searching for Gagnon without success. The following day, recovery divers entered the mine and found Gagnon's body on the floor of the mine tunnel about 400 feet inside the mine at a depth of 109 feet. One of his tanks still contained about 2,000 psi of air, but the valve was closed. Investigators

theorized that Gagnon may have been bumping against the tunnel ceiling during their exit, accidentally closing the valve.

1. *Incident report, International Underwater Cave Rescue and Recovery, www.iucrr.org, 2 June, 2005.*
2. *Alan J, Keays, "Diver drowns in quarry,"* Rutland Herald, *31 May 2005.*
3. *Darren Perron, "Crews Dive for Body in West Rutland," WCAX Channel 3 News, www.wcax.com, 30 May 2005.*

Comments: Gagnon was reported to be full-cave certified.

18 August
Sótano de la Cochera, San Luis Potosí, Mexico
fatality, fell into pit

A man searching for a lost horse alerted authorities after spotting what turned out to be the body of a man in Sotano de la Cochera. Cave rescue groups were called to the scene to recover the body from the 35-meter deep pit. The victim was a man, approximately 40 to 45 years of age, who had apparently fallen into the pit and died of injuries from the fall. He had been dead for about 24 hours before being discovered. The man had no ropes or equipment. The reason for his fall was unknown.

Antonio Aguirre Álvarez, "Reporte de Rescate en el Sótano de La Cochera," Espeleo Rescate Mexico, ermexico.tripod.com, 19 August 2005.

18 August
Gollums Cave, Utah
four fatalities, drowned in abandoned mine

At about 3:00 a.m. on Thursday morning, Blake Donner (24), Jennifer Galbraith (21), Scott McDonald (28), Ariel Singer (18), and Joseph Ferguson (26) crawled through the low entrance of an abandoned mine on Y Mountain, near Provo. The mine, which is known locally as Gollums Cave, is an excavated spring. A small stream flows out of the entrance, and there is a pool just inside. Beyond the pool, a low tunnel leads about 50 feet to a fork. On the right, a tunnel runs for about 200 feet and ends. The left fork runs about 70 feet and intersects a flooded, lower level tunnel before ending.

The flooded passage, which is about four feet high and two feet wide, begins as a two-foot diameter pool in the floor of the main tunnel and runs underwater for about 15 feet before opening into an 11-foot long, six-foot high chamber. Previous explorers had rigged a rope through the tunnel so that they could hold their breath and pull themselves through the underwater passage to reach the chamber. Candle remnants and markings in the room indicated frequent visitation.

The group had come to the mine intending to go to the chamber beyond the sump. They were dressed in shorts and T-shirts, and carried flashlights and candles for light. When they reached the flooded passage, Donner, Galbraith, McDonald, and Singer decided to go through the sump to see the final chamber. Ferguson, however, decided not to go. He stayed by the pool at the beginning of the sump as the other four submerged, one after the other, and pulled themselves through to the room beyond. After the last of his friends went through the sump, Ferguson felt a tug on the rope, which he interpreted as a signal that they had all reached the room.

Ferguson waited for his friends to come back through the sump. He did not expect them to be gone very long. When they had still not emerged after 45 minutes, he became worried. Ferguson left the tunnel and called friends who had explored the mine and been to the chamber. They told him that 45 minutes should have been more than enough time. When he could still find no sign of his friends, Ferguson called 911.

Police, fire, and search and rescue personnel responded, and were soon gathered at the mine entrance. Special teams trained in confined space rescue and underwater rescue were also called to the scene. At about 9:45 a.m., the body of one of the women was located in the flooded tunnel. Behind her, rescuers found the bodies of her companions. All four had drowned in the flooded tunnel, apparently while trying to make their exit.

1. *Michael Rigert, "Four die in cave,"* Provo Daily Herald, *19 August 2005.*
2. *N. S. Nokkentved, "Cave or mine? Either way, it pays to be safe,"* Provo Daily Herald, *19 August 2005.*
3. *Mark Eddington and Todd Hollingshead, "Daredevil cave trip ends in tragedy,"* Salt Lake Tribune, *19 August 2005.*
4. *Sara Israelsen and Jeremy Twitchell, "4 drown in cave,"* Deseret News, *19 August 2005.*
5. *"Four Hikers Found Dead Inside Provo Cave," KSL News, www.ksl.com, 19 August 2005.*
6. *Kevin Dickerson, Dave Bennett, and Shay Lelegren, "Gollum's Cave (Water Mine)," Survey and map, 18 August 2005.*

Comments: Holding your breath and swimming or crawling through a sumped passage is extremely dangerous and unsafe. Apparently, however, the practice was apparently well-known among young people in the area. News reports included statements from several people who had been to the chamber on previous occasions, describing it as a popular stunt for area residents.

News reports referred to the mine as "the Cave of Death" or "Gollums Cave," but local cavers involved in the response report that the so-called cave is actually a man-made tunnel excavated to enlarge a spring. Such features are sometimes referred to as "water mines." There was some debate as to whether the flooded passage and chamber were natural or man-made. The mine is located on city property, and was permanently sealed after the incident.

18 September
sea cave at Black Rock, Kaanapali, Hawaii
fatality, drowned while snorkeling

The body of a 53-year-old woman was recovered from an underwater cave just off shore at the popular Black Rock diving area on Kaanapali Beach. The woman had apparently drowned after becoming wedged in the cave while snorkeling.

"Visitor's body removed from underwater cave," Maui News, *19 September 2005.*

17 October
unspecified cave near Peak's Corner, Alabama
meth lab found in cave

Police were called to the entrance of a cave at Peak's Corner, near Fyffe, when a man searching for arrowheads looked into a cave and discovered an active methamphetamine operation inside. Investigators examined the site, and then removed the chemicals and equipment.

"We have worked several calls since October 1 about abandoned meth labs, but I think this is the first one we have ever worked where it was found in a cave," said Task Force Commander Darrel Collins. "There was a time when we found several marijuana plants growing inside caves in the county, but this is the first active meth lab I can remember."

Agents had to make several trips on four-wheelers to carry away all the materials found in the cave.

Kelly Townsend, "Officials find lab in a cave," Fort Payne Times-Journal, *19 October 2005.*

14 November
Panther Cave, Tennessee
dog stranded in pit

A hunting dog named Buck was rescued from Panther Cave just outside Great Smoky Mountains National Park after hikers heard the sound of barking coming from a hole in the ground near their campsite. When they looked into the hole and spotted the dog, Buck was perched on a ledge about 40 feet below the surface. The hikers reported the situation to park personnel that evening, and on the following morning four rangers went to the cave. During the night the dog had climbed or fallen down from the ledge, and was now on the bottom of the pit, about 70 feet below the surface.

Park Ranger Rick Brown rappelled to the bottom of the cave to rescue Buck, tying a makeshift harness around the dog so that he could be lifted from the pit. Buck was hungry and dehydrated, but he had no serious injuries and was expected to recover. He was taken to a vet for treatment.

Buck was wearing a hunting collar with his owner's name and telephone number, as well as a tracking device. Park officials were able to contact the owner to let him know that the dog had been found. The owner reported that Buck had disappeared during a hunt 16 days earlier. He had searched the area extensively for days after the disappearance, but had not been able to find Buck. Apparently, the dog had been in the pit the entire time, and the radio tracking signal had been blocked as a result.

Buck's owner was delighted to have him back, "I was really glad to get the news," he said, noting that Buck is "one fine coon dog."

1. *Thomas Fraser, "Hunting dog found in cave after 16 days,"* Maryville Daily Times, *17 November 2005.*
2. *Morgan Simmons, "Dog tired but OK after rescue," KnoxNews.com, 17 November 2005.*

14 December
Cato Cave, Tennessee
marijuana farm found in cave

Police in Trousdale County arrested three men after discovering an extensive marijuana growing operation in a cave underneath a house in Dixon Springs. In the cellar of the stylish A-frame house, investigators found a steel door leading down into a series of rooms equipped with elaborate lighting and watering systems supporting more than 1,000 marijuana plants.

The house had been constructed on top of a cave, which had then been enlarged and modified to support the clandestine farm. The men had also constructed a hidden escape route from the back of the cave, installing a ladder to the surface and covering the opening with a hatch made to look like a boulder.

Authorities were alerted when electric company workers discovered that the drug farmers had tapped into nearby power lines to steal electricity for the operation. The men later pleaded guilty to charges including growing marijuana and theft of electric power. The house, which was seized by the state, was later destroyed in a fire.

1. *Leon Alligood, "Suspect in cave pot farm hid his true identity,"* Nashville Tennessean, *7 January 2006*
2. *"Drug Cave Case Goes To Grand Jury," WTVF NewsChannel 5, www.newschannel5.com, 21 February 2006.*

21 October
unnamed lava tube on Kilauela, Hawaii
fell into lave tube entrance

Shortly after 10:00 p.m. on a Friday evening, park rangers and firefighters responded to a report that a person had fallen into a lava hole about 25 or 30 feet deep on the Kilauea Military Camp grounds. The 19-year-old woman was able to speak to rangers, who rappelled down to assess her condition. Firefighters and a ranger then brought her back to the surface, where she complained of left ankle pain. She was taken to a hospital for treatment. The woman had gone over a barrier to relieve herself, where she fell into the hole.

"Woman falls into lava tube during bathroom break," West Hawaii Today, *23 October 2005.*

Report accidents and incidents via the Internet at **www.caves.org/pub/aca**

or mail reports and information to:

American Caving Accidents
National Speleological Society
2813 Cave Avenue
Huntsville, Alabama 35810-4431

The National Cave Rescue Commission

The National Cave Rescue Commission (NCRC) is a volunteer group developed to train cave rescue personnel throughout the United States. It is part of the NSS, located within the Department of the Administrative Vice-President.

The NCRC does not perform cave rescues. It organizes, develops, and provides training in cave rescue techniques, maintains lists of individuals trained in cave rescue, and can help locate rescue resources in times of need. Most NCRC-trained cavers do participate in rescues, but not as part of the NCRC. They work as members of their local rescue teams, civil defense units, or cave rescue groups.

The NCRC also works to:

- Maintain good working relationships with other rescue-oriented individuals, organizations, government agencies, and sources of specialized equipment and services (*e.g.*, the Air Force Rescue Coordination Center and the Center for Mine Safety and Health Administration).
- Maintain current files of potentially useful equipment (*e.g.*, underground communications equipment and cave-oriented medical kits) and services that can be obtained through the above sources.
- Acquire and maintain a limited supply of certain equipment, such as special rescue litters and vertical rescue gear, in key locations throughout the country.
- Increase the number and proficiency of cave rescuers across the United States by sponsoring training sessions and seminars, and by encouraging other caving, rescue, and EMS organizations to sponsor such educational programs.
- Encourage international cooperation by developing contacts with cave rescuers and rescue agencies in other countries, by pre-planning with these groups where US involvement is anticipated, and by inviting participation of cave rescuers from other countries in NCRC seminars.

Organization

The NCRC is led by a Board of Regional Coordinators. The Board includes a National Coordinator, Training Coordinator, Medical Coordinator, and Diving Coordinator (each of whom coordinates resources and activities at a national level), and Regional Coordinators for each of ten regions in the United States and its territories. Board members are nominated by cavers and cave rescue personnel, and are appointed by the NSS Board of Governors. The NCRC depends on many volunteers without official positions whose special knowledge, talents, or contacts make the network more effective.

Training

The NCRC sponsors a week-long Cave Rescue Operations and Management Seminar each year that is held in various locations around the United States. The seminar serves as a "boot camp" of cave rescue and provides three levels of training. Cave rescue is constantly evolving, and the most up-to-date techniques are presented each year. In addition to the annual national week-long seminar, the NCRC regions sponsor regional week-long seminars, regional modular seminars (taught over a series of weekends), courses in small-group and self-rescue techniques, and weekend cave rescue orientation courses.

NCRC seminars consist of extensive classroom and field work designed to maximize the learning experience. The seminars include lectures, demonstrations, and field exercises on underground environments, vertical rescue, mechanical advantage systems, extrication techniques, basic medical principles, communications, and management of cave rescue operations. Emphasis is placed on practical skills and techniques, with realistic exercises in a variety of cave environments.

The seminars provide basic and advanced material for students who typically include cavers, emergency services personnel, and emergency managers. During the eight days of a seminar, students receive about 100 hours of instruction, and are on the move from early morning well into the evening. The NCRC uses and teaches the Incident Command System (ICS) used by fire departments, rescue squads, and other emergency agencies and services.

Course Listings and Contact Information

Information on NCRC operation, activities, and training, including contact information for NCRC Coordinators, is published each year in the *NSS Members Manual*, and is also available on the NCRC web site at www.ncrc.info. Upcoming seminars are announced on the web site and in the *NSS News*.

National Cave Rescue Commission Course Listings and Contact Information:
www.ncrc.info

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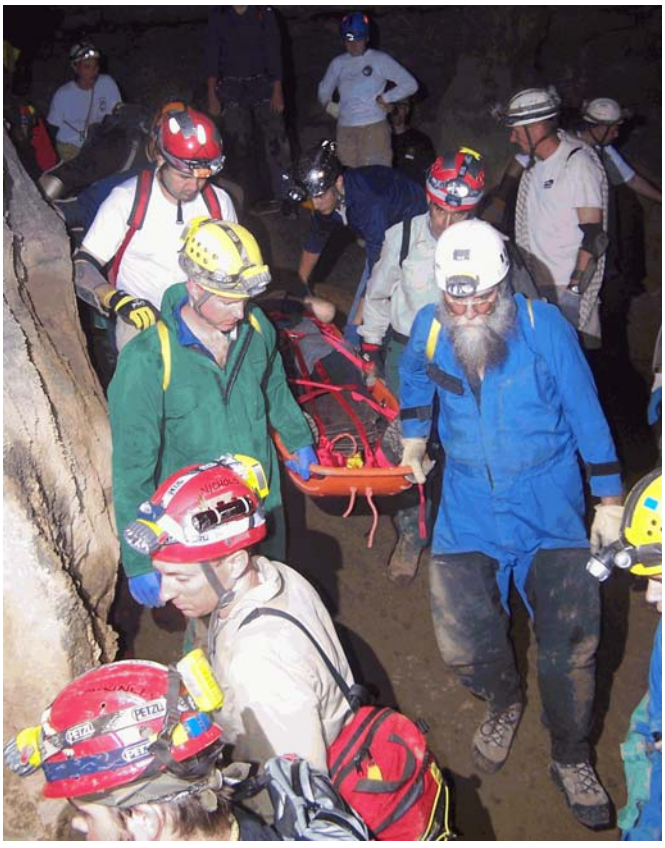
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