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The Alaskan Caver



IN THIS ISSUE

**Roosting and Hibernation Ecology of Bats in
Southeast Alaska's Karstlands**

Volume 20 Number 4

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Marcel LaPerriere - Editor

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Cover Photo: "Slash-N-Trash" Logging on Kosciusko Island karst.
Photo by: Kris Esterson

Back Photo: Part of the 1999 Kosciusko Island Expedition Crew.
Photo by: Kris Esterson

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• Ketchikan Meetings: 7 p.m. the first Monday of the month at the Alaska Public Health Service Building, 3054 Fifth Ave., Ketchikan.

President: David Love
PO Box 210745
Auke Bay, AK 99821
e-mail: [<jfdc@uas.alaska.edu>](mailto:jfdc@uas.alaska.edu)

Vice Presidents:
Northern:

Southcentral: Jay Rockwell
2944 Emory Street
Anchorage, AK 99508
hm: 277-7150
e-mail: [<juliusro@alaska.net>](mailto:juliusro@alaska.net)

Southeast: David Valentine
11976 N Tongass Hwy
Ketchikan, AK 99901
hm: 225-2289

Sec./Treas: Connie LaPerriere
P.O. Box 9062
Ketchikan, AK 99901
hm: 225-4094 wk:225-9601
e-mail: [<marcel@alaskamade.com>](mailto:marcel@alaskamade.com)

Conservation: Steve Lewis
4300 University Drive, Apt. A-5
Juneau, AK 99801
hm: 789-0024
e-mail: [<tsswl@uas.alaska.edu>](mailto:tsswl@uas.alaska.edu)

Cave Rescue: Gary Sonnenberg
1377 Pond Reef Road
Ketchikan, AK 99901
hm: 247-1559 wk: 228-6323

The Alaskan Caver: Marcel LaPerriere
PO Box 9062
Ketchikan, AK 99901
hm: 225-4094 wk: 225-5404
e-mail: [<marcel@alaskamade.com>](mailto:marcel@alaskamade.com)

Tongass Cave Projects:

Pete Smith
PO Box WWP
Ketchikan, AK 99950-0280
hm: 846-5223 wk: 846-5223
e-mail: [<waleswood@aol.com>](mailto:waleswood@aol.com)

Kevin Allred
P.O. Box 376
Haines, AK 9982
e-mail: [<carleneallred@hotmail.com>](mailto:carleneallred@hotmail.com)

Steve Lewis
4300 University Dr. Apt A-5
Juneau, AK 99801
hm: 789-0024
e-mail: [<tsswl@uas.alaska.edu>](mailto:tsswl@uas.alaska.edu)

Alaska prefix is 907

August 2000

Roosting and Hibernation Ecology of Bats in Southeast Alaska's Karstlands

Stephen W. Lewis, University of Alaska Fairbanks, University of Alaska Museum, Tongass Cave Project and USDA, Forest Service, Thorne Bay RD.

(Note illustrations for this article are located on pages 2, 8 & 9)

ABSTRACT The five species of bats present in Southeast Alaska are among the state's least understood mammals. Bats may be dependent on the old growth forests and caves of the karstlands of SE Alaska. Recent work in Pacific Northwest forests suggests bats require large dead trees in old-growth stands for maternity roosts during summer. Our summer 1997 research suggests this may also be the case in the Tongass although more work is necessary to confirm this. We found evidence that during the latter part of summer male bats are using caves for roosts. Our preliminary data suggest that bats using caves for winter hibernacula may be selecting sites for something other than microclimatic stability. Further work will document winter bat activity relative to cave microclimate and outside weather patterns.

INTRODUCTION There are 5 species of bats known to occur in Southeast
Continued on page 2

CALENDAR

Ketchikan Area Grotto meetings are the first Monday, at 7 pm at Ketchikan Public Health Center 3050 Fifth Ave. 907/247-1559 or marcel@alaskamade.com

OR ajmurray@ktn.net

Southcentral Area meetings or expeditions will be called by Jay Rockwell 277-7150 or Harvey Bowers at <agate@alaska.net>

THE GREATEST UNDERGROUND ADVENTURE OF ALL TIME

by Marcel LaPerriere

Installment XII

(The following story is just that, a STORY. All the cavers in the story are real people, but the story is total BS. No attempt was made to change or alter names, and no harm was meant by using real names. The author is totally responsible for the story and in no way is the Glacier Grotto, the NSS, or members or officers responsible for the content. The intent of the story is to have some fun through total fantasy. Marcel)

"My god" I exclaimed "Do you realize where we are?"

"Do you really think we are under Carcass Cave?"

Someone asked.

"Who knows" I responded "but it sure looks to me like we must be somewhere close to Carcass Cave."

Coulanta was standing near to us. Upon hearing our conversation he walked over and handed us another piece of survey tape then asked "will this help?"

Kris, Rob, Sergey, Connie and I all read the survey tape at the same time. It read "Starlight Cave A2."

"No doubt about it" Kris said we must be someplace under the area where Starlight and Carcass Caves are, or at least in a stream passage that leads from that area.

What finally cinched it for us was a USFS road sign that read "2730."

"All this logging debris and slash must be from 40 years of cutting in the Twin Island Lake area of Prince Of Wales" Rob said.

Continued on page 7

A Note From the Editor

Any journal, news letter or magazine is only as good as the material that is provided by contributors. No editor can magical transform *nothing* into *something*. As the editor of the Alaskan Caver the only journal dedicated to Alaskan caves it would seem that I'd be overwhelmed with too many submittals to publish. I wish this was true. Unfortunately, I have to scrape for material for each and every issue. So, if you haven't figure this out yet this is a plea for you Alaskan Cavers to please submit material for the Caver.

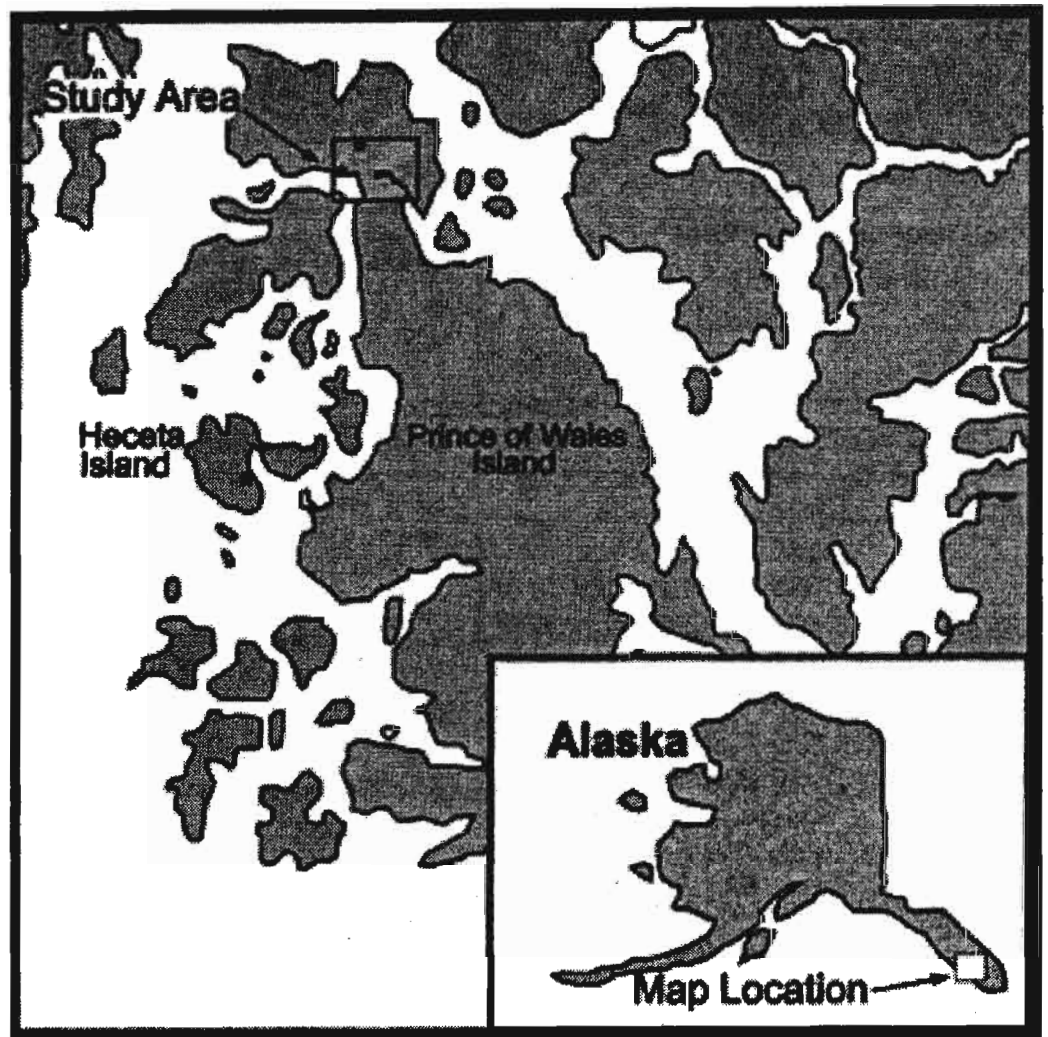
I would like to thank those of you that have sent material! A special thanks to Kris Esterson, Steve Lewis, Dave Love and Connie LaPerriere. Without them the last 4 Alaskan Cavers would have been mostly blank pages. Also, thanks to Alan Murray for folding and collating the Caver. Again thanks!

Bats from page 1

Alaska. These include *Myotis lucifugus*, *M. volans*, *M. californicus*, *M. keenii*, and *Lasiorycteris noctivagans* (Parker 1996). These are among the least understood mammals in Alaska. The impact of habitat modification such as timber harvest on the viability of these species may be significant (Parker et al., 1996; Christy and White, 1993) The karstlands of Southeast Alaska are internationally and nationally significant because they occur within a unique setting; a high-latitude temperate coniferous rainforest (Aley et al. 1993).

This forest atop the karst comprises an ecological system with increased productivity for plant and animal communities and well-developed spruce and hemlock trees relative to adjacent non-carbonate terrain (Lewis and Baichtal, 1997). It is these qualities that have led to heavier timber harvest in karstlands and which may make them especially important to bats, both for the presence of caves for hibernacula and for the presence of large old-growth trees which are known to provide summer day-roosts and maternity roosts in other parts of the Pacific Northwest (Brigham et al. 1996; Vonhof and Barclay, 1996).

The karstlands of Southeast Alaska provide caves as potential roosts and hibernacula for bats. Preliminary surveys in Southeast Alaska show bat activity in many of the caves inventoried (U.S.D.A. 1996: pI-6, and Tongass Cave Project, unpubl.). However, information on the temporal nature of this use is lacking. Preliminary monitoring suggests that bats



use caves in Southeast Alaska during the coldest portions of the winter although I observed evidence of use during late summer (Lewis, unpubl. 1996, 1997). Spring and fall observations are lacking. Recreational use of caves and mines may disturb bats and cause increased mortality due to energy depletion (Speakman et al., 1991; Thomas et al., 1990), even when disturbing stimuli are non-tactile and arousal is not immediate (Thomas, 1995). Cave and mine morphologies are important in determining temperature, humidity, and airflow within hibernacula (McManus, 1974; Brack & Twente, 1985; Twente et al., 1985; Clawson et al., 1980; Nagel & Nagel, 1991; Raesly & Gates, 1987).

SPECIES COMPOSITION AND FORAGING AND ROOSTING BEHAVIOR Our trapping, banding, and radio tracking of bats on northern Prince of Wales Island during the summer of 1997 provided a number of interesting results and raised a plethora of new

Continued on next page

Bats from page 2

questions. We captured only 6 bats during over 100 mist net and harp trap nights between 8 June and 21 September, 1997. Abundant rainfall and an untested version of harp trap used over part of the summer were certainly in part responsible for the low rates of success. We captured all bats in mist nets either along riparian corridors or at cave entrances. Previous work (Parker, 1996) suggested a preponderance of *M. lucifugus* in Southeast Alaska. We captured a male and female *M. lucifugus*, as well as 3 male *M. californicus* and 1 female *M. keenii*. Additional work is essential to determine whether or not this higher equitability of individuals of each species better reflects the distribution of bats in Southeast Alaska than did the earlier study.

The results of limited telemetry work (the first ever with Southeast Alaskan bats) raised interesting questions. The only individual that remained telemetered long enough to obtain useful data was an adult female *M. lucifugus*. She was located over a one week period foraging along the lake where she had been captured. She consistently roosted in a patch of old growth approximately 5km away although the actual roost (or roosts) was not located. Much of the study area consisted of relatively young second growth. This individual followed a stream corridor from her roost through second growth to the outlet of the lake around which she foraged. Telemetry studies in other parts of the Pacific Northwest (Brigham et al., 1996; Vonhof and Barclay, 1996) have noted much shorter commuting distances of approximately 2km. Once again, further research will be crucial to determine what type of roosts are necessary for maternity colonies, and whether Southeast Alaskan bats routinely commute such long distances between roosting and foraging sites.

Caves as Roosts and Hibernacula Maps drafted by members of the Tongass Cave Project (TCP unpubl.) of over 400 caves throughout the Tongass provide information on sites in caves used by bats. I have used this information to identify 3 caves where temperature and humidity were recorded within roosting sites and outside the cave. Cave entrances ranged from 400 to 2100 feet above sea level. I will expand sampling to more sites and monitor bat activity levels as well as microclimate as funding becomes available. Microclimatic vari-

ables were recorded from September 1996 through September 1997, with monitoring continuing. Patterns between outside and inside cave temperatures varied greatly between sites. Eagle's Roost Cave is located on northern Prince of Wales Island. Its entrance opens on an eastern exposure at an elevation of approximately 800 feet. Temperatures in a side passage with evidence of year-round bat usage were relatively stable between September 1996 and September 1997. They remained at about 3.9 (C and varied less than 2 (C over the year. Outside temperatures during this time fluctuated from -15(C to 25(C. Relative humidity was only measured from September 1996 through June 1997. It remained at 100% throughout this period.

The situation was very different in nearby El Capitan Cave. Data loggers were located in the main passage where bats have been noted in the winter. The entrance to El Capitan Cave is situated on a southern exposure at approximately 400 feet above sea level. From April through October temperatures in the cave were quite stable, ranging from 4 to 5.5(C, while outside temperatures ranged from 0 to 24(C. Cold snaps in late November, December, and January had dramatic effects on in-cave temperatures. When outside temperatures dropped to below -9(C (minimum -11(C) temperatures in the cave plummeted within a day dropping to -1(C during the prolonged cold spell in December and to 0 to 0.8(C during shorter cold spells. A long period of temperatures just below 0(C during March was strongly correlated with a drop in cave temperature to 1.2(C. Relative humidity, which was a constant 100% during much of the year plummeted to 75% during the long December cold spell and to about 85% during the shorter November and January cold spells. The relative humidity logger failed in mid March. A similar pattern was noted in Glaz Gorie (Mountain Eye) Cave (Figures 6 & 7), an alpine cave at approximately 2100 feet in elevation on Heceta Island. Data loggers were hung in a pit at the ceiling level of the adjoining chamber, where bat guano had been noted. Summer highs in this treeless area reached 34 (C, while winter lows dropped to about -17(F. As in El Capitan Cave, in-cave temperatures were relatively stable between April and October, this time ranging from 2.5 to 5(C. And, once again, during the winter, there were strong

Continued on next page

Bats from page 3

correlations between outside cold spells and sharp drops in temperature and humidity within the cave. In Glaz Gorie cave temperatures dropped as low as -7.5°C during outside cold snaps and rarely climbed above 1°C throughout the winter months. Relative humidity dropped as low as 80% during these cold spells. In summary, climatic variables recorded over the past year in 3 sites used by bats ranged from very stable to quite variable during the winter but were relatively stable in all sites during summers. This suggests that bats may be choosing roosting or hibernation sites for reasons other than just the stability of the microclimate. An expanded study is essential to determine how these differences in microclimate are related to cave morphology and to determine how or whether bat activity is related to such variation. This will provide insights into other parameters that may be important in determining how bats choose winter roosts.

IMPLICATIONS FOR KARST AND CAVE MANAGEMENT The Federal Cave Resources Management Act requires Federal land managers to "secure, protect, and preserve significant caves on Federal lands" (United States Congress 1988). In the Tongass National Forest this requires treating the karst landscape as an ecological unit (Baichtal 1996). Bats are an integral part of this ecological system. With continued funding, this study will provide information on timing of cave use by bats in Southeast Alaska, cave morphologies most useful to bats, and the importance of old growth and other habitats for foraging and reproductive bats. This information will be critical to managers in determining the need for seasonal regulation of recreational use of caves to protect bats. Knowledge of foraging and roosting needs of forest dwelling bats in Southeast Alaskan karst will also be important in maintaining a functioning ecosystem ensuring viable populations of bats.

ACKNOWLEDGEMENTS Jennifer Griffin, Tony Fischbach, Eva Patton, Rachel Myron, Dave Love, and John Locke, provided help and companionship in the field. The US Fish and Wildlife Service provided support to Tony Fischbach. Financial and logistical support was provided through the USDA Forest Service, Thorne Bay Ranger District. Additional financial support was provided by the University of Alaska Museum through the Mam

mal Lab and a Geist Fund grant, and by the Alaska Department of Health and Human Services. Thanks to all!

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Continued on page 6

Letter

Glacier Grotto

PO BOX 9062
KETCHIKAN AK 99901-4062

Tom Puchlerz, Forest Supervisor
Tongass National Forest
Federal Bldg, Ketchikan AK 99901

Dear Sir;

We are writing to express concern about the protection of caves and Karst on the Tongass National Forest. It is our understanding that the Forest Service has only one geologist to cover the entire Tongass.

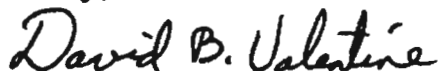
Before the reorganization of the Forest Service we experienced many problems with karst features that were overlooked in ground surveys, as well as caves that did not receive protection as required by the National Cave Resources Protection Act and the standards and guidelines in the Tongass Land Management Plan.

Most of these problems occurred because it becomes impossible for one person to cover the units being proposed for any activity. Another factor was the inadequate training given to other forest personnel walking the units or lack of accountability in reporting when features were encountered.

Now we have a situation where the geologist has even more territory to cover. As we have found in the past, many areas on the Tongass are proving to be very geologically complex. The area that Windgate Cave is located on Prince of Wales Island, and our recent finds of caves on Revillagigedo Island are examples of Karst features that were missed. Wiley Coyote cave had the entrance blasted to form a road. This occurred after caves were protected by law.

Our Grotto through the Tongass Cave Project has donated thousands of hours in volunteer labor to walk units, map and explore the caves of Southeast Alaska. We have had reservations about the protection given to caves in the past. It is our desire to support the Forest Service in the future, but we wish to be assured that procedures are in place to assure protection of the caves.

Sincerely,



David Valentine, Vice President Southeast
Glacier Grotto
PO Box 9062
Ketchikan AK 99901-4062

CC: James Baichtal, David Schmid

Bats from page4

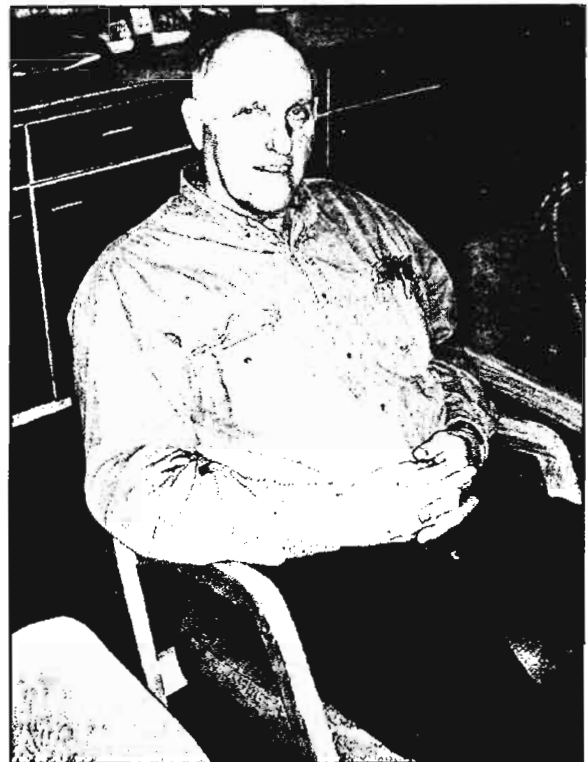
R.M. Brigham), Research Branch, B.C. Ministry of Forests, Victoria, B.C., Working Paper 23/1996, 292 pp. Raesly, R. L., and J. E. Gates. 1987. Winter habitat selection by north temperate cave bats. *Am. Midl. Nat.* 118:15-31. Speakman, J. R., P. I. Webb, and P. A. Racey. 1991. Effects of disturbance on the energy expenditure of hibernating bats. *J. Appl. Ecol.* 28:1087-1104. Thomas, D. W. 1995. Hibernating bats are sensitive to nontactile human disturbance. *J. Mamm.* 76:940-946. _____, M. Dorais, and J-M. Bergeron. 1990. Winter energy budgets and cost of arousals for hibernating little brown bats, *Myotis lucifugus*. *J. Mamm.* 71:475-479. Twente, J. W., J. Twente, and V. Brack, Jr. 1985. The duration of the period of hibernation of three species of vespertilionid bats II. Laboratory studies. *Can. J. Zool.* 63:2955-2961. U.S.D.A. 1996. Tongass land management plan revision, revised supplement to the draft environmental impact statement, proposed revised forest plan. R10-MB-314c. U.S.D.A. Forest Service, Juneau, AK. 561pp. United States Congress. 1988. Federal Cave Resources Protection Act of 1988. HR 1975. Vonhof, M. J, and R. M. R. Barclay. 1996. Roost-site selection and roosting ecology of forest-dwelling bats in southern British Columbia. *Can. J. Zool.* 74: 1797-1805.



Alaskan Caver Bruce White at a grotto meeting in Ketchikan.



Former Southeast VP Gary Sonnenberg at a recent grotto meeting in Ketchikan.



Southeast VP David Valentine at a recent grotto meeting in Ketchikan.

In his broken English Sergey said "if that is so, then there must be many caves hidden in the 2nd growth forest, because all this junk could not have come from just two caves."

After I turned on my bright hand held light and did a scan of the room it was obvious that Sergey was probably right. "This is a perfect example that we humans never look at the full impact of our actions." I said. "I'm sure no one really thought about it when they pushed this junk into who knows how many caves. The environment is just too complex for us to understand."

"Especially when there is karst involved" Connie piped in.

"I wish there was some way to show people how badly they are messing up this world" Rob said in a tone of disgust that I had never heard from him.

After an hour of digging through the junk and talking over what we had seen, we once again resumed our trek out of the cave. For the rest of the day we seldom spoke, partially because we were all getting exhausted from our endless trek and partially because we were so overwhelmed by what we had seen. I know I personally was wondering what it was going to take to make my fellow humans understand that we have been treating the earth like there was no tomorrow. More than once I mumbled under my breath "is there any hope for the human race?"

Even though it took another long day of hiking to reach the butterfly room we almost never spoke. We were moving more by instinct than by will. In what was to be our last night in the cave we all slept harder than any of us ever could remember. In the morning we woke to what we knew was going to be a long climb out of the cave.

Right after eating breakfast Rob was the first to get rigged up for the climb, and as he started up he missed Coulanta ask us if he could accompany us to the surface.

"I have been underground now for so many years I would like to see your above world" Coulanta said. I do not know how to use your fancy caving gear, but I will learn quickly if you will show me."

I guess Coulanta's announcement caught us off guard because the next thing I knew we were all showing him how to use my ascending gear and I

was tying prusiks for myself. Even Ralph must have been caught off guard because he did not protest his father's decision to visit our world.

When we heard Rob yell "off rope" it was decided that Connie would go next followed by Coulanta. Using a spare rope we had stashed at the top of this climb Connie was to rig another parallel rope in case Coulanta had problems, which in the end he didn't. To my surprise Coulanta took to using ascenders like a duck takes to water. He was a born natural. The 2nd rope did increase our speed getting all the cavers up the first climb but we were soon bottle necked at the next climb with only one rope.

Even with an exhausted crew, Coulanta's inexperience and me using prusiks, we made record time getting back to the surface. To our relief all our tents were exactly as we had left them. We even exited the cave in time to call the air taxi company to arrange a pick up for all of us the next day.

Coulanta of course was as intrigued by our above ground world as we had been with his below ground world. Of course he found it interesting that we could just pick up a small device we call a cell phone and talk to someone 80 miles away. Since he had been exposed, at least in print, to almost everything he saw, our tents, our truck, the 4 wheeler, a bicycle, etc. he found it interesting, but not as interesting as the devastation we humans had caused. He stared blankly at the large clearcuts near Arabica Cave and could not believe the roads and rock pit. When we tried to explain to him that he was only looking at a very small percentage of human impact on only one very small island within a National Forest it was more than he could comprehend.

Fig. 2

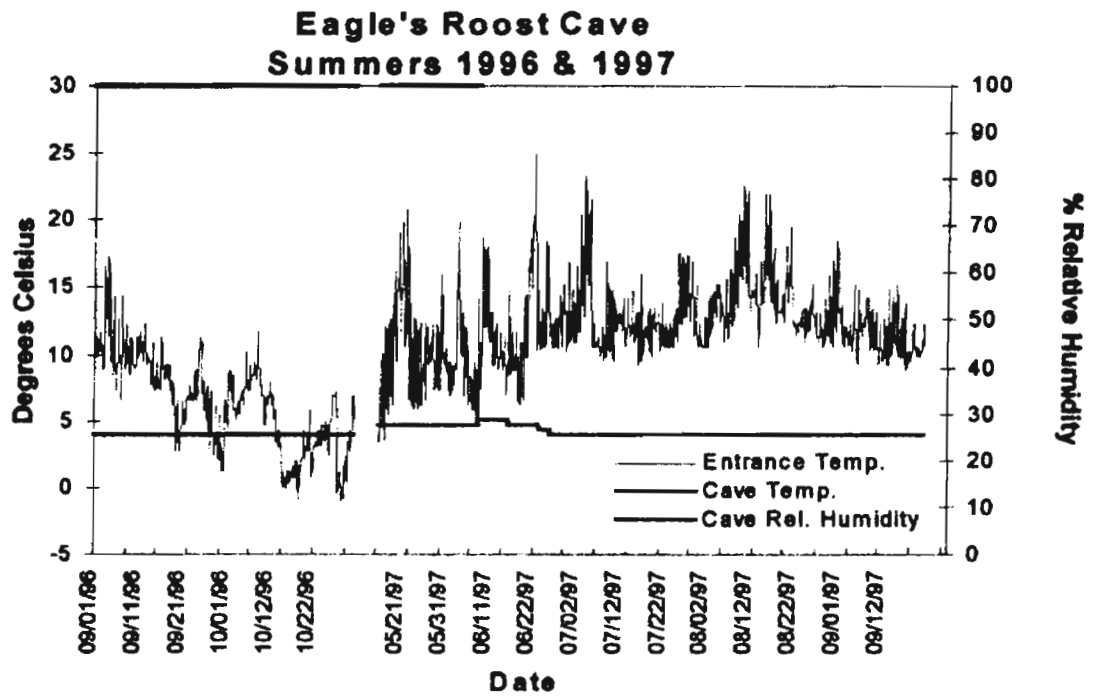


Fig. 3

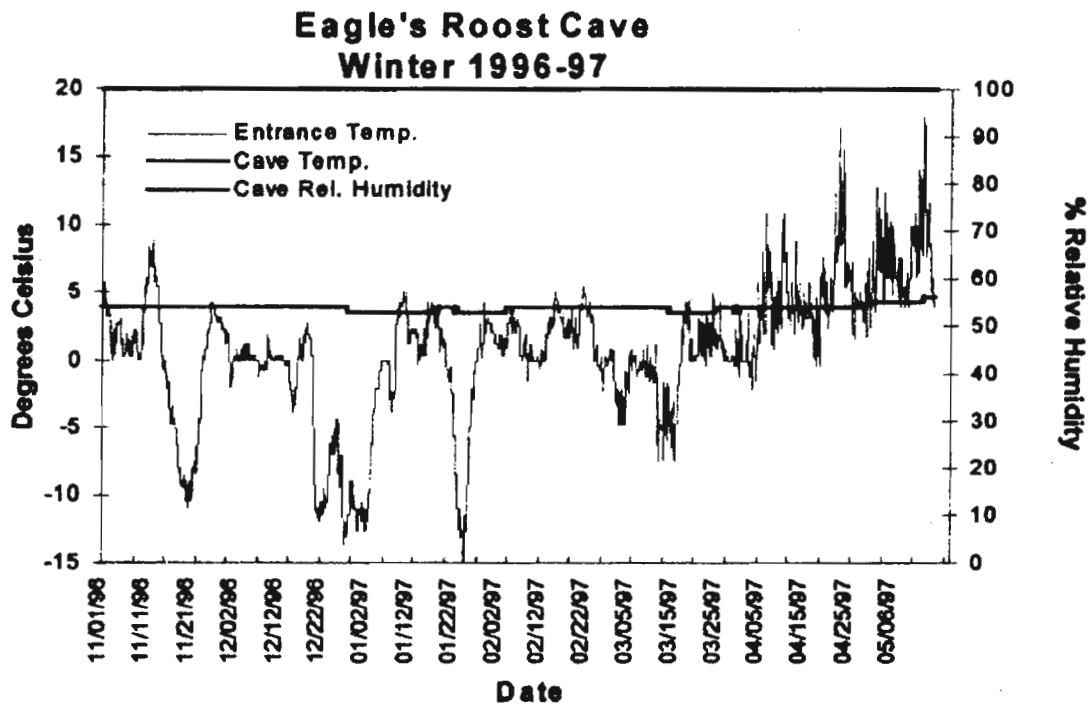


Fig. 4

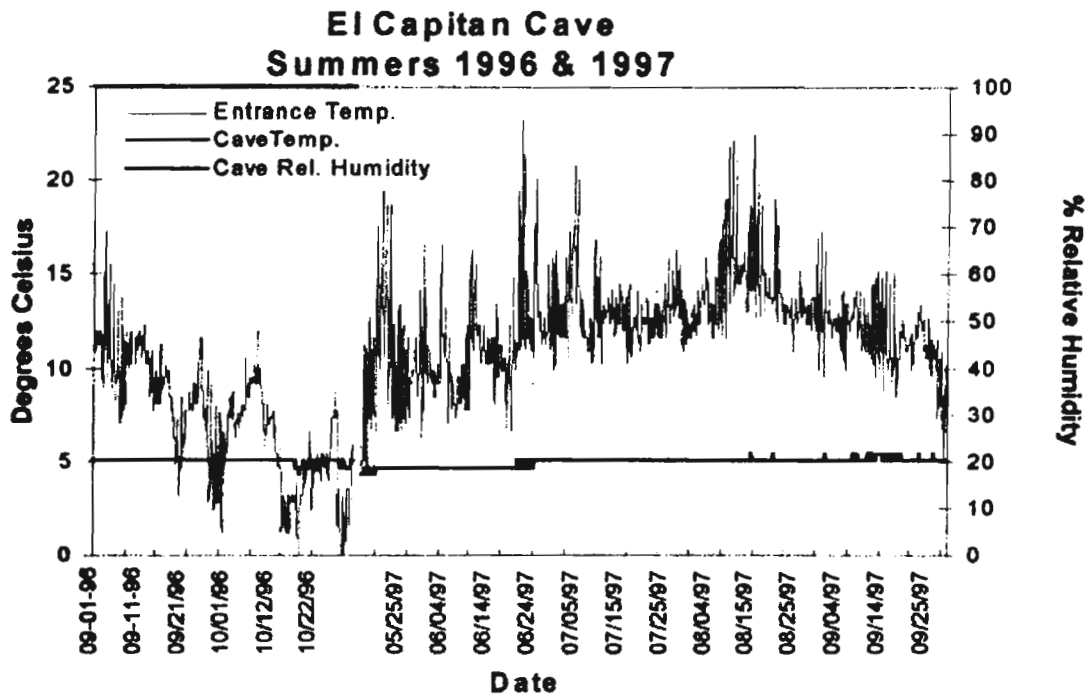
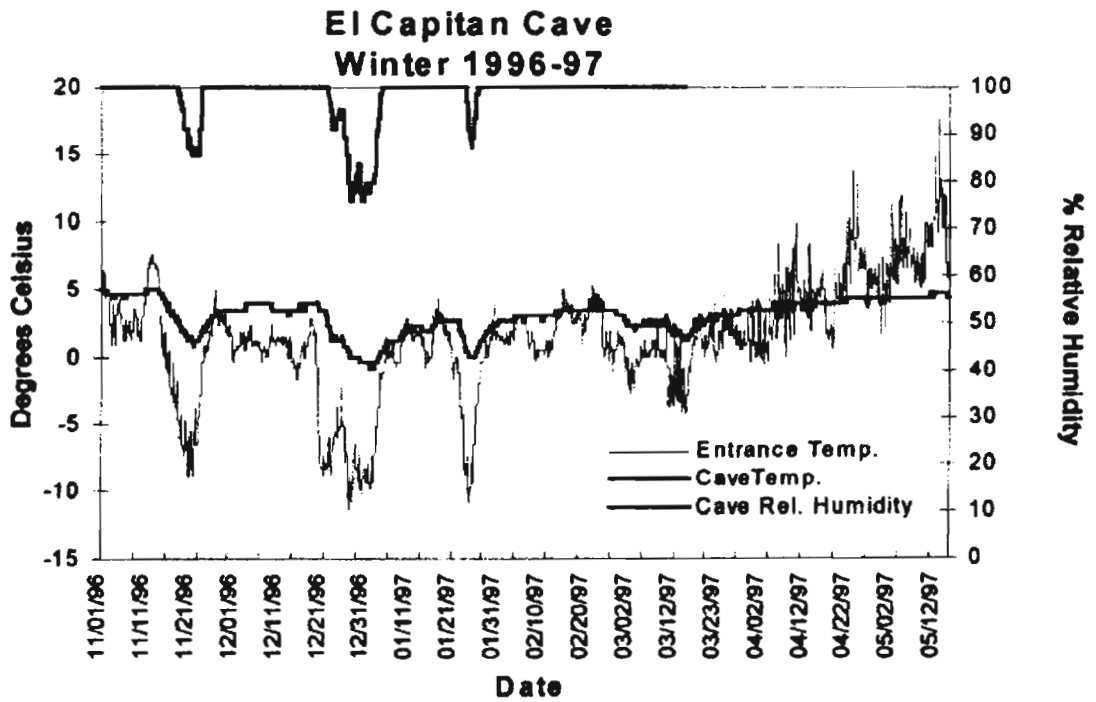


Fig. 5



FEELING GUILTY SURVEYING IN FEET?

By Kevin Allred

For years, we Americans have been encouraged to convert our English measuring system to that of the world metric system. Strangely, the English system has generally prevailed in popularity here. Some of us cave surveyors prefer to survey the old fashioned way in feet, even though some aspects of the metric system are practical.

I did not realize how long this debate has been going on until we were recently given a reprint of an obscure book. It was written in 1880, and is titled *The Great Pyramid* by Piazzi Smyth, a Brit. Smyth was quite a guru; one of a small group of scholars who were convinced the great Pyramid of Cheops was built by an inspired architect, and was meant to be a gigantic, enduring, measuring standard. It was to be for linear, volume, specific gravity, time, and temperature perimeters. It is even reported to contain a prophetic time-line within a corridor. All of this without any writing or hieroglyphics anywhere. I read some most interesting correlations having to do with angles, lengths, temperatures, and such. The book was hard reading in places, partly because some sentences were well over 100 words long. Smyth was possessed with the concept that these ancient standards of measurement should be preserved for a hallowed and noble cause. Curiously, the English inch is supposedly only about 1/100 inch different from the "Pyramid inch".

At Smyth's time was a push by the French to spread their newly developed metric system. He says, "The same almost unexplainable activities of a particular class of revolutionary agitators have of late been troubling the people of the United States, as well as those of England; and trying to induce them, in an unguarded moment, to throw away their, as well as our, birthright of ages, in their hereditary and traditional weights and measures, and to adopt the newly invented measures of France instead."

So, if Smyth was right, then the base measurement of Cheops in our inches is about one ten-millionth of the earth's semi-axis of rotation, multiplied by 365.2422 (number of solar days in a year). If this is so, our English feet might have some roots that go back at least 4000 years.

In searching further into this matter, I found some later scholars conclusions are far different for the functions of the great pyramid. For example, one investigator "soon discovered that Piazzi Smyth's basic measurements were all wrong, and that one of the elder man's followers, a Mr. Glover, had even tried to file down a projecting boss of stone in the anteroom to the King's Chamber to make it equal to the pyramid inch" (Stewart, 1971).

Oh well, so maybe β was a crackpot. Even though our inch probably does not have any glorious origins as claimed by him, some of us are reluctant to let loose of the system. Somehow it just makes sense to measure our cave passages in even feet rather than parts of meters. Pull that tape.....ON POINT!!

An E-mail from An Alaskan Caver Living in South America

Thanks mucho for the editions of the Caver, which arrived here yesterday. It really brings back memories, of course, and now with the distance of time I've forgotten all about the hypothermia, bruises, rock conkings, etc. Well, not totally forgotten. My plan for next year is grad school in the U.S., probably on the East Coast because my mother is there and not in the best of health, but I hope before heading there that I can take part in a POWIE? TCP? Kosciusko Island? Expedition. I miss caving more than I can convey through e-mail, not to mention Alaska.

Y'all take care, and hope to run into you somewhere dark and dank soon.

Greg

Greg Bowles
c/o Senora Francisca Perez Mendoza
A.P. 2146
Jalapa, Nueva Segovia
NICARAGUA - Central America

(editors note: Greg is working as a volunteer for a nonprofit organization out of Boulder, CO that is helping bring to running water to a small town in Nicaragua. Greg took part in two POWIE's during the mid 90's.)

Presidents Corner for August

I recently returned from a short trip into the sunshine of interior British Columbia out of Skagway (even discovered an impressive resurgence along the way, but more on that some other time...). On the way back to Juneau on the Malaspina, I finally had some spare time to read the April NSS Caving Accident Reports for 1996-1998. Although an uncomfortable topic, still one that the readers may find helpful and necessary.

I recommend all members of the Grotto give it a read, if for no other reason than to refresh one's memory of the "don'ts" of caving. Reminders of behaviors which have (hopefully) become second nature, which we take for granted and which become especially relevant when teaching technique to novice cavers. We all have something to learn and by keeping an open mind may discover better, safer ways of doing what we all love so much. The three main ingredients that make for a safe, enjoyable caving experience without the spice of tragedy:

- 1) Good Judgment,
- 2) Proper training, and
- 3) Experience.

I came away with a few good pointers gleaned from the reading. Here are a few of them which may be useful in Alaska. Hand-over-hand technique (ie-"Russian Jumars") is an accident waiting to happen-several falls and/or reported injuries requiring surgery, resulted from climbing hand-over-hand. Moral of the story: Use a belay or your safety Jumar! Likewise it is important to bring or wear your ascending gear if exploring virgin pits or unfamiliar drops, you may need to climb back out! Unlike the prusiking beginner unable to get over the lip of Neversink Pit in Alabama in 1996, it is not likely that a local caver and cave rescue member will find you and help you out of the bind you may find yourself here in Alaska.

Beware of potential for flooding, such as has been happening all the month of July here in Southeast. Use your safety ascenders and check the condition of your equipment regularly. Replace worn or chafed seat harnesses or webbing (something I need to do before my next caving adventure). Falling 200 feet down a pit while trying to slow your descent with your gloved hands because your seat harness gave way does not sound to me to be enjoyable. Miraculously, the caver this happened to only sustained deep abrasions in his palms because he landed "feet first into the deep pool at the bottom, sending up a huge geyser of water"

Many of us have near-miss stories involving some sort of loose and/or falling piece of local geology. Clear the edge well and step carefully if you are the first to descend. Even if you are the last to go the same route, communicate and be aware of those below you. If that moron below you won't seek a safe place to watch your descent then tell him to get the hell out of the way!

Bill Putnam's summary article offered several useful suggestions: Know the abilities of all in your group. Get into the good habit of double-checking tie-offs, whether our own or someone else's. The neck you save could be your own! On long drops where you are uncertain of the depth of the pit or whether your rope will reach, tie a figure eight loop at the end in case you need to step into it to unload your descender while changing over to ascending gear. Don't find yourself past the end of your rope! Consider using a self belay prusik below your rappel device which is held open during descent. I've tried this and the placement is easier to release and there is less problem with jamming. While a bit more cumbersome, the prusik can be attached and detached quickly with a little practice. If you are stunned or knocked out by a falling rock, this added safety feature may well save your life. To the novice or would-be caver, I reiterate these suggestions: join the Glacier Grotto and learn from the experienced folks you will find there, get the proper training and equipment and use good judgment. Like any other wilderness adventure, tell someone where you are going and when you expect to be back. To our experienced cadre of hardcore fanatic cave monsters: It's long overdue that we have another rescue training! Also, all of us should be learning or practicing our self rescue techniques! Most of the successful cave rescues reported in the NSS News involved victims close to the entrance, close to a hospital and close to active rescue units. This is most often not the case in Alaska. In 1998 it took over nine hours to get the caver with the dislocated shoulder from Kosciusko Island to Craig for treatment. That unfortunate accident happened at the entrance! Be Careful Underground! Take Care and Think Safety!

THE ADVENTURES OF RUBBER CAVER by K. & C. Allred

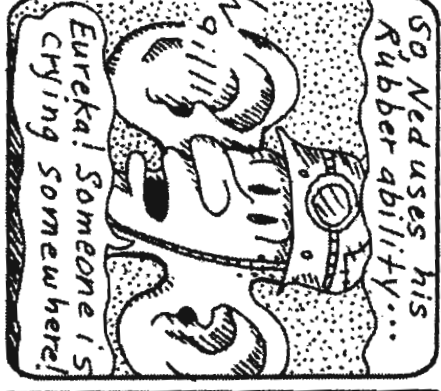


In our last episode the cavers are cornered in a crack, while a giant worm-like creature is digging its way closer to them. Meanwhile, Ned Nerd has given up hope of ever being found...



Suddenly Ned barely hears something

Can't quite tell what it is. Maybe if my hearing were better

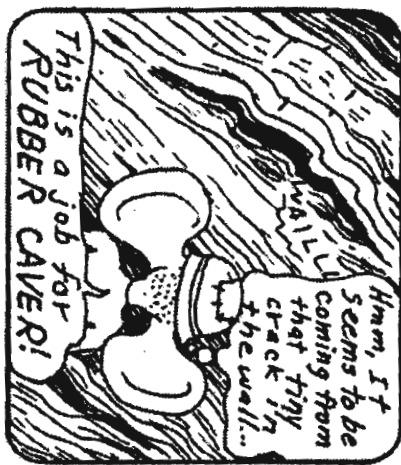


So Ned uses his Rubber ability...

Eureka! Someone is crying somewhere!

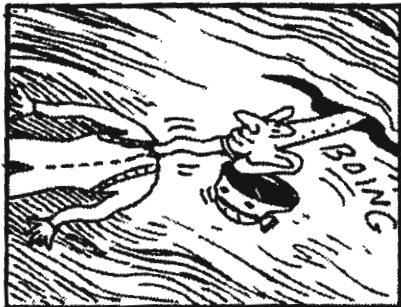


I'm getting closer

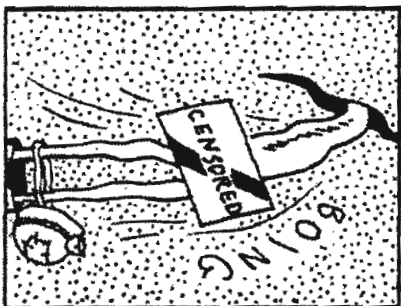


Hmm, It seems to be coming from that tiny crack in the wall...

This is a job for RUBBER CAVER!



This is another job for Rubber Caver! Quick, I'm going to transform into a giant sling!



Heave Ho! Ready, Aim...



Well, readers, it may seem amazing, but true that Rubber Caver threads thousands of feet through cracks to finally come out...

Hi guys! Ned Nerd! It's Rubber Caver!



What is that thing? It's some kind of giant worm trying to eat us! Save us, Rubber Caver!

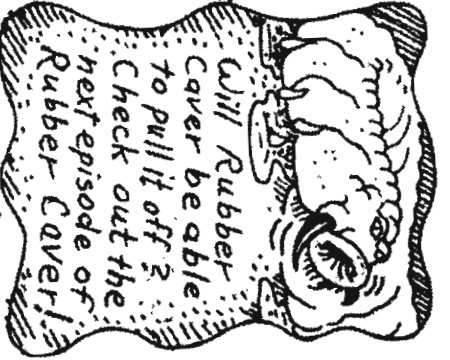
Oh! What are we to do?



Shoot the worm with rocks!



Here's something to make you squirm, Mr. Worm



Will Rubber Caver be able to pull it off? Check out the next episode of Rubber Caver!

TO BE CONTINUED...

Constitution of the Glacier Grotto

Article I. Name

The name of this organization shall be the Glacier Grotto of the National Speleological Society.

Article II. Purpose

The purpose of this Grotto shall be to promote interest in and to advance in any and all ways the study and science of spelology, the protection of caves and their natural contents and to promote fellowship therein in Alaska.

Article III. Membership

Full membership is limited to members of the NSS. All members present at the adoption of the Constitution and By-Laws are Charter Members of the Grotto. Other members shall be discussed in the By-Laws.

Article IV. Executive Council

a. The Glacier Grotto shall be governed by an Executive Council made up of the following (all NSS members) elected annually by the members:

1. President
2. Vice-President for Northern Alaska
3. Vice-President for Southcentral Alaska
4. Vice-President for Southeast Alaska
5. Secretary
6. Treasurer

b. The functions, powers and duties of the Executive Council shall be prescribed in the By-Laws.

Article V. Elections

The election of officers for the following year shall be held in December. Officers who are elected shall take office in the following February unless otherwise provided by vote of the membership. Rules for the conduct of elections shall be prescribed in the By-Laws.

Article VI. Meetings

Meetings of the Grotto shall be held at the time and place prescribed in the By-Laws.

Article VII. Dues

The dues for membership in the Grotto will be prescribed in the By-Laws.

Article VIII. By-Laws

The Grotto shall, upon the adoption of the Constitution, adopt suitable By-Laws to govern the organization and functioning of the Grotto and the publications of its findings.

Article IX. Authority

The Constitution and By-Laws of the NSS shall be binding on the Glacier Grotto. Any action inconsistent therewith shall be null and void.

Article X. Glacier Grotto Property

Any NSS or Glacier Grotto property shall revert to the NSS in the event of dissolution or in the event that the NSS is no longer in existence, to another organization(s) that fulfill the requirements of Section 501(b) of the United States Internal Revenue Code.

Article XI. Amendments

Proposed amendments to this Constitution shall be filed in writing with the Secretary, at least one meeting prior to the vote on the proposals, signed by at least five full members of the Grotto in good standing. The vote upon these amendments shall be by written ballot and amendments shall be adopted only by a favorable vote of two-thirds of the Full members. All amendments take effect immediately upon their adoption, unless otherwise provided in the amendments themselves.

Article XII. Parliamentary Procedure

In all instances not covered by this Constitution or the By-Laws, Robert's Rules of Order, Revised, shall prevail.

(Revised December, 1993)



Rope Cutter

Dear Rope Cutter,
I'm afraid of the dark, but I want to be a caver. Is there any way I can either overcome my fear of the dark, or are there any caves that aren't dark?

Signed, staying in the light!

Dear Light Hearted Caver,

To the best of my knowledge most caves are dark. Caves are not just chocolate brown dark, but full bodied jet black smooth solitary dark. But I think I can shed a ray of light in your search to overcome your disability.

I too was once afraid of the dark (a gasp arises from my faithful readers!!). My fear stemmed from a tortured childhood. My brothers tortured into me a fear so deep and varied that I had a witch that lived in the grain pattern of the wood on my closet door. This witch stayed put as long as light was present but as soon as darkness flowed from the corners, the witch would be freed to wreck havoc on my psyche. I would turn off the light and do my own special bedroom Olympics. First was the 5 foot sprint to gather enough speed for the high jump into my bed. An unwritten rule was to jump at least 3 feet from the bed so that the creatures under the bed that were in cahoots with the witch would not snare my ankle.

When fitful sleep at last overcame my quaking frame, I would dream that the witch had me in her grasp. A dream from which I could not awaken. It left me with a terror so deep and black I would like sleepless awaiting the dawn, when at last I could sleep safely and dreamlessly.

How did I overcome these terrors?

Two events occurred in short succession.

Once in the middle of the night one of my more demented torturers (read brothers) realized the event he had waited for was occurring. He heard me launch from my bed and do the sprint to the bathroom. He crept under the bed with his implement of torture - a plastic fork. He waited. He could hear me stoking my courage and revving my engines for the burst down the hall. As I leapt for the bed he reached out and raked my foot with the fork. I never

scream, usually nothing would exit my mouth. This time I knew that death had me in its grip, so I reached down into the deepest part of my primitive soul and let loose some sort of primal howl. It surprised me, but it really surprised my brother. He thought that unawares he had been caught hiding under my bed with some creature whose noise heralded his own demise. He shot out for his own bed.

Lights went on thought the house. After some ado the whole story came to light.

My brothers never tortured me about the dark again. I went to bed happy in the knowledge that if frightened enough I had my own secret weapon, an unearthly howl.

Shortly after this event I dreamed that the witch was attacking another of my brothers. The natural reaction would have been for me to be joyful at his demise, instead I got mad and killed the witch. (Dreams are weird & what would Freud do with me?) The witch never crept out from the closet again.

So. You have two choices. Go to bed, to sleep, perchance to dream until you banish your fear. Or stop being such woose and go caving. Look your fear in the eye. At some point you will long for those times you can shut off your light in a cave and feel the velvet blackness detox your senses. One more piece of advice; Just don't go caving with your brothers!

Yours Preda Phreatic

Dear Rope Cutter,

Hemp ropes are made from a natural plant, so why don't cavers use them. Cavers pride themselves on being conservationists, so why do they use nylon ropes? After all nylon is made from materials that are mined from the earth.

Signed pushing for hemp.

Dear Pusher,

I find your name an interesting Freudian slip, since hemp is made from cannabis. And we all know that Cannabis is also the basis for a "mildly" hallucinogenic drug.

There are many reasons that cavers do not

Continued on next page

use hemp, even though they are as a group unusually environmentally acute.

Does Hemp highway have the ring that the Nylon Highway does? Cavers have enough problems with negative connotations as it is, without being linked to a word that stands for **H**elp **E**coterrorists **M**anufacture **P**ot. Besides I looked in the dictionary and found out that Nylon is made from amide which is an organic compound containing the C_0NH_2 Radical. Now I know that cavers tend to be radical, so what is more fitting then to use Nylon?

If you compare Nylon to Hemp it: is more abrasion resistant, doesn't spin as much, absorbs more of a shock load, has more strength for size, and best of all it comes in different colors. An important fact for Lavender cavers, and those of us *who* like to coordinate our accessories. Nylon is easier to inspect since hemp tends to hide the signs of deterioration & rot. As long time cavers know, nothing is worse then hidden rot in a caving companion whether inanimate or not.

Nylon has some bad qualities too. Water reduces it's static and shock strength up to 30%. And you want to avoid cavers who wash their ropes in chlorine bleach to keep them shiny white and then hang the ropes out to dry for long periods in the sun.

Once again it comes down to choice. I think I'll continue to ride the Nylon Highway, but you are welcome to ride your horse to a cave and hang yourself on hemp if you wish.

The Rope Cutter is a place for cavers to voice their concerns, ideas or gripes. Please send your entries to POBox 9062, Retchikan AK 99901 (oops! Make that Ketch-ikan). The answers and ideas in no way reflect any view of the Grotto as an entity, and may not even represent a sane viewpoint at all. We reserve the right to ignore, gloss over, edit or just plain plagiarize any entry.

Wanna Be A Caver?

Do you want to be a caver? Regis may give away a million dollars, but I, Wesley Frankbun will let you know if you qualify to become a caver.

You have 30 seconds to put the following occurrences in the order in which you would think they would happen:

- * Sweating profusely
- * Pounding a Power Bar on a rock
- * Licking the mud off of the compass
- * Hugging a carbide generator

Hey you passed. They could occur in any order although some are more likely than others!

Now you must answer the next ten questions correctly to qualify.

1. *What does a caver yell at the bottom of a pit?*
A. Ouch B. Off rope C. Oops the rope is too short D. Fore
2. *What do all cavers have in common?*
A. Big cars B. Gas C. They are liars D. Insanity
3. *No matter what is falling from the ceiling of a cave, what is the proper term to yell?*
A. Aye Curumba B. Stone C. Rock D. Timber
4. *When you find your caving companion lying senseless on the floor of a cave what do you do?*
A. Check for a response then do the ABC's B. Shake him and ask him why was he sleeping? C. Check the value of his gear. D. Look to see if there is anything left in his hip flask.
5. *If you have a near death experience in a cave do you?*
A. Start singing B. Have a good Eastwood/Schwarzenegger one liner ready C. Clean certain parts of your cave gear D. Do nothing - it happens all the time.
6. *When a stranger asks where the cool cave is you just found do you?*
A. Share the location B. Wave your arm & point in

some arbitrary direction C. Suddenly lose your voice D. Get out a knife for the special ceremony performed before divulging a cave location to a stranger.

7. *What would you name a new cave?*
A. Lechuguilla B. Celery Cave C. Really Big Cool Cave D. Cesar's Palace
8. *What is the shortest shot you have made while surveying?*
A. 10 feet B. 1 foot C. 3 feet D. 1/2 foot
9. *Would you compare the taste of cave mud to?*
A. caviar B. mud pie C. champagne D. pizza
10. *When asked to dig a latrine on a caving expedition do you?*
A. Ignore the request, digging a latrine would exceed your comfort zone. B. Blow out the old one with a carbide bomb. C. Smile and find the shovel. D. Whine for two hours then dig it.

To find out if you passed look at the answers on the next page. You will need at least 8 correct answers to be in considered for the title of:

Alaskan Caver

Answers to: **Wanna Be A Caver?**

1. Of course B is the correct answer, however A and C are also frequently heard in Alaskan caves. If you answered D, then you best stay above ground.

2. If you answered either B or D you are correct. If you answered A then you have never met a real Alaskan caver, because they are too poor to afford big cars. However a few do drive big trucks.

3. C is the correct answer. However, B is acceptable if you are Russian, and D is also common when caving in Alaskan caves located in clearcuts.

4. A, B, or C would be correct. Even Alaskan cavers wouldn't be crazy enough to cave and drink. We would hope you would follow proper first aid and check the cavers response then to the ABC's, but with the high price of caving gear you would be justified to claim salvage rights on your injured companions equipment.

5. Once again all answers would be correct and in fact all have been used by true Alaskan cavers!

6. The best answer would be B. But if that person is a prominent Alaskan politician who says caves are just dark holes in the ground and who's initials happen to be RT then the proper answer would be D.

7. None of these answers is right. A true Alaskan caver wouldn't dream of naming a cave any of those goofy names!

8. B or C would be the only excitable answers. If you answered A, 10 feet then you have never surveyed in an Alaskan cave. If you answered D, 1/2 foot, then you don't have enough imagination to fudge your shots a tad and therefore would not be a good Alaskan caver.

9. All answers would fit. However how many cavers have ever tasted caviar????

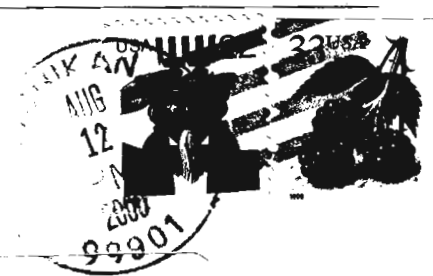
10. C would be the best answer. However all answers would be acceptable since all have been used by Alaskan cavers.



THE ALASKAN CAVER

P.O. Box 9062
Ketchikan, AK 99901

Address Service Requested



2000
LOVE, DAVID
PO BOX 210745
AUKE BAY AK 99821