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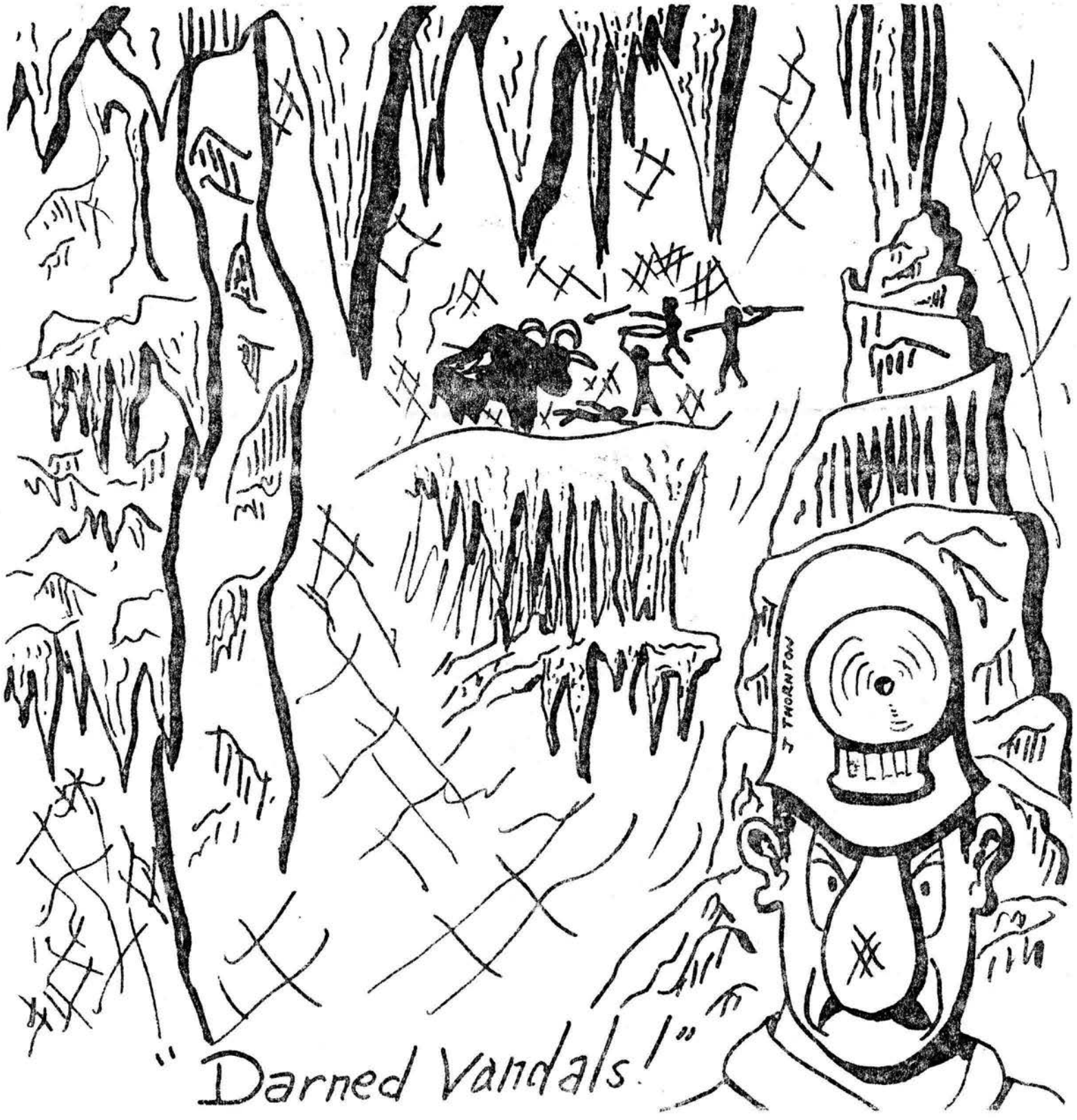

COMING EVENTS

APR. 19	Grotto Meeting 8:00, 1117 36th Ave. East, Seattle
APR. 23-24	McLoughlin Canyon Caves, call Alan Lundberg (356-7255) for details.
MAY 17	Grotto Meeting 8:00, 1117 36th Ave. East, Seattle
JUNE 26-JULY 1	NSS Convention, Elkins, West Virginia

NEW MEMBER

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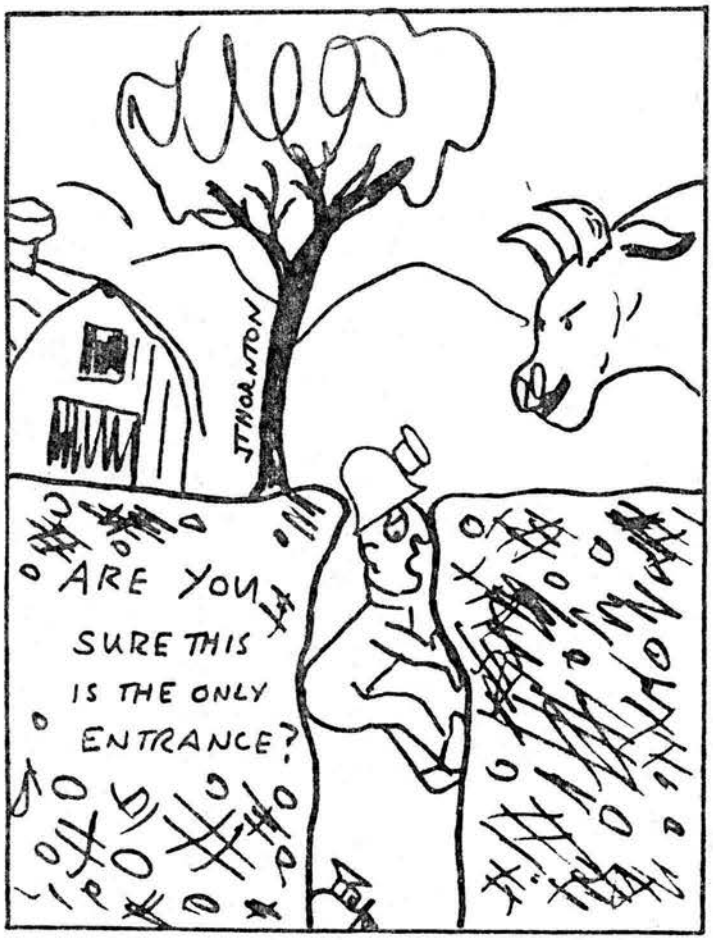

The State of Washington has approved the Grotto's application for non-profit status. We are now in the process of applying for the Federal non-profit status.

The deadline for registering for the NSS Convention is June 1. It is being held in Elkins W.V. from June 26 to July 1.

The cover cartoon and the one on this page were both drawn by Jerry Thornton.

1983 NORTHWEST CAVE MANAGEMENT SYMPOSIUM

By William R. Halliday, M.D.

The 1983 Northwest Cave Management Symposium was notable for outstanding speakers and excellent opportunity for discussion on its theme: Risk Assessment and Risk Management in Cave Management. A total of 28 registered. Mary White and Patricia Silver of the Oregon Grotto handled local arrangements notable, including recording of remarks of speakers and most discussants for subsequent publication of the proceedings. Sponsorship was by the Western Speleological Foundation, the Western Speleological Survey and the Portland State University Department of Geology.

After short introductory and welcoming addresses by myself (for the WSF), Charlie Larson (for the WSS) and Dr. John Eliot Allen (for the PSU Department of Geology), the symposium was opened by Toni Williams of Tampa, Fla. Originally a member of the Nittany Grotto, Toni is a member of the National Cave Rescue Commission and recently edited the Manual of U.S. Cave Rescue Techniques. She presented a statistical analysis by Kathy Williams who was unable to attend, with an update based on very recent data. Aside from cave diving problems, drowning is perhaps the greatest hazard in caves of the U.S. as a whole, with falls, hypothermia and falling objects perhaps next in order. This suggests that on the average, northwestern caves are safer than most of the U.S. but perhaps we should be more cautious in the Saddle Butte cave system which floods.

Next came two papers outlining some of the problems which led up to selection of the theme for this symposium. Charlie Larson presented problems spilling over into the Northwest Region as a result of adoption of "The New Mexico Cave Management Plan" in northern California National Forests. It is his conclusion that this is a reasonably good cave inventory plan, but which perpetuates stereotypes of caves as extremely dangerous places to the detriment of caves and cavers. The facts are not yet clear, but such thinking may have led to the recent closure of Mammoth Cave near Lava Beds National Monument by a railroad company even though the cave is on Forest Service land. The Forest Service apparently is undecided about what action to take on this; one discussant stated that the Forest Service should demand that the railroad reopen the cave immediately and there seemed to be a broad concensus on this.

My own paper outlined the differences between speleological research in the Red Zone on Mount Baker (Mt. Baker - Snoqualmie National Forest) and the Red Zone on Mount St. Helens (Gifford Pinchot National Forest). It analyzed the well-known problems at the latter in the context of the transcript of a previously semi-secret meeting called by the Gifford Pinchot National Forest on March 23, 1980 where it was decided that risk assessment data would be kept away from the public and everyone would speak with a single voice. This stonewall has survived changes in administration in Washington D.C. and in Olympia, and the unforseen outcomes of May 18, 1980. All can learn much from this breach of ethical risk management, but my recommendation is to learn from it, insure that such a situation will never happen again, then forget it and proceed cooperatively in the future; rather than continuing the adversary situation which has existed since March 23, 1980.

Phil Whitfield spoke from the background of being involved in cave management in British Columbia as well as his other roles in speleology such as past chairman of the NSS' Cave Management Section. In British Columbia the provincial Parks Branch is much more concerned with risks to caves than to cavers, and while some obvious hazards do need to be managed, he sees no justification for elaborate plans for management of different levels of risk.

Charlie Larson gave a short presentation of the Gifford Pinchot National Forest prescription for cave management, developed at a meeting called by Jim Nieland last summer, as a basis for future cave management in that national forest. It is believed to have been well received by planners of that national forest even though it approaches caves as low risk features. He compared this approach very favorably with the "New Mexico Cave Management Plan" previously discussed.

Chris Newhall a staff person of the U.S. Geological Survey in Vancouver, presented a paper which he had developed jointly with Bruce Rogers of the San Francisco Bay Grotto of the NSS, on quantifying geological hazards in lava tube caves. The paper pulled together much of what is currently known and what needs to be learned, in terms of periods of volcanic activity and other times, but the speaker seemed to feel that managers of volcanic cave areas should not permit speleological studies of lava tube caves while they are still hot. In discussion, it was mentioned that National Park Service cave managers have permitted even the general public to enter lava tube caves while they are still warm. No progress was made toward defining appropriate temperature levels for access for speleological studies.

After lunch, the first paper was by Dr. James A. Wise who teaches a course in risk evaluation and risk acceptance at the University of Washington. He presented an erudite paper on various approaches to risk assessment and how these could be applied to cave risk management. Because of the secrcy of the risk management process at Mount St. Helens, it was not clear whether any of these have actually been used there, but it seems unlikely. The paper will be of broad interested when the proceedings are published.

Dr. John Eliot Allen presented essentially the paper he would have given at the WSU Mount St. Helens symposium on May 18, 1981 had he been in good health on that date. It dealt with his experiences as chairman (and actually the only functioning person) of the Mount St. Helens research permit committee from April 1980 until he resigned in disgust late in 1980. He stressed that this was the first time that the scientific community had ever been precluded from research as a result of the pursuit of safety, and expressed concern about uneven application of Red Zone regulations to different members of the scientific community. It also turned out that he had been a member of the Nittany Grotto of the NSS around 1948-1950.

Rick Seifert of the Pulitzer-winning Longview Daily News presented a carefully reasoned discussion of balancing the public's right to know with other factors such as protecting caves and accident victims and rescuers etc. He expressed the view that, despite the supposed "single voice" and secrecy of risk management processes at Mount St. Helens, the press had been able to get risk evaluation data from a variety of sources with little or no difficulty. In the discussion period, Toni Williams expressed major concerns about the role of the press during cave rescues, and Rick made various suggestions for better liasion.

Dave Stevens, staff person from the office of the governor was unable to attend as scheduled. Hopefully his paper will be included in the proceedings as an addendum.

Chris Newhall presented an important paper on "The U.S. Geological Survey approach to volcanic hazards assessment at Mount St. Helens." Most of this dealt with general principles of long and medium range hazards assessment and very little with site-specific short-term assessment relevant to access control. In the discussion, Chris indicated that the process was not sufficiently accurate to justify placing the Red Zone boundary a mile one way or another in the cave area.

Jim Zollweg of the University of Washington Department of Geophysics (and formerly chairman of the St. Louis University Grotto of the NSS) presented the final paper, on seismic hazards in volcanic and other cave areas, discussing observations in caves during earthquakes and applying them to theoretical models. He perceives risks at Ape Cave and others to be somewhat higher than some have previously suggested, but still very low in comparison to some other familiar risks commonly accepted.

The final panel discussion included most of the speakers plus a Portland psychologist who has worked in the area of risk assessment in mountaineering. Numerous suggestions were advanced on the topic: where do we go from here?

Effectiveness of the meeting was marred by two factors. One was my bad cold, with frequent coughing and slowness of thought processes ill-befitting a symposium chairman. My apologies to all concerned. The other was the very obvious absence of all persons involved in cave management on the Gifford Pinchot National Forest despite personal invitations sent to Mr. Robert Tokarczyk, Forest Supervisor, and to Mr. Ken Johnson, Manager of the Mount St. Helens National Volcanic Monument as well as the initial invitations sent to John Johnston and Charles Caughlan of its staff. No acknowledgment was ever received from any of these cave managers.

My heartfelt thanks to all participants and to all those who worked so hard to assure the success of this outstanding symposium.

THE SEATTLE/KING COUNTY HEALTH DEPARTMENT IS CONCERNED about the frequency of calls they receive about rabies risk due to animal bites and the misinformation circulating in the medical and lay communities regarding this problem. The Department recommends the victim thoroughly cleanse the bite using a strong jet of water and soap or detergent to decrease the likelihood of rabies, contact a physician, and also report a dog or cat bite to a local police or county health department. Physicians are asked to recommend their patients keep pet vaccination schedules up to date and remind them that wild animals are not to be considered pets.

PLUGS PLANNING AREA

The following is part of a letter to Charlie Larson, of the Oregon Grotto, from the Wind River Ranger District. The Plugs planning area includes several of the caves in the Falls Creek Cave System.

> We have just developed our Issues, Concerns, Opportunities and Evaluation Criteria for the Plugs Planning Area.
>
> Several issues that we feel are of importance to this area have been identified. They include scenic quality, protection of lava tube caves, protection of big game habitat, and treatment of high priority timber stands.
>
> The Forest Service has proposed harvesting 15 million board feet of timber in this entry of the Plugs Planning Area.
>
> We would appreciate any further input you have on this timber sale and would like to invite you to stop by the office and review our Issues, Concerns and Opportunities for this sale as well as sharing your suggestions with us.
>
> We will use your input, along with resource specialist's input to formulate alternatives this winter and spring.
>
> Charles W. Cartwright, Jr.
> District Ranger
> Wind River Ranger District
> Carson, WA 98610

The grotto has responded to Mr. Cartwright urging that the Wind River Ranger District implement the recommendations of the Cave Management Workshop and enclosed a copy of them. These recommendations were printed recently in the Caver. We also suggested studying the Falls Creek Cave System for possible creation of a Special Interest Area.

We would like the Wind River Ranger District to have more input from other sources. If you have any supporting comments please send them to Mr. Cartwright.

FOUR LINES OF DEFENSE AGAINST HYPOTHERMIA

From the motion picture: BY NATURE'S RULES

COLD KILLS IN TWO DISTINCT STEPS

STEP ONE: EXPOSURE AND EXHAUSTION

The moment your body begins to *lose heat* faster than it produces it, you are under-going exposure. Two things happen:

1. You voluntarily *exercise to stay warm.*
2. Your body makes involuntary adjustments to preserve *normal temperature in the vital organs.*

Either response drains your energy reserves. The only way to stop the drain is to reduce the degree of exposure...

- **THE TIME TO PREVENT HYPOTHERMIA IS DURING THE PERIOD OF EXPOSURE AND GRADUAL EXHAUSTION.**

STEP TWO: HYPOTHERMIA

If exposure continues until your energy reserves are exhausted:

1. Cold reaches the brain depriving you of judgement and reasoning power. *You will not realize this is happening.*
2. You will lose control of your hands.

This is hypothermia. Your internal temperature is sliding downward. Without treatment, this slide leads to stupor, collapse, and death.

- DON'T ASK, "HOW COLD IS THE AIR?" ASK INSTEAD, "HOW COLD IS THE WATER AGAINST MY BODY?"

4. USE YOUR CLOTHES. Put on raingear *before* you get wet. Put on wool clothes *before* you start shivering.

YOUR FIRST LINE OF DEFENSE: AVOID EXPOSURE

1. STAY DRY. When clothes get wet, they lose about 90% of their insulating value. Wool loses less; cotton, down, and synthetics lose more.
2. BEWARE THE WIND. A slight breeze carries heat away from bare skin much faster than still air. Wind drives cold air under and through clothing. *Wind refrigerates wet clothes* by evaporating moisture from the surface. WIND MULTIPLIES THE PROBLEMS OF STAYING DRY.
3. UNDERSTAND COLD. Most hypothermia cases develop in air temperatures between 30 and 50 degrees. Most outdoorsmen simply can't believe such temperatures can be dangerous. They fatally underestimate the danger of being wet at such temperatures.
   - 50 degree *water* is unbearably cold. The cold that kills is *cold water* running down neck and legs, *cold water* held against the body by sopping clothes, *cold water* flushing body heat from the surface of the clothes.

YOUR SECOND LINE OF DEFENSE: TERMINATE EXPOSURE

If you cannot stay dry and warm under existing weather conditions, using the clothes you have with you, *terminate exposure.*

1. BE BRAVE ENOUGH TO GIVE UP REACHING THE PEAK OR GETTING THE FISH OR WHATEVER YOU HAD IN MIND.
2. Get out of the *wind and rain.* Build a fire. Concentrate on making your camp or bivouac as secure and comfortable as possible.

NEVER IGNORE SHIVERING

Persistent or violent shivering is clear warning that you are on the verge of hypothermia. MAKE CAMP.

FORESTALL EXHAUSTION

Make camp while you still have a reserve of energy. Allow for the fact that exposure greatly reduces your normal endurance.

You may think you are doing fine when the fact that you are exercising is the only thing preventing your going into hypothermia. If exhaustion forces you to stop, however briefly:

THINK HYPOTHERMIA

If you are outdoors for recreation, you presumably do not intend to jeopardize your life.

Hypothermia may be a new word to you, but it's the *only* word that describes the rapid, progressive mental and physical collapse accompanying the chilling of the inner core of the human body.

Hypothermia is caused by exposure to cold, aggravated by wet, wind, and exhaustion. It is the #1 killer of outdoor recreationists.

- **TAKE HEED OF "HYPOTHERMIA WEATHER."**
- **WATCH CAREFULLY FOR WARNING SYMPTOMS.**
- **CHOOSE EQUIPMENT WITH HYPOTHERMIA IN MIND.**
- ***THINK HYPOTHERMIA.***

NOTES ON EQUIPMENT

Choose rainclothes that are proof against *wind-driven* rain and cover head, neck, body, and legs. Polyurethane coated nylon is best. The coatings won't last forever. Inspect carefully and test under a cold shower before you leave home. Ponchos are poor protection in wind.

Take woolen clothing for hypothermia weather: 2-piece woolen underwear . . . or . . . long wool pants and sweater or shirt. Include a knit cap that can protect neck and chin. Cotton underwear is worse than useless when wet.

A stormproof tent gives best shelter. Take plastic sheeting and nylon twine for rigging additional foul-weather shelter.

Carry trail food . . . nuts, jerky, and candy . . . and keep nibbling during hypothermia weather.

Take a gas stove or a plumber's candle, flammable paste, or other reliable firestarter.

- **DON'T WAIT FOR AN EMERGENCY. *USE* THESE ITEMS TO AVOID OR MINIMIZE EXPOSURE.**

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FEBRUARY 1983 AT MOUNT ST. HELENS

By William R. Halliday M.D.

On Sunday February 20, 1983 after the symposium in Vancouver, Ben Tompkins (Cascade Grotto), Terry Childress-Landchild (a new Oregon Grotto member) and I had a quick look at the situation in the Ape Cave area. A recent snowfall was melting in a warm rain which had been much heavier a few hours earlier. Road 83 was clear of snow all the way to the junction of road 81; a little snow was still present on the latter but tire marks went all the way through it.

Clear water was present in the pond at the west end of the Hopeless Cave Mudflow restraining dam and a stream was flowing around the dam. The usual leak was present near its west end. Behind the west end of the dam but not extending all the way to the pond was a large deposit of grey sediment which was new since my last trip as recorded in this journal. Its surface was within a few inches of the top of the dam. The surface of the dam was incised by numerous stream gullies, several times as many as I had ever seen before.

A sizeable clear stream was flowing in the axis of the old pre-eruption stream channel, thence southeast in a new stream channel just east of the Hopeless Cave entrance site. Only small amounts of water were flowing in other braided channels at this time. Considerable degradation had occurred in the general vicinity of the Hopeless Cave entrance site, with exposure of much of the dead vegetation which had been buried here. Review of slides taken on the last trip showed that this local degradation had begun prior to my last trip here.

The stream flowing around the west end of the Hopeless Cave Mudflow restraining dam was flowing through the parking lot in approximately the same volume as at the dam. Farther down the Ape Cave road, several clear braided streams were crossing the road and flowing southward on the west side of the Lava Cast Area after becoming confluent. Recent stream deposits in the parking lot and on the Ape Cave road west of the Lava Cast area showed recent higher velocity downslope delivery. The mud tongue on the south side of the Ape Cave road at the Lava Cast turnoff was larger than at last observation and is continuing to spill partially into the roadside sink here.

Underground work was limited to the lower section of Ape Cave and to Lake Cave. Drip was very extensive in Ape Cave, with a trickling stream beginning a few hundred feet below the main entrance. Conditions in Lake Cave were quite similar, with a similar stream in much of the cave and two waterfalls emerging from the Waterfall Passage. While making observations at the lower end of Ape Cave, a visitor identified himself as a former member of the Nittany Grotto and former roommate of Jack Stellmack. We planned to meet later, but missed connections. Hopefully he will contact the Oregon Grotto on his own, as he lives in Vancouver now.

A disquieting development at the three key junctions in the cave area is the appearance of three new signs stating that parking at each is dependent on payment of a $5.00 snowmobile parking fee which pays for snowplowing. The Road 90 - 83 junction is not in the national monument, but the others are, and this appears to be another clear violation of the intent of Congress in establishing the national monument. The signs carry the name of Washington State Parks. Does anyone have any information on this?

REPORT ON A BRITISH COLUMBIA LAVA TUBE

From a letter to William Halliday by Jim Wolff

...On the Aiyansh (Tseax) lava flow ... I was able to locate the one tube shown on the "aerial photo". Though the cave was small (approx. 80 feet long) it was a tube... the only one I found combing the flow. There is one other, a smaller tube a few hundred feet away, next to the base of the main cone. I did not visit this smaller cave due to lack of time. The potential of the flow seems to be only in the upper reaches of the flow, near the source, and with a steeper gradient. Where the flow hits the Tseax River valley all possible caves are at or below the water table. And the lower end of the flow where there is indication of many pits and depressions? Yes, they are there all right, only nothing went, and rare fragments of tube linings. Disappointing as far as caves, but very interesting nonetheless.

note: This lava flow is in northwestern-most British Columbia, about 50 miles north of Terrace, B.C. The data Jim mentions was published in 1969 in the Canadian Jounal of Earth Sciences in an article by A. Sutherland Brown.

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GROTTO MEETING APRIL 19 8:00