

September 1992

## Alaskan Caver, Volume 12, No. 3, September 1992

Curvin Metzler

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# The ALASKAN CAVER

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Membership is open to all interested in Alaskan cave discovery, exploration, description, survey, mapping, photography, hydrology, morphology, biology, geology, history, speleogenesis and other speleean processes, conservation, management, adventures, and the fellowship of Alaskan cavers. Annual dues are \$15 for individual or \$20 for family membership. Add \$8 to dues if overseas airmail postage is preferred over surface. Institutional subscriptions are \$20 per volume (six issues).

Dues are due on January 1 and are sent to the Treasurer (address below), payable to Glacier Grotto. Those joining for the first time between October 1 and December 31 will be considered paid through the following year. Dues status is indicated on the mailing label. Meetings are held in Anchorage, Fairbanks, and Ketchikan; see the back page for information regarding meeting times and locations.

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Cover: Kelly Kellstedt scaling a waterfall, searching for an upper entrance into the Alaska Room of El Capitan Cave (from POWIE III, 1989). Photo by Norm Thompson.

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## President's Corner: Elections Coming Up

by Dr. Julius Rockwell, Jr.

Each member needs to give careful consideration to the upcoming elections, as there will be more choices than usual. After serving as Chairman of the Alaska Cave Area Conservation Task Force and then as Grotto President for 20 years, it is time that I step down; I will not be a candidate for President for another term. I will, however, remain a Grotto member and will help in any way that I am asked and can handle.

At a Fairbanks meeting on June 1, I was told that plans were underway for new grottos in Fairbanks and Southeastern Alaska. My first reaction was one of elation that we had come so far, and that at least three caving groups could come into being. I checked with Evelyn Bradshaw, the NSS Internal Organization Chair. She suggested that there be three grottos and that we also form a new Alaska Region and hold conventions, coordinate cave rescue activities, and run intergrotto expeditions, etc. I talked with Dave Klinger, our NCA representative. He is now NCA Chair. NCA is the Region to which this Grotto belongs.

Dave thought that it was a great idea, but pointed out that we would need at least two grottos to form a region, and pointed out that in the past we have had difficulty finding enough NSS members to fill the five positions nec-

essary to qualify as a single grotto. It would be much more difficult to find 15 or 20 NSS members to fill the positions required to qualify two or three grottos and a region. There are 40 NSS members in all Alaska. If we assume that there are 550,000 people in Alaska, then 0.0000727 of them are NSS members. Comparing this to all of the U.S., where 0.000400 of the general population are NSS members (10,000 out of 250,000,000), it would appear unlikely that we could find enough NSS members to fill the 20 positions at this time. Through subsequent inquiry it was learned that some members questioned the practicality of forming three grottos at this time.

Accordingly, a Nominating Committee has been appointed and instructed to collect as many nominations as possible. Then, it can be determined if there are enough candidates to form two or more grottos or whether or not there are enough candidates to continue on as one grotto. It was generally felt that if term limitations were adopted, opportunity would be provided to more people to obtain officer experience, and thus hasten the day that we can have more than one grotto in Alaska.

The following Grotto and NSS members in good standing have agreed to serve on the Nominating Committee:

Sam Dunaway (Chair) 3440 W 86th Ave #8  
Mike Mauser 1466 Carr Ave  
Paul Sandhoffer PO Box 9-1333  
Gary Sonnenberg 1377 Pond Reef Rd  
Bob Bastasz PO Box 2417

Anchorage, AK 99502 (907) 248-4037  
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Anchorage, AK 99509 (907) 344-3259  
Ketchikan, AK 99901 (907) 247-1559  
Livermore, CA 94550 (510) 443-9624

All members interested in nominating themselves or anyone else to the first six officers listed on page 2 of this issue please telephone or write to one of the Nominating Committee. Please

be sure your nominee is an NSS member and will accept the position.

It is hoped there will be at least one complete slate of officers before the deadline for the next issue. □

**[Editor's Note:** The final deadline for getting material to me in time to be printed in the next issue of The Alaskan Caver is the 31st of October.

Nominations for officers should be made to a member of the Nominating Committee listed above as soon as possible. I will get the names from them on this date.]

## Dragon's Breath Cave

Trip Report  
by Steve Lewis

August 8, 1991, was slated for a major effort on the Bridal Veil Cave System. Tim and Julie Heaton and I were to wrap up several small caves that Mark Fritzke had located along the surface stream that in high water creates the veil of falling water at Bridal Veil Cave proper. Most promising was Dragon's Breath Cave, a small hole just above the stream bed which led to an apparent 50-foot pit with the sound of running water below. An overly leisurely start and a trail-clearing hike in saw us eating lunch and rigging the pit at about noon. Mark Fritzke and Glen Coville had tagged along to video the descent before heading to Bridal Veil and Curvin Metzler was shooting still photos. I dropped the initial 55-foot drop to find myself in a chamber with plenteous drips and water running down the walls to disappear down a small hole in the floor. A few more steps suggested why it made so much noise in vanishing. A black hole disappeared down beyond the range of my light and rocks fell free for 5.5 to seven seconds before rattling about. This was much more than expected and extra rope was going to be needed as well as my rappel rack!

Tim relayed these messages as best he could in our noisy room and followed down to sketch. The excitement was too much for the photographers and after Julie's descent the whole crew followed, bringing our 165-foot and their 80-foot ropes. Tim, Julie and Curvin were not equipped for potential knot crossing in very wet and cold conditions and ascended out. Once they were out we rigged our 245 feet of rope and I dropped over the lip into the unknown. About 50 feet down I discovered where the water from above had gone. It poured out of the wall and showered me for the rest of the descent. At the survey point 90 feet down (one never has the 200-foot tape except in tight, twisty passages), the bottom had still not appeared. The

knot soon did, right in the wettest place yet. But the bottom was in sight and the rope reached! A free drop of 170 feet!

Mark followed down, videotaping his descent. The largest lead was a 30-foot drop into a very large room, dubbed the Dragon's Lair. We both dropped the remaining 30 feet and tried to notify Glen, whose light was giving problems, that we were safely down and he could exit. We were now 260 feet below the surface stream.

Several large passages beckoned us upward and the stream dropped into another passage below us. We scrambled up a silt slope and headed up Barad Dur. Beautifully folded bands of siltstone graced the right wall as we surveyed up a steeply ascending pile of breakdown. Much of this was noncarbonate siltstone and conglomerate. The blocks filled the passage nearly to the ceiling 150 feet up a 20- to 30-foot wide passage, and we entered what appeared to be a breakdown plugged chimney. Its dimensions are difficult to estimate, but it and all the similar structures later discovered appeared to be as big or bigger in diameter than the entry pit. A limestone flake 20 or more feet high allowed a view up a small waterfall to a final boulder choke, the end of Barad Dur.

Next was another steeply ascending breakdown passage, Smaug's Deathtrap. The ceiling of the lower Deathtrap was decorated with numerous lines of helictites, up to several inches in length, as well as numerous soda straws, both clean and muddy. Most interesting was the Dragon's Tooth, a snow-white carrot shaped and sized stalactite dangling from the end of a muddy soda straw. Huge muddy breakdown blocks were stacked at 45 to 60 degrees. Smaller blocks were extremely unstable and left one feeling that the whole pile was poised to tumble if one pulled the right block. A line of hemlock needles high up in

the passage suggests that the entire cave is subject to flooding. This passage went for 250 feet with several squeezes between the ceiling and breakdown before ending in another plugged chimney. These large breakdown filled shafts lend credence to Kevin Allred's hypothesis that past glaciation has filled many of the Prince of Wales Island caves which are just now beginning to clean themselves out.

Although more cave beckoned alluringly, the time dictated retreat. A 45-minute hike in the dark brought us to the road head by 11 pm, thankful for Kevin's prolific flagging along the trail. Video footage and 681 feet of survey wasn't a bad day at all.

The next day found Carlene Allred, Glen and me back at the cave with a 200-foot rope for rerigging the deep pit. Our goal was to follow the cave down toward Bridal Veil itself. Dropping into the Dragon's Lair was quickly accomplished without a knot to cross. A 15-foot drop through the cobble fill that formed the floor of the Lair brought us into clean limestone walking passage with a stream. Passing beneath a network of ascending passages we rigged a 20-foot wet drop. It was possible to avoid descent (or ascent) in the worst of the waterfall by careful placement of the rope. Some scramble drops later we emerged into a sizeable room which dropped away out of our view. Clean breakdown covered the floor at the top of this chamber, which we named Gollum's Gallery. This breakdown emerged from another shaft plugged with breakdown, Orc's Orifice. This was another pile of steep and unstable, although clean, breakdown. A waterfall poured down from above, making good upward vision impossible and precluding absolute confidence that no leads existed, but the instability of the breakdown made me sure that no safe leads beckoned.

Returning to Gollum's Gallery we followed 15- to 20-foot-wide and -high passage. However, the ceiling height quickly dropped as cobble and sand covered the bedrock floor. Evidence of foam at bends warned of the impending

sump. A crawl down an unstable slope of sand and cobbles brought us to the wet termination. I was able to get a foot through to what felt like more breathing passage but the hole was too small for underwater pushing. It seems likely that drier conditions will permit further exploration of this passage. Our explorations followed a long period of very rainy weather. However, the slope above the sump is very unstable and great care must be taken to avoid undue disturbance. The sump had been three to four feet deep when first observed. Two days later sand had filled it to within a few inches of the water's surface, and had filled the lead. Thus the name of the sump came to be Gollum's Grave.

Coming back up the final drop, Glen discovered the importance of proper placement of the rope. He did not have on a drysuit and found the waterfall running down the arms of his waterproof coveralls and out his boots. We surveyed up into the maze, naming it Orc's Escape, but did not finish as time was late and Glen was getting very cold. Once again, the entrance was black as I emerged from the cave, and three tired cavers trudged back to the truck in the dark with 333 feet more of surveyed cave in the bag.

The 11th found Kevin and me back at the cave to try to tie up loose ends. Several leads were still unexplored along Smaug's Deathtrap, and Orc's Escape needed to be finished. There were also leads at the bottom of the main drop and a possible passage in the main shaft.

Orc's Escape was indeed a minor maze, with all leads but one ending up back to near our starting point. One high lead appeared climbable but would require a dynamic rope.

Smaug's Deathtrap still had more in store. The F and Y (Why?) surveys both led into large breakdown filled chimneys. Then came Blockhead's Blunder. A passage beneath breakdown blocks and the wall of the Deathtrap lured us in. As we squirmed through it became apparent that the breakdown was more

unstable than we had feared. Fresh gouges in the ceiling were evidence that the huge blocks had tumbled since the last flood. The top of this breakdown crawl led back out into the main passage. However, another passage lured downward. A webbing handline got us down an eight-foot drop into a horrible slime hole. Wet clay or silt covered everything, quickly including us. The hole continued down along the wall through breakdown for at least 20 feet. Happily, we had no rope and left this drop for future cavers with a death wish. There was no evidence that this is a good going lead. I had three holds release simultaneously going back up the handline and discovered that muddy webbing is virtually frictionless. After getting the wind back into me, we emerged from the cave without further incident, showering off most of the slime during the ascent. We had surveyed 310 feet of new cave, much of which is probably best never visited again. It was novel to find my way to the road in daylight.

Glen and I returned on the 12th for a final wrap-up. Passages off the main shaft pinched quickly. High leads off the bottom of the shaft are wet and would require bolting. They do not appear promising.

A short squeeze six feet above the main shaft floor led to a series of pits with a passage leading on on the far side of the upper pit. The first pit could be down climbed. A 45-foot drop was very intriguing. Flagging at the bottom showed it to truly be Orc's Escape, the top end of the high lead we had planned to climb. Getting to the passage across the pit required a belay and protection on natural anchors. A small chamber has a muddy upper extension which I was unable to climb into. Unwilling to quit yet, we verified that Barad Dur was impassable at the top but found a small tube leading from Barad Dur towards Smaug's Deathtrap to which, frustratingly, I was unable to climb. No safe leads remain in Dragon's Lair which do not require bolting, aid, and/or a better climber than me.

This cave requires good vertical skills and warm and waterproof clothing that will permit safely climbing in cold waterfalls. One needs a 70-foot rope for the first drop, a 250-foot rope for the next two combined, and then 30-foot and 45-foot ropes, respectively, for the next two drops. Extreme care is necessary in negotiating the upper breakdown passages safely, and the sump passage appears capable of slumping, trapping careless cavers. Flooding occurs, although ascent through heavy waterfalls appears to be a more likely hazard than entrapment. The vertical and wet nature of the cave preclude its use by most of the public and also protect it quite effectively. For those properly trained and equipped it is an exhilarating cave--physically challenging, geologically interesting, and aesthetically pleasing.

The entrance to Dragon's Lair seems to be at the upper edge of exposed limestone in its watershed. The surface creek runs through conglomerate and siltstone above the cave. A large slump just above the cave entrance on the far side of the creek is evidence of the unstable nature of slopes along this watershed. Muskegs occur at the top of the slopes on both sides of the watershed above the cave, and the forest soils appear poorly drained with skunk cabbage a frequent component of the understory. There is little evidence of the location of sinks corresponding to the breakdown filled chimneys below--perhaps the glaciers pushed in enough debris to level the original sinkholes too.

The surface changes dramatically below the cave entrance, with the stream flowing into a canyon with exposed limestone. On August 8, the surface stream was full all the way to the cliff at Bridal Veil Cave. With dry weather thereafter, the karst below Dragon's Breath had absorbed the entire flow within 100 meters of the cave entrance on August 10. It is almost certain that this water is finding its way into the Dragon's Breath system, probably in part below the sump, and equally likely that this is part of the water that

flows into Bridal Veil Cave, perhaps the stream in the deep sump there. This watershed is critical to at least two highly significant caves which are almost certainly hydrologically and perhaps physically interconnected. Numerous other unexplored entrances still remain in the area.

The demonstrated significance of the caves in this watershed combined with our current lack of understanding of the effects of clearcuts on caves in

Southeast Alaska, argue for the maintenance of the watershed in its pristine state. Amplifying the need for a watershed sized buffer are the demonstrated instability of the slopes in the watershed and the unique aesthetics of the Bridal Veil Cave System. Significant resurgence caves including Divorce Cave also suggest the need for care and further exploratory study before locating any new cutting units in the general area. □

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**Dragon's Breath Cave**  
Prince of Wales Island  
Preliminary Report #41  
by Kevin Allred and Steve Lewis  
October 28, 1991

Description

Dragon's Breath Cave was discovered in the fall of 1991 by Mark Fritzke while investigating the sinking of the major stream above the Bridal Veil Cave System. The small four-foot-diameter vertical entrance is located just a few feet north of the active stream bed, yet does not swallow the flow. Instead, the creek flows past to gradually disappear sub-surface. During wet weather, excess water reaches the seasonal 100-foot waterfall at Bridal Veil Cave. Upstream a few hundred feet of the entrance of Dragon's Breath are prominent outcrops of fine-grained sandstone.

The initial entrance drop is 55 feet to a canyon passage. Here part of the surface stream flows from a fissure and disappears down a hole in the floor. Just down the passage is a free drop of 170 feet. The stream pours from the side of this shaft providing a very wet descent and ascent. At the bottom, another 30-foot drop enters Dragon's Lair, a large gallery which divides in several directions. Westward are tiny white helictites which have silt covered stalks—evidence of flooding. An impressive white "carrot"-type stalactite hangs from a soda straw.

A steep rubble slope leads up what appears to be the underside of an immense sinkhole. Perhaps it had once been filled with rubble during glacial activity and the material is now being worked deeper into the system far below, leaving a cavity along one ceiling. Much of the material present is noncarbonate conglomerate and sandstone. Care must be taken, for many of the boulders present are unstable. This place is called Smaug's Deathtrap. Conifer needles and bits of wood stick to the walls here, showing that the cave has flooded to this height at least. Two lateral passages lead along either side of the supposed sinkhole wall. One of these, Blockhead's Blunder, continues unexplored down through slimy unstable debris. Back at Dragon's Lair, another uprending passage leads to the bottom of a second possible plugged sinkhole, Barad Dur.

The stream continues from Dragon's Lair to Gollum's Gallery and finally Gollum's Grave, the terminal sump. The sand and gravel slope above Gollum's Grave is unstable, for just the agitation of crawling down caused some of it to slide into the sump, nearly filling it. A short dead-end passage, The Orc's Orifice, follows a dike from Gollum's Gallery.



A last side passage, The Orc's Escape, takes off from the area of Dragon's Lair. Orc's Escape is a series of vertical chimneys of about 100 vertical feet (see map). No safe leads remain in Dragon's Breath Cave which do not require bolting, aid, and/or excellent climbing ability. Total surveyed passage is 1456.8 feet and the depth is 387.8 feet.

### Biology

No significant specimens were found so far.

### Safety and Management Recommendations

This cave requires good vertical skills and warm waterproof clothing that will permit climbing ropes in cold waterfalls. One needs a 70-foot rope for the first drop, a 250-foot rope for the next two combined, and then 30-foot and 45-foot ropes, respectively, for the

next two drops. Extreme care is necessary in negotiating the upper breakdown passages safely, and the sump passage appears capable of slumping to trap careless cavers. Flooding occurs, although ascent through heavy waterfalls appears to be a more likely hazard than entrapment. The vertical and wet nature of the cave preclude its use by most of the public and also protect it quite effectively. For those properly trained and equipped it is an exhilarating cave—physically challenging, geologically interesting, and aesthetically pleasing.

The demonstrated significance of the caves in this watershed, combined with our current lack of understanding of the effects of clearcuts on caves in Southeast Alaska, argue for the pristine maintenance of the unstable slopes in the watershed. Significant resurgence caves including Divorce Cave also suggest the need for care and further exploratory study before locating any new timber harvest units in the general area. □

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### Thanks in Order

The POWIE V was very successful. The main expedition actually continued beyond the planned 31 days because of a field trip to Dall Island. A total of 61 caves were investigated on Forest Service public land and two karst features on private property. Only three of the 61 caves were previously known prior to this year. Discoveries were many, the most interesting being the preliminary field work of paleontologists Fred Grady and Dr. Timothy Heaton.

Two samples of bear bones recovered from a cave by Dr. Heaton were radiocarbon dated to be 10,745 years old  $\pm 75$  years for a black bear and 9,760 years old  $\pm 75$  years for an unknown larger bear suspected of being either a large grizzly or extinct short-faced bear. More details will follow after in-depth investigations are made by the scientists next year. Speaking of bones, Pete Smith spotted some other very old

ones in another cave. Stay tuned!

Thanks to everyone who made this expedition a success!

Kevin Allred, Project Director

[Editor's Note: The preceding letter was dated December 4, 1991, and concerns POWIE V. It should have been printed in the issue 12(1), but I had misplaced it and only found it in time for this issue. Due to the large volume of POWIE V material, which we are all very anxious to read, I am only slightly over half finished printing the 1991 reports. But they should be finished by the end of the year, in time to begin printing the 1992 POWIE VI material. Thanks also go out to Kevin Allred for all the material contributed to our newsletter! This makes my job considerably easier, as if editing a 22-page bimonthly newsletter could ever be considered easy!]



**Bridal Veil Cave**  
Prince of Wales Island  
Preliminary Report #40  
by Kevin Allred  
October 24, 1991

**Description**

Discovered June 7, 1991, by Kevin Allred, Bridal Veil Cave is in Heceta Limestone. It is significant and has outstanding scenic, recreational, and scientific qualities. The cave lies within the original borders of a timber harvest unit. Total surveyed passage to date is 2544 feet and 362.2 feet deep. Exploration is not yet complete. In wet weather, a large drainage from the alpine summit of Maggie Mountain delivers a 100-foot waterfall into the upper of two large, deep sinkholes. The dry drainage gully continues the rest of the way down the mountain.

From the bottom of the lower sinkhole, a 100-foot-deep shaft plunges into the cave which is easier entered via the upper sinkhole. A few unexplored entrances were discovered nearby. During drier weather, the waterfall disappears from the walk-in entrance. Mark Fritzke investigated its disappearance in the summer and discovered Dragon's Breath Cave and Shelter Cave. The creek gradually disappeared into the stream bed.

Bridal Veil Cave contains no major stream, but much clastic and organic fill. The water in the sump at -362 feet was seen moving. This deep area of the cave had some dried-out walls, indicating that at times the sump may lower, creating air flow.

As seen from the map, the cave is complex looking, with a three-dimensional maze-like structure. The upper waterfall sinkhole contains house sized boulders and is most easily entered from the downslope direction. KY Canyon, a short passage, takes to the south of the main entrance, as does Bridal Shower --which is located below the seasonal waterfall. Yet another unnamed passage extends west from the entrance. A short horizontal connection exists between the waterfall sinkhole and shaft sinkhole.

By scrambling down the main entrance, a steeply sloping passage leads to Sampson's Pillars and some fine dikes. The dikes have probably controlled the structure of this part of the cave. Below here is a pit series (Aorta and Heart Passage) requiring some 150 feet of rope to descend to the previously mentioned sump.

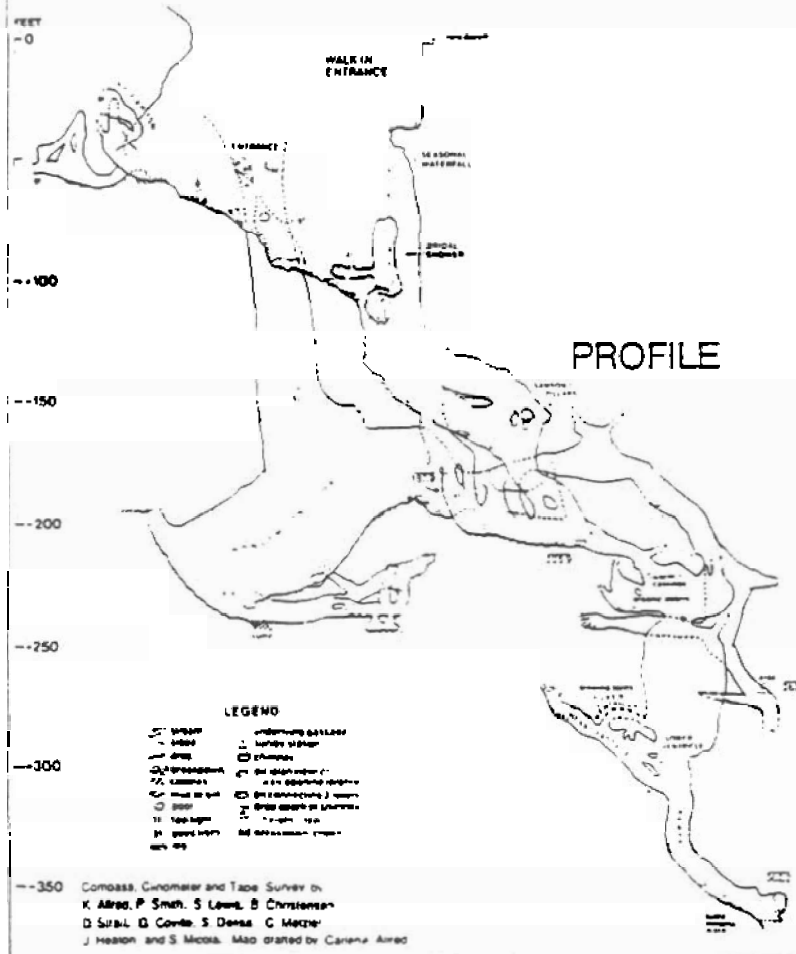
Back in the horizontal passage, the way leads several directions (see map). An unexplored pit series was surveyed to 267.1 feet deep and continues down. The most spacious passage in the cave is Honeymoon Hall to the north. It is about 150 feet long, averages 30 feet wide, and the shaft sinkhole entrance comes in to the ceiling, far



Julie Heaton outside KY Canyon.  
Photo by Curvin Metzler.

# BRIDALVEIL CAVE PRINCE OF WALES ISLAND ALASKA

Surveyed length 2,544 feet  
Total depth 362.2 feet  
July 25, Aug. 6, 9, 11, 13, 1991  
TONGASS CAVES PROJECT



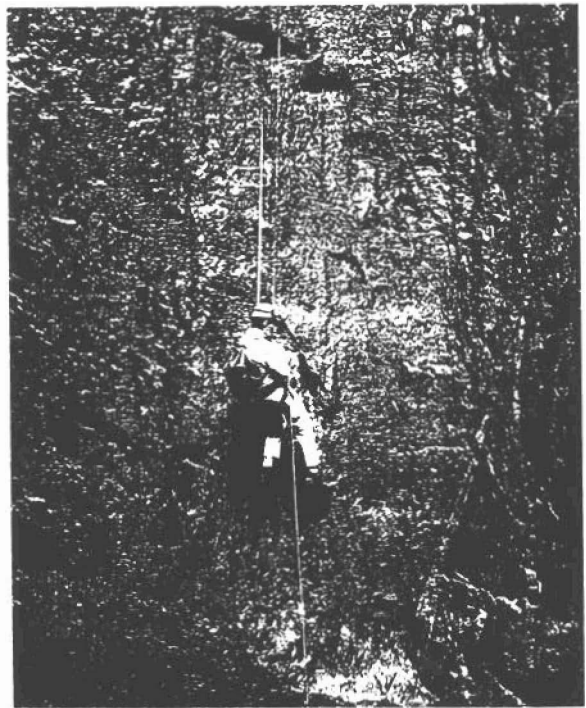
CROSS SECTIONS



above. Another sump is situated off Honeymoon Hall. This portion of the cave dead-ends in a muddy passage called The Dog House.

### Hydrology

It is suspected that the cave is hydrologically connected with Divorce Cave, located some 500 vertical feet down and nearly 2000 feet southeast. Divorce releases a sizable stream. It may be that Bridal Veil and associated nearby caves were largely filled in by glacial debris during the last ice ages and are now gradually being flushed out to a degree. This is, of course, very slow; especially in light of large quantities of noncarbonates such as sandstones and conglomerates originating higher on the mountain. There is evidence of recent flooding--conifer needles high on walls and ceilings--in many parts of the cave.



Steve Nicola surveying Bridal Veil.  
Photo by Curvin Metzler.

### Biology

Many tiny worm castings in silt fill on walls were seen in the cave. The castings were about 1 mm in diameter and diligent searching yielded tiny white worms. These should be studied. No other significant biology was seen in 1991.

### Management Recommendations

Bridal Veil, the upstream caves, and nearby caves would be protected adequately from logging impacts by pulling the northern-most boundary of the unit south until away from the gully slope. The gully has already experienced natural landslides and tampering with this unstable drainage in any degree would introduce additional fill into the caves. Divorce Cave should also have adequate protection as there is talk of extending the unit in that direction. The entrance location could be shared with the general public with a warning of the vertical dangers of the cave. In areas discovered so far, no place is prone to entrapment due to flooding. □



Steve Micola descending into Bridal Veil.  
Photo by Curvin Metzler.

**Shelter Cave**  
 Prince of Wales Island  
 Preliminary Report #60  
 by Kevin Allred  
 November 5, 1991

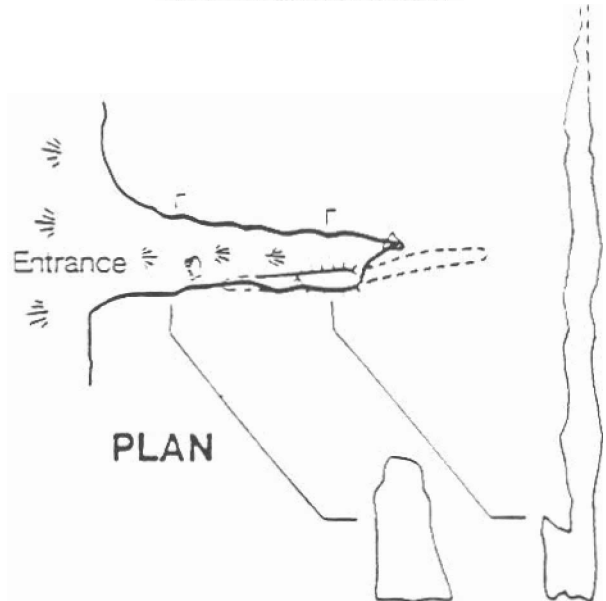
**Description**

Shelter Cave was discovered by Mark Fritzke in the summer of 1991 while checking into the disappearance of the waterfall of Bridal Veil Cave. Located off the surface creek bed just downstream from Dragon's Breath Cave, the short passage slopes down 40 feet to the plugged end of the cave. There is a fissure which extends upwards for an unknown distance.

**Management Recommendations**

Of itself, this cave is not significant, but should be protected within the Dragon's Breath and Bridal Veil no-cut buffer. It lies between the two caves. Location should be withheld from the public because of the wet and vertical nature of nearby Dragon's Breath Cave. □

**TONGASS CAVES PROJECT**



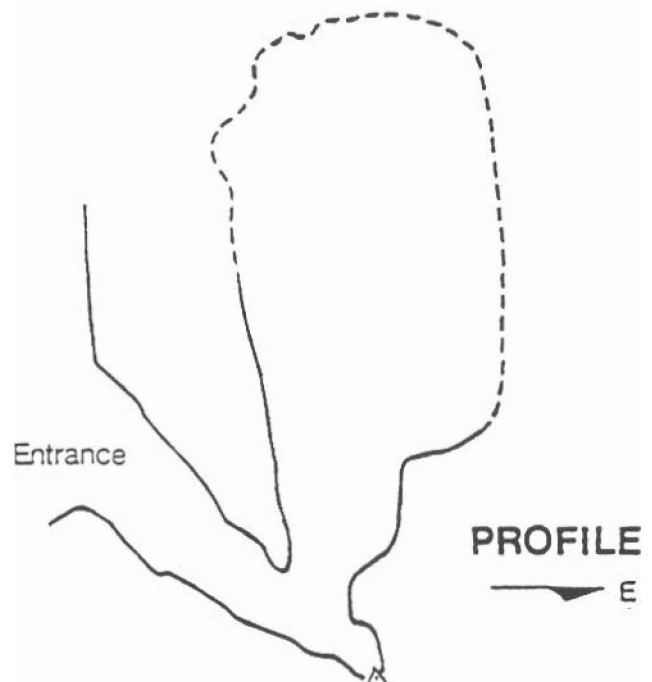
**KEY:**  
 slope  
 breakdown  
 chimney



0 10 20  
 feet

**SHELTER CAVE**  
**PRINCE OF WALES ISLAND**  
**ALASKA**

SURVEYED LENGTH: 42 feet  
 TOTAL DEPTH: 27.8 feet  
 Compass, Clinometer and Tape Survey, August 8, 1991,  
 by C. Metzler, J. Heaton and T. Heaton.



*Map by Kevin and Carlene Allred*

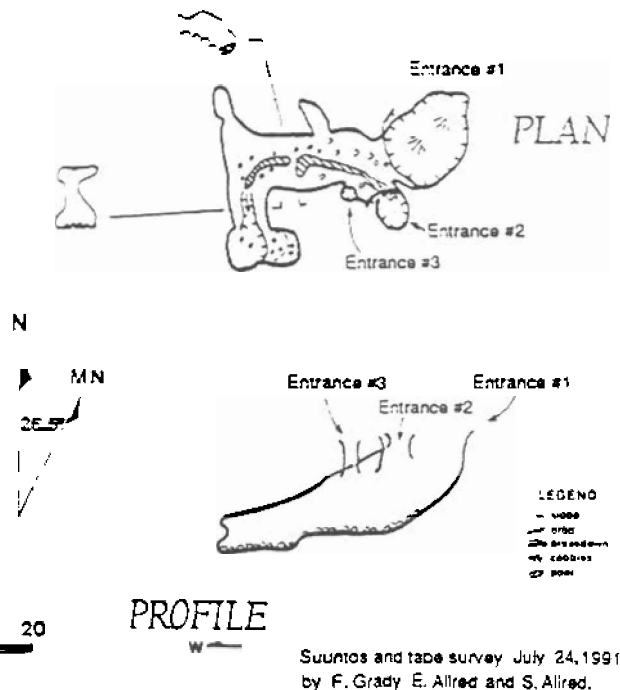
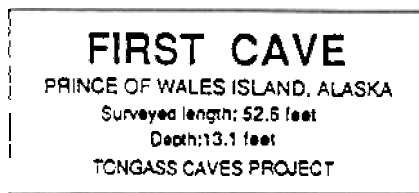
**First Cave**  
Preliminary Report #62  
Prince of Wales Island  
by Kevin Allred  
November 5, 1991

**Description**

First Cave, reported by Jim Baichtal, is in Heceta Limestone and developed from adjacent muskeg waters trickling into it. Although only 52 feet long, it has three entrances. It formed largely under vadose conditions, and probably was debris filled from past glaciation.

**Management Recommendations**

First Cave has been excluded from the harvest unit due to its significance and poor timber around it. The location can be shared with the general public. □



**Demely Cave**  
Prince of Wales Island  
Preliminary Report #64  
by Kevin Allred and Doug Strait  
November 6, 1991

**Description**

First discovered and named by Forest Service employees Robert Emely and Tim Dembosz, Demely Cave is located next to a proposed road route for logging unit access. The cave entrance is one of two large sinkholes on the level neck of a prominent spur of Maggie Mountain. The major portion of the cave consists of a 90-foot-diameter room. Since the contours of the floor are greatly modified by breakdown, there is no point from which the entire width can be seen. A moonmilk-like substance was noted in various places.

**Status**

All readily-accessible passage is mapped for a total of 526 feet. A good lead exists ten feet off the floor at the end of the cave. It possibly could be scaled with the aid of a small-diameter, 15-foot-long log. No biological specimens were reported.

**Management Recommendations**

The entrance area should be buffered from roads and logging far enough to not disturb incoming slopes. The location could be shared with the general public. □





**Contact Cave**  
Prince of Wales Island  
Preliminary Report #65  
by Kevin Allred  
November 6, 1991

**Description**

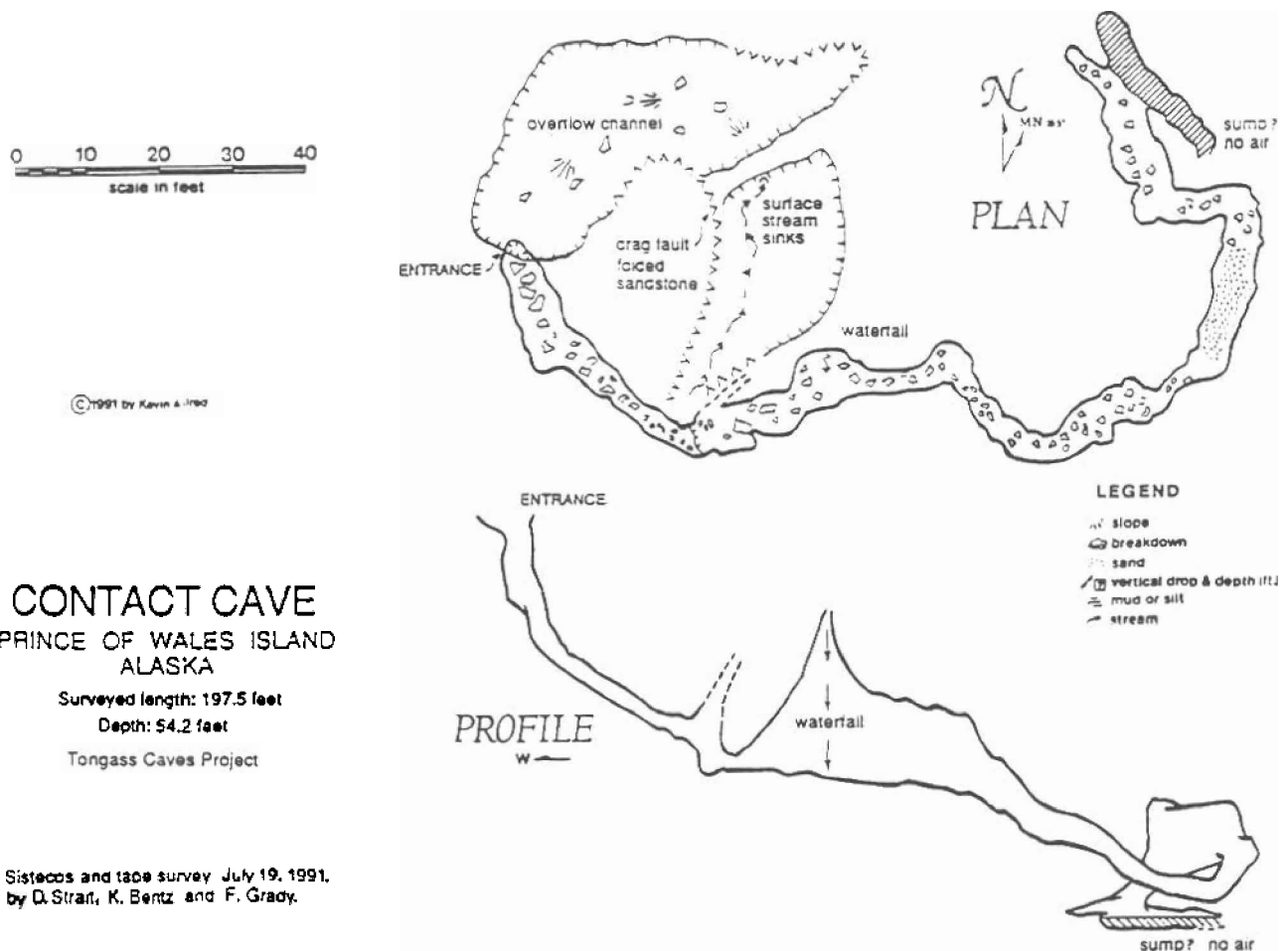
Contact Cave was discovered by Betty Wilt while laying out a logging unit. A stream coming off noncarbonate muskegs from the south has corroded a blind valley some 40 feet deep. The stream disappears under a six-foot-high wall of limestone in the blind valley. Here, the fine-grained sandstone has been folded and sheared by a thrust fault at the limestone contact. The stream course continues past the limestone wall as an excess overflow channel into the headwall and entrance to the cave. Beautiful brecciated Heceta Limestone is found in the blind valley and on walls of the cave.

Total surveyed passage is 197.5

feet; total cave depth is 54.2 feet. The passage plunges down and spirals to the east, then north, before ending in a sump. The passage is generally strewn with limestone and noncarbonate rocks and boulders. It has clean, scalloped walls and ceiling. A waterfall pours down a dome some 50 feet from the entrance. One high sandy area creates a potential sump in overflow conditions 50 feet from the end sump.

**Management Recommendations**

The change in harvest boundaries and the realignment of the road will be adequate protection for the cave. Location of the entrance could be shared with the public. □

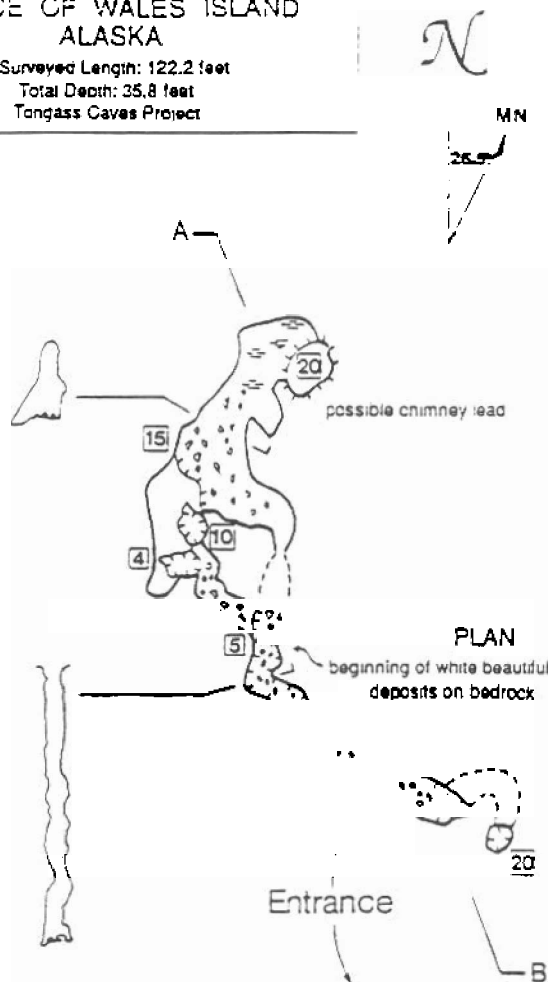


**Snow White Cave**  
 Prince of Wales Island  
 Preliminary Report #59  
 by Kevin Allred  
 November 5, 1991

Description

**SNOW WHITE CAVE**  
 PRINCE OF WALES ISLAND  
 ALASKA

Surveyed Length: 122.2 feet  
 Total Depth: 35.8 feet  
 Tongass Caves Project

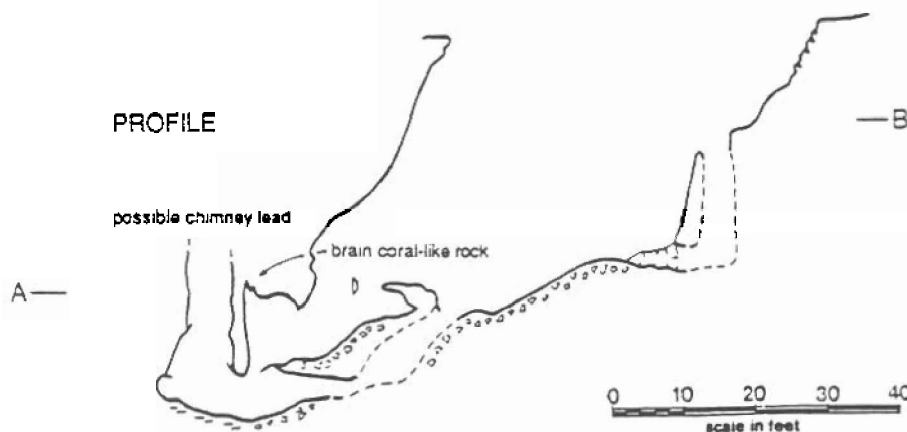


Snow White Cave, located next to major road, was found in 1991 by Jim Baichtal. The cave entrance is an elongated pit some 20 feet deep. A short unsurveyed passage connects with an adjacent sinkhole at the shoulder of the road. The vadose nature of the cave is apparent when following the main canyon-like passage the other way to the north. The passage soon becomes too tight, but a bypass to a ten-foot-deep pit leads to the lowest part of the cave, which ends in silt. A possible chimney lead extends up from this room. The lowest parts of the cave are covered with beautiful white deposits, possibly moormilk. Near the ten-foot drop is rock resembling brain coral.

Management Recommendations

Because of its closeness to the road, no widening or disturbance of the shoulder should occur here. Already debris is sliding into the cave. Additional measures should be taken to preserve all masking vegetation around the entrance, both for stabilization and to hide the entrance from would-be garbage dumpers and vandals. The cave should also be protected from logging activity. Its location should be withheld from the public.

**PROFILE**



LEGEND  
 - mud or silt  
 -> COONHOLE  
 -> vertical 0/00  
 -> depth in feet  
 O pit  
 X chimney  
 - breakdown

Brunton and Tape survey August 4, 1991 by  
 G. Coville, M. Keith and E. Kardar.

Map drafted by Kevin and Carlene Allred

0 10 20 30 40  
 scale in feet

©1991 by Kevin Allred

Seven Dwarves Cave Area  
Prince of Wales Island  
Preliminary Report #50  
by Kevin Allred  
November 4, 1991

Introduction

First investigated in the spring of 1991 by Jim Baichtal, the Seven Dwarves Cave Area is situated in a moderately drained stand of timber bounded by patchy muskegs and better drained, heavier timber to the south. Located within the boundaries of a harvest unit, a buffer was provided to protect the caves. Although any one dwarf is not highly significant alone, collectively they are significant--they represent a curiously high concentration of shafts rarely found on Prince of Wales Island.

The reason why none of the Dwarves exceed 77 feet deep is not known. Perhaps they have been partially or com-



Paul Matheus descending one of the pits.  
Photo by Curvin Metzler.



Paul Matheus peering into a different pit.  
Photo by Curvin Metzler.

pletely plugged with glacial sediments and are now in the process of slowly flushing out, and thus were actually much deeper. There also may be a shallow layer of Heceta Limestone here. The fill of cobbles and angular rocks are largely noncarbonate.

This entire area appears to be a continuation of poorly developed, clear-cut cockpit/cone karst interpreted from aerial photographs by Carlene Allred several years ago. The logged portion is just to the northwest and is at least 1/4 square mile in area.

Happy and Dopey

Happy and Dopey connect into one 65-foot-deep shaft. The walls are



Paul Matheus ascending out from a pit.  
Photo by Curvin Metzler.

fluted, clean, and of vadose origin, but proportions are narrow. Some popcorn is present at the bottom, which soon pinches in several directions. Total passage surveyed was 85.8 feet.

#### Sleepy

With its initial 60-foot drop, Sleepy has two connected vertical entrances. Sleepy is also very clean of silt and mud. Total survey is 90.9 feet.

#### Doc

Doc is a 25-foot-deep sink bounded on 3 sides by vertical walls.

#### Sneezy

Sneezy is a pit with air issuing from the "too tight" bottom. The entrance drop is 52 feet to a steeply

descending tube going to the bottom. There are two vertical entrances. Total surveyed passage is 110.3 feet.

#### Grumpy

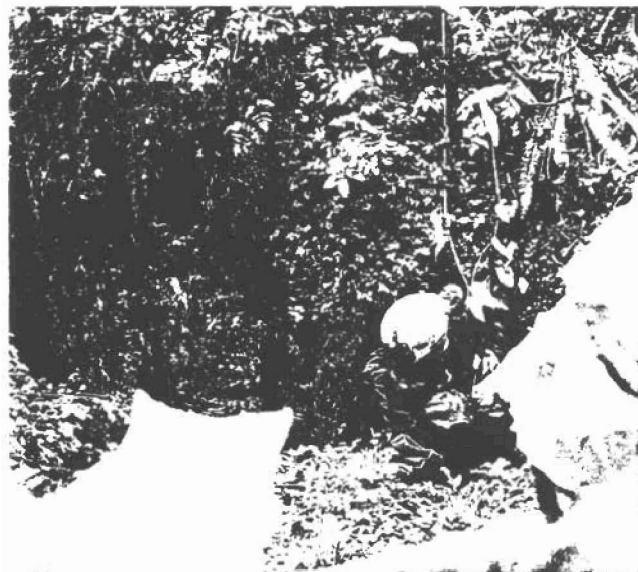
Grumpy is a large open-air vertical fissure with a 15-foot drop to a floor of rock and organic debris. A small streamlet pours into it. Total survey in this pit was 91.1 feet. A second drop ends in a blind 15-foot pit.

#### Bashful

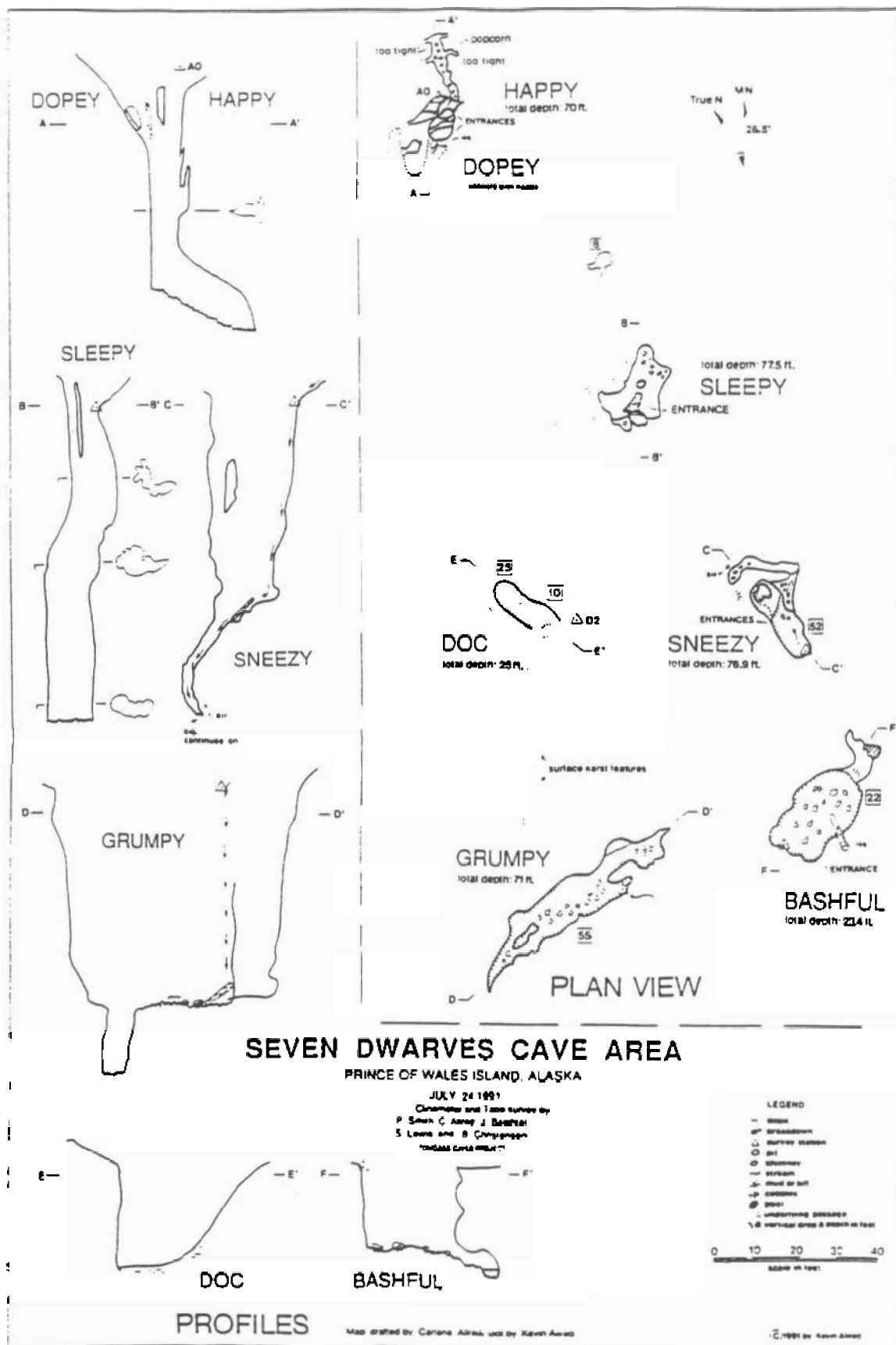
Bashful is a 22-foot pit with a short passage below ending in a pool after ten feet.

#### Management Recommendations

The Seven Dwarves Cave Area should be protected from logging activities; its karst hydrology, geomorphology, and biology should be studied. The vertical nature would make sharing the location with the general public unwise. Vertical rope skills are necessary to safely explore and study this area. □



Paul Matheus emerging one more time.  
Photo by Curvin Metzler.



## Alaska's Ice Worms

by Harvey Bowers

Most people outside the scientific community believe ice worms are a myth. Even some scientists question their existence; one microbiologist I know refused to believe in the worms until shown specimens.

While I spend a great deal of time around glaciers and snowfields, I never saw an ice worm until August, 1975, when I was coming down Byron Glacier late one evening. Black patches on the snow caught my attention. When I looked closely, the patches appeared to move. I pulled the flashlight from my pack and directed the light on hundreds of worms burrowing into the snow. In the light I could see more worms coming up through the snow. The largest of the worms was about the size of a spruce needle.

Adult ice worms are usually black, from 3/4 to one inch long, and about the diameter of a darning needle. Extremely sensitive to heat, the worms wriggle vigorously when caught in a handful of snow. Temperatures much below freezing seem to kill the worms. If kept in water just above freezing, ice worms will live for months without care. I have kept the tiny animals alive in a film canister half-full of water and refrigerated for eight months.

Ice worms in Alaska belong to the order Oligochaeta, or earthworms, and are the only earthworms known to inhabit snow and ice. Specimens collected on Pacific Slope glaciers are of the family Enchytraeidae, genus and species *Mesenchytraeus solifugus*, or ice worm.

Scientists assume ice worms feed off algae growing on the snow, since the worms are normally found in areas of red algae. Several species of birds prey on the worms, picking them off the snow.

Members of a Canadian expedition to Greenland in 1872 first noted the ice worms. First Alaska record for this species was recorded by Dr. G.F. Wright on Muir Glacier in 1887. In 1891 Dr. I.C. Russell of the U.S. Geological Survey observed ice worms on an expedition to Malaspina Glacier.

Russell reported, "In the early morning before the sunlight touched the snow its surface was literally covered with small, slim black worms, about an inch long, and having a remarkable snake-like appearance. These creatures were wiggling over the snow in thousands, but as soon as the sun rose and made its warmth felt, they disappeared beneath the surface."

On an 1899 expedition to Malaspina Glacier, Henry Bryant noted, "During the month of June and the early part of July, while the snow is comparatively dry, they appear about four o'clock in the afternoon on the surface and move sluggishly about, their dark color being quite conspicuous against the white background. They remain on the surface during the night; but when the sun appears in the morning they again burrow in the snow. They are widely but not uniformly distributed over the entire snowfield of the glacier."

Chances of seeing ice worms improve considerably on late evening trips to a glacier, but their tiny trails can also be seen in muddy surfaces such as meltwater pools. Remember to look the next time you drink from a meltwater pool, and watch where you step. □

**[Editor's Note:** An update to the above information on ice worms is the find of these creatures in the snowfield caves of Byron Valley on October 29, 1989. This event is noteworthy, as it is the first known recorded observation of ice worms inside glacier caves. (This was mentioned in the February 1990 issue of The Alaskan Caver 10(1):14, accompanying a reprinted newspaper article on glacier caves.) Every year since, I have been examining the same chamber to see if the ice worms are still present. For the past two glacier caving seasons, they have been found in the Iceworm Chamber (and nowhere else in the cave). At the end of last year they were far fewer in number, so I'm waiting to see whether or not they are still there this year.]

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★  
**A r e a   G r o t t o   M e e t i n g s**  
 ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

▣ SouthCentral Area Meetings

SouthCentral Area Meetings will be held at 7:30pm on the **fourth Wednesday** of each month, as voted last year. It was decided that the officers meet for discussion half an hour before each meeting. The new regular meeting place is the **4th floor conference room, Nat'l Bank of Alaska, 301 W Northern Lights Blvd., Anchorage.** After the program, further discussions may continue at **The Eatery (201 E Northern Lights).**

▣ SouthEast Area Meetings

SouthEast Area Meetings will be held at 7:00pm on the **first Monday** of each month. The meeting place is the **Alaska Public Health Service Building, 3054 5th Avenue, Ketchikan.**

▣ Northern Area Meetings

Northern Area Meetings are held in **Fairbanks** by demand; contact **Mike Mauser** at (907) **456-6953** for more details. Also, see the article on page 5 for a summary of the meeting held in Fairbanks this past January.

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**Byron Glacier Caves**

Another glacier caving season is already here, as winter has come early this year. The caves in the first snowfield are open and should be quite good this year. It will be interesting to see if the ice worms are still present in Iceworm Chamber (see article on page 21). Anyone interested in joining in on a glacier caving expedition should contact either Curvin Metzler (333-8766) or Jay Rockwell (277-7150) for details.

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