

Vol. 18 #1-2

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THE CASCADE CAVER



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Editor: Rod Crawford

"January-February 1979"

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WHAT'S WRONG WITH THIS PICTURE?

THE CASCADE CAVER is published almost ten times per year by the Cascade Grotto of the National Speleological Society. Subscription rate is \$4.00 for one year's issues. Full grotto dues are \$4.50, and family memberships (not including subscription) 50¢. All payments should be made to Grotto treasurer Chuck Coughlin, 6433 S. 127th Place, Seattle WA 98178.

COMING EVENTS

Sometime soon. Senger's Talus Cave, more mapping. Contact Rod Crawford, 543-4486, late nights, ring 7-8 times. It stands a good chance of becoming the longest mapped talus cave in the West.

March 24-25. Ape Cave and vicinity, official trip. By the time you read this, the trip will be history. See last issue for details.

Saturday, March 31st. Special Business Meeting at Roger Matthews' house, 6:00 PM, 6026 41st NE, Seattle. 522-0801. Pot luck. ALL cavers are welcome.

Sunday, April 1st. Appropriately enough, Deception Pass mine exploration. Vertical equipment essential. Call Bill Halliday, 324-7474.

Tuesday, April 17. Regular meeting, 8:00 PM, at the Hallidays', 1117 36th Ave. E, Seattle. Program: NSS slide show, "Into the Depths of Fern". Program Chairman Chuck Fair says that if you liked "Cave of the Winding Stair", you'll love "Into the depths of Fern".

Tuesday, May 15. Regular meeting, time and place as above. Program: NSS slide show, "Introduction to Northwestern Vulcanospeleology".

May 25-27 (Memorial Day). Official Grotto Trip for May. Eastern Washington itinerary including: Albright Cave, several new caves (some not yet mentioned in print), Gardner Cave, and Cody Cave, B.C. Accommodations in Phil Whitfield's house in Nelson, B.C., for one night have been arranged. Call Rod Crawford (as above), or Bob Brown, (206) 569-2724.

May 25-27, also: Saddle Butte lava tube system, Oregon, with Oregon Grotto. Call Bill Halliday, 324-7474.

June 2-3. Mt. St. Helens Conditioning Climb for summit steam caves group. Call Halliday.

June 9-10. Mt. Baker Steam Caves. Call Halliday.

June 16-17. Mt. Hood Conditioning Climb for summit steam caves group. Call Halliday.

Tuesday, June 19. Regular monthly meeting, time and place as above. Program: NSS slide show, "Mystery Hole, Tennessee."

June 23-24. Catch-up weekend for summit steam caves group--one of the above is sure to be weathered out.

June 30-July 1. Northwest Regional Meet at Trout Lake, Washington. Call Brown.

July 5-8 approximately. Summit Steam Caves, Mt. Rainier. Call Halliday.

August 5-12. NSS Convention in Massachusetts. Theme: Spelean History. Also planned is a symposium on talus and tectonic caves. Call Halliday.

NEW MEMBERS

Randy Vance (S) 327 Lauder, No. 1504, Moscow, ID 83843 (208) 882-6013

Wes Gannaway 1604 Brookwood Dr, Ferndale, WA 98248 (206) 384-4209

Maurice Magee 4220 S. 177th, Seattle WA 98188 243-7958

Geary Sanders 4609 15th Av. S, Seattle 98108

Christopher Burdge 24304 59th W, Mountlake Terrace WA 98043

Nancy Guthrie (s) 7002 S Sheridan, Tacoma WA 98408 475-7115

Charlie Larson (S) 13402 NE Clark Rd, Vancouver WA 98665 573-1782

OUR COVER is a scene from the early exploration of Papoose Cave, Idaho. Yr Editor notes at least three items of technique which, though accepted at the time, are now often considered unsafe.

FEATURE

Response of the Mt. St. Helens Caves Conservation Task Force to the White/Panther Planning Unit Alternatives, Gifford Pinchot National Forest

12 February 1979

by William R. Halliday, M.D., Chairman

Although it represents an extension of its original mission, the Mt. St. Helens Caves Conservation Task Force has submitted the following because no other speleologists seemed to be doing anything about the situation--which would have dire and drastic consequences a few years hence for those of us who love lava tube caves.

As indicated, it is a preliminary response, prepared to hold against the deadline while NSS Grottos in Washington and Oregon and possibly others have a chance to think about other caves in this area--and to consider whether other points of view are more appropriate than those expressed here. Really, it is an emergency stop-gap response. Now it is up to each Grotto to prepare a response worded as they think proper.

The White/Panther Planning Unit includes all the caves in the Gifford Pinchot National Forest except for those in the Mt. St. Helens area, and except for Wiggins' Pits. It does not include those east of the Skamania-Klickitat county line near Trout Lake.

Introduction

Planning of management of caves on the White/Panther Planning Unit of the Gifford Pinchot National Forest clearly must be quite different from that for the Mt. St. Helens cave area. The latter consists of a single discrete area, where the national and international significance of the caves and their natural contents is the overwhelming factor which should determine its management. On the White/Panther Planning Unit, the caves are scattered, are less critical in certain parameters, and are located in areas where conflicts in land use must be given more consideration. Yet some are of national and international significance here, also. Thus an appropriate management plan maximizing preservation of caves and their underground wilderness and other values and resources still needs to be developed for each cave and each group of caves.

Greatly complicating current considerations is the acknowledged lack of speleological expertise by the planning staff of the National Forest. This is of long standing (see letter of Forest Supervisor Ross W. Williams to Willard Van York, Chairman Cascade Grotto, 15 April 1964, which stated in part: "The truth is, we know so little about caves that we have had trouble arriving at a decision..."). Similar lacks of information and expertise have caused past damage to caves and related geological phenomena, such as clear-cutting around Big Trench, and 1959 damage to Dry Creek Cave through use of its main entrance as part of a loading area for logging trucks. Only in recent months has the Gifford Pinchot National Forest begun to make use of the speleological expertise of several members of its staff, and this remains very spotty. The White/Panther Planning Unit Alternatives Document misidentifies New Cave as a second Slime Cave, misspells Dynamited Cave, etc. Clearly the National Forest is not fulfilling its responsibilities in management planning for its

cave resources and values, and needs to greatly upgrade these activities before finalizing its White/Panther Planning Unit plans. None of the alternatives included in this document come anywhere near an appropriate management plan for the caves of this area--as was also true for those of the Green/Spirit Planning Area--and much work needs to be done. At present, there are no developed criteria for any national forest for such planning. The criteria developed for cave management planning by the Lincoln National Forest applies to limestone caves and is not suitable for application to lava tube caves. Still further complicating the situation is the need for additional speleological studies here. Not all the spelean values and resources have been identified yet.

As agreed upon when I met with various members of the Gifford Pinchot National Forest staff in Vancouver, Washington on January 15 and 16, 1979, this report is presented as a response to the February 19, 1979 deadline for initial input on the White/Panther Planning Unit alternatives, and is to be considered as only preliminary. It will be circulated to the four chapters of the National Speleological Society which are active in this area and a broader overview will be prepared and forwarded to the National Forest about 31 March summarizing their responses.

Initial Conclusions

1. The proposal for a Geological Area surrounding and including Deadhorse Cave is appropriate, and such a Geological Area should be established before the cave and its contents undergo damage.

2. The proposal for a Geological Area including the Big Lava Beds is appropriate, and such a Geological Area--including a peripheral strip around the lava beds--should be established before the area undergoes further damage. A Wilderness Area would be acceptable instead of a Geological Area here, even though it could not include Goose Lake as should a Geological Area.

3. Dynamited Cave is of exceptional scientific significance. See, for example, Caves of Washington p. 84 ff, Depths of the Earth, 2nd edn., p. 377 ff, etc. In its geological features it differs so much from most other lava caves that despite two decades of study, its origin remains debatable. Its lowest level contains a stream as large as that in Deadhorse Cave, which has not yet been studied biologically. A Geological Area including at least the entrance area should be created here. It should be larger than the 0.5 acre included in the Special Use Permit of September 30, 1964, for scientific studies of Dynamited Cave, but need not be as large as that for Deadhorse Cave because most of the cave has a much greater overburden than does the latter. Special consideration also should be given to limiting access to this cave because of its hazards to the unskilled.

4. The Datus Perry System and the Falls Creek System (including Three Sinks and Følger's Cave) present special management problems. Falls Creek Cave is of international significance because of its length and unusual speleogenetic features. Its entrance area (including a pretty natural bridge) is suitable for mass recreational visitation and is so utilized at present. Most of the cave, however, is much too hazardous and too fragile for continued use of this kind. The other caves in this system are even more fragile. One is currently under a special use permit. Under these circumstances, there should be a Falls Creek Geological Area which includes the entire system, with visitors discouraged from entering any part of it except the Falls Creek Cave entrance sinks. The salamander habitat in these entrance sinks, however, needs special consideration.

5. The eastern part of New Cave is well suited for mass recreational use. Its western part is not.

6. Ice Cave has not suffered unduly from being the center attraction of a picnic area or a campground. In part, this probably is because the lack of water discourages many would-be vandals from remaining at the site. The present management of this cave system is satisfactory and should be formalized.

7. Dry Creek Cave was damaged by logging operations in 1959. At that time, it was the only braided lava tube cave known in this part of North America, and was felt to be of exceptional significance. Although it is still a fine cave, the discovery of Deadhorse Cave has reduced the importance of Dry Creek Cave. Its flow lines and grooves, however, are beautiful. Road 123 passes over its eastern chambers, with so small an overburden that collapse of the road is a definite threat. Serious consideration should be given to a short road relocation here, and construction of a parking area for interpretive recreational visitation. Few visitors will go far into the cave because it is so low.

8. Spearpoint Cave is one of two caves in this planning unit where artifacts are known to have been found. Its roadside location is obvious, and early archeological investigation should be conducted here before pothunting occurs.

9. Big Trench and its caves form a notable geological unit which has been disregarded in past logging practices. A Geological Area should be established here. The part north of the Mann Butte Tie Road is suitable for mass recreational use except for Longview (Tooth) Cave which few will enter because of the small size of the entrance. Nevertheless, interpretive trails should lead away from this cave. The caves south of the road should be managed as underground wilderness and the surface rehabilitated.

10. Big Cave and its trench (including Nielsen's Cave) are less dramatic and too rough for mass use. These should remain in wilderness status, with an adequate peripheral fringe of natural vegetation.

11. The Ditch Caves have not been studied biologically even though leakage from Lost Creek Ditch has created a unique habitat in one of them. They should remain in wilderness status for the foreseeable future.

12. Curly Creek Cave is too rough for mass visitation but apparently presents no special management problems. It should be managed as underground wilderness, with an adequate protective fringe of undisturbed vegetation around the entrance and adjacent sinks.

The same is true for other caves in this planning unit not specifically addressed herein.

13. Special consideration should be given to gating Trout Creek Hill Pit, to prevent accidents.

14. A specific written management plan should be developed for each cave known on the Gifford Pinchot National Forest, in cooperation with local units of the National Speleological Society. Each should be based on resources and values of the cave and its related geological, biological, and other environments. Overall management plans for the Green/Spirit and the White/Panther Planning Units should be held in abeyance until the individual plans are completed. Obviously there should be provisions for modifications or additions when additional resources and values are discovered.

15. Consideration should be given to creation of Research Areas rather than Geological Areas, as follows:

Big Trench Geological Area	Dynamited Cave Geological Area
Deadhorse Geological Area	Falls Creek Geological Area
Ditch Caves	

16. Wilderness Area status is desirable for the Indian Heaven area, including all of Area 6 and the west part of Area 11 as shown on the map of Alternative #1. Also it would be desirable for all presently unroaded areas between Mt. Adams and the White Salmon River. In general, there are not enough sizable roadless areas remaining in this planning unit, and emphasis should be on maintaining those which do remain.

17. Every effort should be made to minimize snowmobile and ORV access to caves which are not fully open to planned mass recreational use. This includes closures of the roads to Dynamited Cave, Falls Creek Cave, and the like, to snowmobiling without special permit, and closures of all the Geological and/or Research Areas to all ORV travel.

18. In view of the factors outlined in the introduction, all Draft Environmental Impact Statements on spelean areas on the Gifford Pinchot National Forest should be prepared cooperatively with knowledgeable speleologists.

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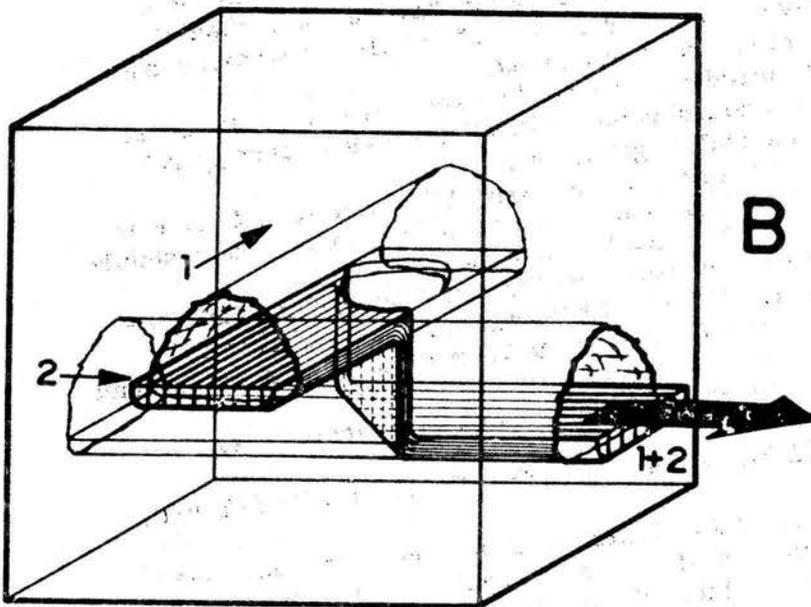
VULCANOSPELEOLOGICAL ABSTRACT

Montoriol-Pous, Joaquín, and Jorge de Mier, 1977. Estudio de un caso de captura subterránea de una corriente de lava, observado en el Cueva de Don Justo (Isla de el Hierro, Canarias). Atti del Seminario sulle Grotte Laviche: Catania, 27-28 Aug. 1975, Gruppo Grotte Catania. Pp. 169-174.

Authors' abstract, in part: "[In 1974] the Grupo de Exploraciones Subterráneas of the Club Montañes Barcelones...explored the Cueva de Don Justo on the island of Hierro, Canary Islands. In the lower part of this cave the phenomenon of capture of a lava flow, which is reported in this paper, has been observed.

"The morphology of both crossing galleries is described, and hypotheses on the processes which caused the phenomenon are expressed."

Editor's comment: On p. 170 the authors state that the Cueva de Don Justo is 5500 m long, and the longest cave on the island of Hierro. Unfortunately,



fortunately, they do not indicate whether the cave is segmented. In fact, Montoriol seldom does mention whether a cave is segmented, which is unfortunate as he has reported on much of the exploration in some of the world's longest lava tubes. The capture of a lava stream by an underlying passage, as exemplified in Cueva de Don Justo, is shown in the accompanying figure from the original paper.

Additional note: Bill Halliday attended a slide show on this cave in La Guancha, Tenerife, on November 27, 1971. He reports that the cave was "said to be a 1500 meter cave with a labyrinth plan..." One hopes that the 5500 m cited above is not merely a typographical error!

TRIP REPORTS

Jackman Creek Cave Trip
February 3, 1979

by Wes Gannaway

After being contacted by our Chairman Bob about my interest in caving, I finally agreed to participate in an ADVENTURE. After several false starts, during which our wonderful weather played a minor but significant part, I finally arrived at the rendezvous amidst great trepidation. After making proper obeisance to our Great Chairman, I then met the other intrepid brave souls of our expedition: Wally Bosshart, Chuck Fair, Rod Crawford, and Cave-Dog, and then we set (slid?) ou upon our ADVENTURE.

The Great Trek covered many miles through the Cascade Wilderness. We finally arrived at our destination. Yes, we were at the famous town of Concrete. We stopped at a wayside inn to revitalize and sustain our malnourished bods. After much ado about the lettuce in one hero's burger, we then set out for the ultimate goal.

Along the way we had to abandon Old Rust, our fearless leader's transport. We resumed our trek after everyone piled into my faithful steed, Nelliebelly. Well, fellow cavers, we literally slid up that mountain. After finally getting to several level spots we arrived at The Spot. We had to climb out onto the snow and change into our caving gear (Rod had already changed while we were on the main highway, much to the shock of several passers-by). After we listened to our Chairman Bob extol the virtues of his fancy, handmade coveralls (which he had coerced Chuck's wife into making), he then had our trip photographer, Wally, take several pix of him (the rest of us were allowed to stand below him). We then started into The Cave.

After travelling several hundred feet of twisting, tortuous passage, amidst many mutterings of "Don't squish the harvestmen" and "I forgot my kneepads", we finally entered the Big Room (at least some of us did). I here and now vote to change the name of this room to the Vertically Big Room. We all then watched Wally as he tried to fit into a nine inch hole. After several hours we emerged into the outside world and started to descend the mountain. We slid back down the mountain and rescued Old Rust, and then made plans to do the next best thing that a caver enjoys, namely eating. Along the way we stumbled across some poor folks that had lost their way. After performing the necessary feats of strength and wonder we searched for Rod's pizza parlor, but after much arm twisting by Chairman Bob we ended up at a Chinese Restaurant.

Alas, there is an ending to this fine tale. Having finished our repast, we retired to the parking lot where there was much bowing and hand shaking and, it growing exceedingly late, we all dispersed to our divers abodes.

Field Trip Report: Cueva del Guacharo, Venezuela
February 14-20, 1979

by William R. Halliday, M.D.

For a long time I had been trying to find a reasonable way to get to the famous Cueva del Guacharo, about 300 miles east of Caripe in the mountains of eastern Venezuela. The nearest airport is at Maturin, which is only about 50 miles from Port-of-Spain, Trinidad, served via Eastern Airlines' famous unlimited mileage special, and there is a local airline between the two. However it

flies only two or three times a week, and on varying days, so I never figured out a way to use that approach safely. When an ad appeared in the Seattle Times for a charter flight to Caracas including a hotel package on the beach for a very low total, Len and I signed up, and it worked out very well even though only for one week.

I had previously corresponded with several members of the Sociedad Venezolana de Espeleologia, and the night we arrived, they made plans to get together with us, and told me where to go to get permission for the cave--necessary because it is in a national park. There were some problems at the offices of the Instituto Nacional de Parques because of my very bad Spanish and the early lunching of the gentleman I was supposed to see, but after lunch, all went very well. Except that written permission of the Director of the Instituto (the equivalent of our National Park Service) would be necessary to go beyond the tourist sections, and that would not be available until Monday which would be cutting my schedule too close. And except that they assured me that I could take photos in the scenic section of the cave beyond the part inhabited by the guacharos; flashes are not permitted in the nesting sections because they bother the famous birds.

We arrived on Thursday morning; arrangements for the permission for the tourist section took all of Friday. On Saturday Len and I met with several members of the SVE for slides. Sunday was spent getting reservations to and from Maturin, which is not as easy as it is in the U.S.; members of the SVE helped notably. Monday at 7:00 AM, Avensa took off on schedule, and soon landed in Maturin where nobody's English was as good as my Spanish. The latter rapidly improved, however, and I was even able to change my reservation to an earlier flight the next day despite first being told to go to the downtown airline office to do it. A short taxi run to the Por Puesto terminus--Por Puestos are cut-rate taxis that run back and forth over fixed routes, more or less, usually with side trips to your desired point of destination. The drive to the town of Caripe took almost two hours, and cost \$4.50. "You can go anywhere in Venezuela on Por Puestos", the SVE had told me, and I believe it.

Immediately I checked into the Hotel Saman, recommended by the SVE. It is a delightful family-style little hotel, spotless, and with excellent food. The proprietresses kindly drove me to the cave where it turned out that I was the only visitor that entire day (Monday). I had a guide all to myself. But it turned out that photos are forbidden anywhere on the commercial route. Only because I had a special introduction to the chief ranger did I receive the privilege--and NOT in the guacharo section.

The commercial section consists mostly of one enormous gallery along the strike of steeply dipping beds, with the trail winding a little because of massive columns and stalagmites. A little daylight is present for perhaps 300 yards. The guacharo nests begin about 100 yards inside, and their inhabitants kept up a vigorous commentary on our presence, manners, morals, parentage if any, and related topics the entire time we were in sight. They had even stronger language for their neighbors, however--they are strongly territorial birds, and local air space is constantly being renegotiated. The cave is so high that only occasionally could we see those in flight by the light of our single lantern, but the constant CLICK-CLUCK-CLUCK of their sonar told us what was going on in the high shadows. I managed to get some fairly good tape recordings of the sonar and their comments.

At the end of the guacharo section is a narrow lead down to the stream level (ankle deep, mostly)--the Hall of Silence. Beyond is several hundred additional yards of smaller passage with rather muddy but massive speleothems. The commercial route ends at the Wind Pass, a near-duckunder. Beyond are the

most beautiful parts of the cave, with fine helictites, crystalline stalactites and much more. Next time, maybe.

Downcutting segmented the cave; on the far side of the canyon is a short little cave which geologically is a continuation of the Cueva del Guacharo. It contains an artistic little Catholic shrine, and is an excellent point for photos of the entrance of the big cave.

After I had taken all the photos I wanted, I caught the next Por Puesto back to Caripe (50¢ for a 20 minute drive), cleaned up and rested up, and caught another Por Puesto back to the cave for the evening guacharo flight. As it turned out, the sounds are much more impressive than the sight; the birds fly much later than do bats from the great Texas bat caves, and it is difficult to see much of them against the darkening sky. But what an uproar in the cave as all the guacharos are violating everybody's air space as they get ready to leave!

I had expected to catch another Por Puesto back to Caripe, but four Danes were there for the flight, and gave me a ride. Next morning I hiked the town a bit, caught the Por Puesto to the Maturin airport, had a good lunch, and Aeropostal deposited me back where I started, right on time. I want to do it again!

Vancouver Island
February 17-19, 1979

by Vera Fair

Undaunted by gale force winds, heavy rain against windshields, horrendous gas consumption, one malfunctioning automobile and inflated ferry fares, several Cascade Grotto members wended their way toward British Columbia February 17, eagerly anticipating a long weekend exploring limestone caves and resting comfortably in VICEG's Gordon River cabin. Bob Brown, Chuck and Vera Fair and daughters Brenda and Holly, John Dickson and Judy Trafilga (both recently from the Windy City Grotto) and Wally Bosshart planned to pick up Terry and Claudia Boorman in Victoria on the way to the cabin, where several other VICEG members would meet them.

Alas! Upon arrival at Boormans', the weary travelers learned that just one hour earlier Terry had learned that the roads to the cabin were impassible. Two feet of snow had accumulated at the pavement's end. Though Mike Roberts and Edith Bettison of VICEG very kindly offered to transport the visitors to Gordon River in a four wheel drive vehicle, (necessitating two round trips going and two more coming back if all visitors went) it was generally agreed that it was just too much to ask. Thus the Boormans wound up with many unexpected overnight guests. Fairs, Wally and Bob stayed two nights because of Bob's car problems, repaired Sunday afternoon by Chuck and Terry.

Terry and Claudia were gracious as always. Their hospitality was deeply appreciated by the Washingtonians.

Saturday night's entertainment began with pizza, prepared by those artful tomato sauce spillers and gourmets of animal fat, Bob Brown and Vera Fair (with assistance in shredding, chopping, and general tedium by John and Judy).*

After stuffing themselves, the group (including Bill West-Sells of Gordon River, stranded by snow and spending the night at Ken Sinkiewicz's place) was treated to caving slides by Terry. Candlestick Cave, Cascade Cave, and River-bend Cave all came to life in glorious color, reminding all of what they were

*See recipe elsewhere in this issue.

missing. Snowshoes and/or cross-country skis, anyone?

But wait! There would be caving on Sunday after all! Terry would escort the group to Hager's Cave on Sunday morning!

Sunday morning arrived too early, with Brenda Fair (instructed by Terry) piping "Get up! We're goin' cavin'!" cheerfully into each sleeping ear.

Hager's turned out to be a tiny (200'+) used for contests by VICEG members. One caver once got through it backward, without lights, in 2 1/2 minutes. Wally Bosshart, under the chuckling direction of Terry, fell into nine inches of water in an 18-inch crawlway with sheer sides.

Near Hager's Cave, Terry pointed out two other small caves. One, Water Cave, is a resurgence of the stream from Hager's Cave. In summer, Water Cave can be penetrated (crawling) about 100 feet.

Across the road from Hager's Cave roams an interesting breed of cattle never seen before by the Washingtonians. The shaggy, enormous creatures are called Highland Cattle. Terry explained that they are a cross between Jersey and Woolly Mammoth...

John and Judy passed up these breathtaking caves, spending the day instead at Victoria's Provincial Museum, which they recommended highly.

Back at Boormans', Bob spent four hours carefully copying slides (with a copier provided by VICEG) for Cascade Grotto's new slide show. VICEG contributed 35 slides to be copied. Help in interpreting the written instructions was provided by Terry, Wally (who seems to know a lot about photography), and Vera (who doesn't). They convinced Bob that, to avoid uneven lighting, he should bounce the light off white paper instead of placing the slide between the light and the camera lens.

Steak Dinner was delicious! Later Terry played some Body Wagner and Utah Jack selections from performances he taped live, as well as a few Barb MacLeod caving songs taped live in the Boorman home.

Terry and Claudia, who obviously do not get Presidents' Day off, turned in at a reasonable hour and missed a momentous event! By 1:00 AM, Bob, Wally, and Vera had analyzed the world's problems and solved all with electric cars.

Monday, refueled and refreshed, we took the San Juan Islands ferry route (since the sun was out and the cameras were loaded) and continued (upon reaching Anacortes) the C.B. game we started on the way up: "What's Your Milepost?"

Facts of interest gleaned during the weekend:

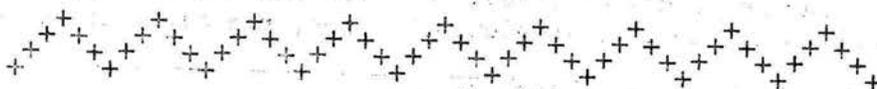
--Candlestick Cave is being made into an ecological reserve, including 40-50 acres of timber around the entrance.

--Cascade Cave was recently cleaned up (as well as possible).

--The Gordon River cabin heating system is very imaginative. Burning wood in a 55-gallon drum outdoors heats rocks. Then the heat is circulated through floor ducts by a 12-volt fan.

--Boormans have acquired a heavy-duty bootmaking Singer sewing machine. It is perfect for packs, etc. It will soon be used by Terry to make himself a pair of Practically Indestructible Nylon Robberized Coveralls like Bob's and Chuck's, complete with extra underarm and side zippers, inside pockets, and knee-pad pockets. Bob, Chuck, and Vera broke and bent many "heavy-duty" needles on three regular sewing machines making theirs.

Oh, by the way: Bob's two rolls of slide copies didn't turn out. It seems the slide has to be between the light source and the lens.



SPELEOCOOKERY DEPARTMENT

Victorian Pizza Dough

by Vera Fair

Since all pizza must start with commercial Hot Roll Mix, it was somewhat disappointing to find none in Victoria. Vera got around this seeming setback by cornering a gentle Victorian lady shopper and demanding to know how she mixes pizza dough. The lady supplied this excellent recipe:

5 cups flour	2-3 tbsps. sugar
1/2 cup vegetable oil	1 1/2 tsps. salt
2 tbsps. yeast (2 packages)	1 egg

As much water as it takes to reach desired consistency (stretchy and somewhat sticky).

Let yeast work in 1 cup lukewarm water while dry ingredients are mixed together in one bowl. In another bowl, mix together oil, yeast, and egg. Add to dry ingredients. Add additional water or milk. Allow to rise if there is time (not really necessary). Makes two pizzas. Dough may be frozen if desired.

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SOME ADDITIONAL AZOREAN CAVE REFERENCES

by Bill Halliday

1. Direcção-Geral do Turismo. Azores, Portugal. 1976. Porto, Lito of Artistas Reunidos. 12 pp., not numbered.

"Pico Island...Fuma de Frei Matias--Grotto with stalagmites."

"Terceira Island...Monte Brasil, with splendid views and sea caves."

"Island of Santa Maria...Cave with stalactites on Romeiro Inlet."

2. Afonso, João. No date (ca. 1975). Azores, Portugal: Terceira, São Jorge, Graciosa. Porto, Artistas Reunidos. 8 pp., not numbered, with foldout.

"...Leisure can also be filled up by hunting, by climbing, by speleology and other sports...Many attractive underground galleries, caves and grottoes can be visited (with a guide)." [on Terceira].

"Graciosa Island...The Prince Albert of Monaco grotto at Caldeira is a kind of geological cathedral, well worth a visit."

3. Comissão Regional de Turismo da Horta. 1973. Açores, Azores, Portugal: Fayal, Pico, Flores, Corvo. Porto, Lito of Artistas Reunidos. 16 pp., not numbered.

(Color photo of littoral cave on Flores, entitled "A cave in the cliffs.")

4. Comissão Regional de Turismo das Ilhas de São Miguel e de Santa Maria. No date (ca. 1970). Information. Ponta Delgada, Tip. do Diario dos Açores. 16 pp.

"Sea trips...the caves of Santa Iria..." [on São Miguel].

"São Lourenço. Close by the Ilheu do Romeiro (Pilgrim's Rock) with a cave that is well worth seeing." (on Santa Maria).

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CASCADE GROTTO STORE

Storekeeper: Chuck Fair
 Rt 1 Box 155B, Eatonville WA 98328

Construction hardhat (with lamp bracket & chin strap)	\$10.00
Gloves (waterproofed cotton)	1.65
Chin strap	1.10
Kneepads (Judson rubber)	4.95
Side Packs	1.65
Cyalume Lightsticks	1.50
Plastic storm shelter	1.40
Justrite Electric Headlamp	7.50
Justrite Carbide Lamp Tip	.30
Justrite Reamer	.25
Justrite Hexnut	.10
Justrite Striker	.90
Justrite air cooled grip	.45
Justrite reflector 4"	2.30
Justrite Reflector 2-1/2"	1.95
Premier Carbide Lamp Tip	.30
Premier Wing Nut	.55
Flints	3/10¢
Gasket	.25
Felt	.10
Felt Holder	.50
Foam "O" Ring	.10
Striker Spring	.15
<u>Caves of Washington</u>	4.00

10% SURCHARGE FOR NON-MEMBERS

THE CASCADE CAVER
 207 HUB (FK-10) Box 98
 University of Washington
 Seattle, WA 98195

Take
 Nothing
 But
 Pictures
 Leave
 Nothing
 But
 Footprints

OLD-TIMERS' SPAGHETTI FEED

The Old Timers' gathering prior to the March meeting came off very much as planned. We made just about the right amount of spaghetti. Old Timers attending included Chris Miller, Greg Thompson, and Hank Ramsey, plus lots of current members and a number of new people, for a total of 32. The Grotto profited by \$29.24, and everyone was able to eat their fill. Many thanks to the Hallidays for the use of their kitchen, the Crawfords for the use of their pot, and everyone who brought goodies.

THE FEBRUARY MEETING

...immediately followed the Old Timers' affair, and featured the excellent black-and-white movie "Cave of the Winding Stair" and considerable trip planning. Dessert followed.

This arrangement worked out so well that people are encouraged to bring beverages and other light refreshments (such as cookies) to future meetings. Coffee will be provided.

THE NEXT GROTTO MEETING IS TUESDAY APRIL SEVENTEENTH.
SPECIAL BUSINESS MEETING SAT. MARCH 31st (SEE WITHIN).