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Dalene T. Perrigo

The Alaskan Caver

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Dalene T. Perrigo - Editor

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Cover: Kevin Allred begins the first complete descent of El Capitan Pit. on Prince of Wales Island. Drawing by Carlene Allred from photo by Steve Meirwith.

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- Anchorage Meetings: Call Harvey Bowers for details. (907)376-2294.
- Ketchikan Meetings: 7 p.m. the first Monday of the month at the Alaska Public Health Service Building, 3054 Fifth Ave., Ketchikan.
- Fairbanks Meetings: Call Mike Mauser for details. (907)456-6953

GG JOURNAL of the GLACIER GROTTO
The ALASKAN CAVER
April 1995

Cat Woods helps with the photo inventory of El Capitan Cave on Prince of Wales Island. Photo: Alan Murray

CALENDAR

Sept. 11-15, 1995 ..... 55th Anniversary of the Sociedad Espeleologica de Cuba in Havana Telephone 22-50-25 Fax: (537)33-2985

October 8-10, 1995..... Regional Meet, Lava Beds National Monument. Bill Devereaux, (503)363-3831.

Oct. 21, 1995 ..... Fall NSS Board of Governors Meeting, Richmond, VA.

Ketchikan Area Grotto meetings are the first Monday, at 7 pm at Ketchikan Public Health Center 3050 Fifth Ave. 247-1559

Alaska Cave Rescue meets each Tuesday at 7 pm, at 819 Forest Ave., Ketchikan. Frequent rope practice sessions. Marcel 225-4094

Update on Geological and Paleontological Research on the Ketchikan Area of the Tongass National Forest

by James F. Baichtal

During the spring and summer of 1994 investigations and research into the paleoecology and prehistory of southern Alaska continued with emphasis on what could be learned from deposits within selected caves. An extremely successful trip was orchestrated by the Ketchikan Area of the Tongass National Forest with the purpose to identify and investigate cave sites on Baker, Dall, Suemez and Noyes Islands, especially caves containing significant archaeological and paleontological resources. The field team consisted of an interdisciplinary group of geologists, archaeologists, surveyors, and a marine biologist. Participants included John Autrey (USAF), Terence Fifield (UA FS), E. James Dixon (Denver Museum of Natural History), Jon Erlandson (University of Oregon), Nora Foster (University of Alaska Museum Fairbanks), Thomas Hamilton (USGS Anchorage Branch), Robert Sattler (Tanana Chiefs), Douglas Swanston (FSL), Steve Martin (US FS), Richard Guhl (USFS), and the author. The primary focus of the trip was to map and explore Wolves Lair (CRG-381), a huge sea cave located on Baker Island. Secondary goals of the trip included visits to Pictograph Cave (CRG-231), Kit 'n' Kaboodle Cave (DIX-46) on Dall Island, reconnaissance of the Cape Addington area on Noyes Island, and exploration of caves on Suemez Island (Fifield 1994).

During the 1992 and 1993 field seasons, two caves were discovered on the northern end of Prince of Wales Island which contained possible significant paleontological remains. In 1994, Dr. Timothy Heaton (University of South Dakota) returned to the area to excavate and analyze the deposits within those caves. In addition, a significant paleontological discovery was made on Dall Island during the 1994 inventory efforts.

This paper first summarizes the results of explorations on Suemez Island. Secondly, it summarizes the results of Dr. Heaton's 1994 field work and

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PRESIDENT'S CORNER

by Marcel LaPerriere

In this President's Corner I get to perform magic. I get to tell you a bit of what happened during the July caving expedition to Prince of Wales and other islands even though this is only the June issue. It is amazing how procrastination lets me predict the future.

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preliminary analysis, tying his most recent work to past paleontological studies.

Quaternary(?) Volcanism on Suemez Island

Doug Swanston and Tom Hamilton identified an unweathered volcanic vent and the associated flows within a volcanic complex. Field reconnaissance revealed relatively fresh, dacitic lava flows, the vents from which they issued, and a landslide which exposed successive lava flows and ash or cinder layers. The two volcanic vents form lakes high atop a volcanic plateau. The lava flows are sparsely vegetated and internally drained with flow characteristics evident. Doug Swanston and the author returned to the vent and flows to collect samples, and Tom Hamilton has submitted those samples to the USGS for dating. The volcanic features show no signs of glaciation. Considering the friable nature of cinder deposits, their presence strongly suggest that this area never experienced the erosive power of glaciers. If the eruption dates to before the late glacial maximum of between 22,000 and 17,000 years BP. (Mann and Hamilton 1995), it could be concluded that glaciers never reached this portion of Suemez Island. Field investigations during 1995 will focus on measurement and analysis of a section down the successive flows and cinder deposits, seeing if any charred remains of vegetation exist along the base of the lava flows from which a date may be obtained.

Obsidian Source on Suemez Island

A brief visit to Suemez island resulted in the discovery of significant new information on the distribution of volcanic glass (obsidian), as well as new data about associated archaeological sites located in sea caves and rock shelters in the source vicinity.

During the 1994 visit, obsidian nodules were found to be eroding from a distinctive yellow-brown welded ash-flow tuff, underlain by a highly siliceous flow-banded rhyolite. Obsidian nodules were also eroding and washing from colluvial deposits which have weathered and/or failed from the slopes and cliffs. Obsidian nodules ranging from pebble to fist-sized clasts were available in limited quantities. The density and quality of obsidian nodules varies considerably in the exposures. Even with a rock hammer, obsidian nodules are extremely difficult to remove from the tuffaceous matrix. The large basalt boulders found on these high-energy beaches of this outer coast quickly crush and abrade any nodules weathered from the tuffs and colluvium. These scattered, loose nodules found along the coast were most likely not the primary source for tool-quality obsidian.

Behind the old beach platform and well into the timber is a virtual wall of Volcanic glass. This area is accessed by following glass-paved deer trails which climb up the debris cone which appears to be the result of tool making. To the east of the obsidian flow is a rock shelter formed in a welded tuff containing high-quality obsidian nodules. The ceiling, shape, and extent of the shelter seems to be a function of the tuff's resistance to weathering. The berm along the front of the shelter and talus slope below the shelter is composed of fractured obsidian, again which seems to be debris from quarrying and tool manufacturing. The obsidian varies in color from transparent/translucent black to a very distinctive opaque, light-green. Above these sites is a large flat which provides a view well out to sea. It appears that one debris cone of fractured obsidian starts at the edge of this flat suggesting that material was carried to this flat for reduction.

A large sea cave found on Suemez contains evidence of human occupation. The floor of this cave is composed primarily of large cobbles of basalt. Several roughly oval or circular depressions have been constructed in the cobble floor of this sea cave. Occasional shells, bones, charcoal and obsidian nodules and flakes lie in the vicinity of these depressions and on the floor. This cave was rapidly examined in relatively poor light and additional artifacts or features may be present. Adjacent to the cave is a well developed rock shelter. Charcoal and fractured obsidian along this cliff face also suggest human occupation. Given the extreme antiquity of the recorded use of Suemez Island obsidian by Southeast Alaskan people, some 9,000 years, it seems likely that very early quarry and occupation sites exist in the immediate vicinity. Jon Erlandson and Madonna Moss returned during the 1995 field season and began analysis of this exciting site.

Paleontological Discoveries

Dr. Timothy H. Heaton, vertebrate paleontologist from the University of South Dakota, Vermillion, SD, returned to southern Southeast Alaska in 1994 to continue his field studies and excavations focusing on recent paleontological discoveries within select caves. Dr. Heaton's project was funded by the National Speleological Society and the Tongass National Forest. During the 1992 and 1993 field seasons, large bear bones, some nearly complete individuals, from two caves were discovered by members of the Tongass Cave Project during cave resource evaluations and mapping (Allred 1993a). Dr. Heaton had previously excavated a site in El Capitan Cave (PET-190) which yielded the remains of three grizzly, four black bear, river otter, red fox, and several small mammals (Heaton and Grady 1992, 1993 and Baichtal 1994).

Dr. Heaton, with the help of Tongass Cave Project volunteers, spent 10 days excavating Bumper Cave (PET-407). This cave has formed within marble, close to a contact between the marble and granodiorite. After a photographic survey of the deposits within the cave, a grid system was developed and all surface bone was carefully mapped. As bones were cataloged and removed sediment samples from the floor of the

Table 1. Radiocarbon ages of paleontological discoveries from within caves on Prince of Wales, Heceta, and Dall Islands.

AHRS Site Number	Date Number	Sample Identification	$d^{13}C$ %	^{14}C Age (BP)
PET-189	Beta-52709	El Cap, Fish Bone, Steam Room		5,770 +/- 130
PET-190	AA-10449	ECC-07, Fish Bone Surface	-11.1	6,810 +/- 65
PET-190	AA-11514	Sediment #123, Fish Bone Deep	-13.2	8,535 +/- 70
PET-190	AA-7794	ECC-02, Giant Grizzly	-18.01	9,760 +/- 75
PET-190	AA-10445	ECC-03, Grizzly	-18.3	12,295 +/- 120
PET-220	AA-10451	BWI-1, Juvenile Grizzly	-18.5	9,995 +/- 95
PET-220		BWI-2, Juvenile Grizzly		undatable
PET-407	**AA-15222**	**Bumper Cave, Grizzly, #1 bear, rib fragment**	**-17.8**	**11,567 +/- 82**
PET-407	**AA-15223**	**Bumper Cave, Grizzly, #2 bear, humerus**	**-16.8**	**11,226 +/- 109**
PET-407	**AA-15224**	**Bumper Cave, Grizzly, #3 bear, lower jaw**	**-17.9**	**7,205 +/- 67**
PET-407	**AA-15225**	**Bumper Cave, Grizzly, large molar**	**-19.5**	**10,970 +/- 86**
PET-407	**AA-16553***	**Bumper Cave, Grizzly, 1 bear, rib fragment**	**-17.8**	**11,727 +/- 118**
PET-408	**AA-15227**	**On Your Knees Cave, Large grizzly femur**	**-15.9**	**35,363 +/- 794**
PET-408	**AA-16831**	**On Your Knees Cave, Bear bone, tibia**	**-20.7**	**41,600+/- 1500**
PET-190	AA-7793	ECC-01, El Cap, Black Bear	-21.07	10,745 +/- 75
PET-190	AA-10446	ECC-04, El Cap, Black Bear	-20.0	11,540 +/- 110
PET-190	AA-10447	ECC-05, El Cap, Black Bear	-22.1	6,415 +/- 130
PET-190	AA-10448	ECC-06, El Cap, Black Bear	-18.7	11,565 +/- 115
CRG-442	**AA-15226**	**Enigma Cave, Grizzly humerus**	**-16.0**	**11,714 +/- 118**
	AA-10574	Nautilus Cave, deer/caribou humerus	-25.2	8,180 +/- 70
PET-221	AA-8871A	Devils Canopy Cave, Marmot incisor	-23.7	> 44,500

*Note: AA-16553 represents a second date for AA-15222. This sample was mistakenly dated twice.
Highlighted information are from 1994/1995 field seasons and research.

cave were obtained. These sediments were later washed and screened in search of small bones (Heaton, 1994)

A nearly complete grizzly skeleton (AA-15222 and AA-16553) was recovered within the deepest portion of Bumper Cave. Parts of at least eight other grizzlies were also recovered, including two juveniles. Bones nearer the cave entrance were more disarticulated, less complete, and more weathered. Four of the individuals were dated. Three individuals ranged in age from 11,727 +/-118 yr. B.P. to 10,970 +/-86 yr. B.P. (AA-15222, AA-15223, AA-15225, and AA-16553). The fourth individual dated to 7,205 +/-67 yr. B.P. (AA-15224). This is the most recent grizzly discovered within the caves to date. In spite of the large collection of bear remains, the diversity of the Bumper Cave fauna is extremely low. All the small vertebrate remains recovered from the sediment within the cave seem to be that of voles. A single claw found near the cave entrance may be from a carnivore smaller than a bear, such as a martin. This represents a very small number of species considering the extensive screening effort (Heaton, 1994). These discoveries combined with previous research suggests that black bears and grizzles cohabited northern Prince of Wales Island between 11,565 +/-115 yr. B.P. (AA-10448) and 7,205 +/-67 yr. B.P. (AA-15224). Grizzly and black bear still inhabit southeastern Alaska but the two rarely coexist on offshore islands. They do however coexist on the coastal mainland. It is possible that before deglaciation and associated rise in sea level, that the outer coasts of southeastern Alaska were physiographical comparable to present coastal mainland areas. With rising sea level, the two species of bears were isolated on islands, sharing the same habitat. Why grizzly no longer inhabit the islands of southern Southeast Alaska remains a mystery. These grizzly populations may have survived the expanding ice in coastal refugia (Shields and Talbot 1994), becoming locally extinct with isolation after sea level rise and with changing habitat, food sources, and competition.

During 1992 field evaluations of karst and cave resources in areas proposed for timber harvest, contractors located a small cave, On Your Knees Cave, on Prince of Wales Island. Subsequent mapping and inventory by Tongass Cave Project volunteers, located a large bear bone within the sediments on the floor of the cave (Allred, 1993b). Dr. Heaton removed this bone and several others from the sediments within the small, tight passage. The largest bone was identified as a femur from a large grizzly and dated to 35,363 +/-794 yr. B.P.

Continued from page 3

(AA-15227). This represents by far, the oldest grizzly remains recovered from the caves in the area. These remains suggest that large grizzlies roamed ancestral southeastern Alaska since before the late glacial maximum which occurred between 22,000 and 17,000 yr. B.P. (Mann and Hamilton, 1995). Dr. Heaton has also suggested that the d C% from this grizzly femur indicates a more marine signature for this individual than that indicated by the other bears tested (Heaton, 1995). The floor of this cave is covered with abundant fish bone which contained a complete skeleton of a river otter. The fish bone represents decomposed otter scat and demonstrates that otters are willing to travel nearly a mile between their feeding grounds and their natal den sites. Wishing to confirm the extremely old date of the grizzly femur, a second bear bone, a tibia from a similar deposit deeper within the cave was dated. This bone, possible from a black bear, has dated to 41,600 +/- 1,500 yr. B.P. (AA-16831). This date is approaching the dating capabilities of the method used, which suggests the age might actually be a limit, therefore the dating results might be best described as >39,100 yr. B.P. Dr. Heaton did return to this cave during the 1995 field season, additional sediment samples were collected.

Further exploration and excavation of sediments on the floor of Devil's Canopy Cave yielded additional remains. The cave previously produced a marmot incisor that contained too little ^{14}C for dating (AA-8871A). Efforts in 1994 produced a marmot molar, a deer mouse jaw, and other rodent bones. Marmot are now extinct on Prince of Wales Island. Future excavations are scheduled at this site (Heaton, 1994).

Also in 1994, Enigma Cave on Dall Island yielded the first early vertebrate remains from that Island. Tongass Cave Project volunteers discovered a bear skeleton deep within the cave (Lewis, 1994). Identification is difficult because of its ambiguous size, but its robust build suggests that it may be an exceptionally large male black bear (Heaton, 1994). This bear has dated to 11,714 +/- 118 yr. B.P. (AA-15226). During the 1995 Dall Island Expedition the skull, lower jaw and many of the bones of this individual were removed. Based on preliminary observations, it is likely that this bear is in fact a large grizzly and not a black bear.

Table 1 shows the results of radiocarbon dating of 20 specimens. To date, 16 grizzlies have been recovered ranging in age from 35,363+/-794 yr. B.P.(AA-15227) to 7,205 +/-67 yr. B.P. (AA-15224). These dates would suggest that the inhabitants of the Chuck Lake Site on Heceta Island (CRG-237) some 8,200 yr. B.P. (Ackerman et al. 1985) and the Thorne River Site on Prince of Wales Island (CRG-177) some 7,500 yr. B.P. (Holmes et al. 1989) contended with the presence of grizzly in everyday life. The remains of four black bears have been dated, suggesting that black bear have inhabited southeastern Alaska from at least 11,565+/-115 yr. B.P. (AA-15226) to the present. It is possible that the tibia which dated to >39,100 yr. B.P. is from a black bear. It is hoped that more testing will confirm these findings.

Discussion

It has often been suggested that the hundreds of small caves found within the karstlands of southern Southeast Alaska are not of great enough significance to warrant protection from surface management activities. On Your Knees Cave is characterized by extremely narrow, low ceiling passages totaling some 222.8 feet (Allred 1993b). Bumper Cave is a mere 62.5 feet in length and cramped (Allred 1993a). Devil's Canopy Cave has a mapped length of 326.2 feet and consists mainly of extremely tight, sinuous stream passages (Allred, 1991). From the entrances, these caves seem quite insignificant. Yet, it is from these relatively short, cramped passages that some of our most important paleontological discoveries have emerged. These discoveries also illustrate the antiquity of the surfaces within these caves. As explorers into these uncharted worlds, we need to be cognizant of the possible age of the surfaces on which we walk, crawl, and slither. We are responsible for keeping our disturbance to a minimum and for knowing when to limit our explorations.

James F. Baichtal, Forest Geologist, Ketchikan Area Tongass National Forest, prepared this paper for presentation at the 22nd Annual Alaska Anthropological Association meeting in Anchorage March 23-25, 1995. It was updated by the author Aug.8, 1995 and edited for location information before publication.

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MARTIN'S CAVE

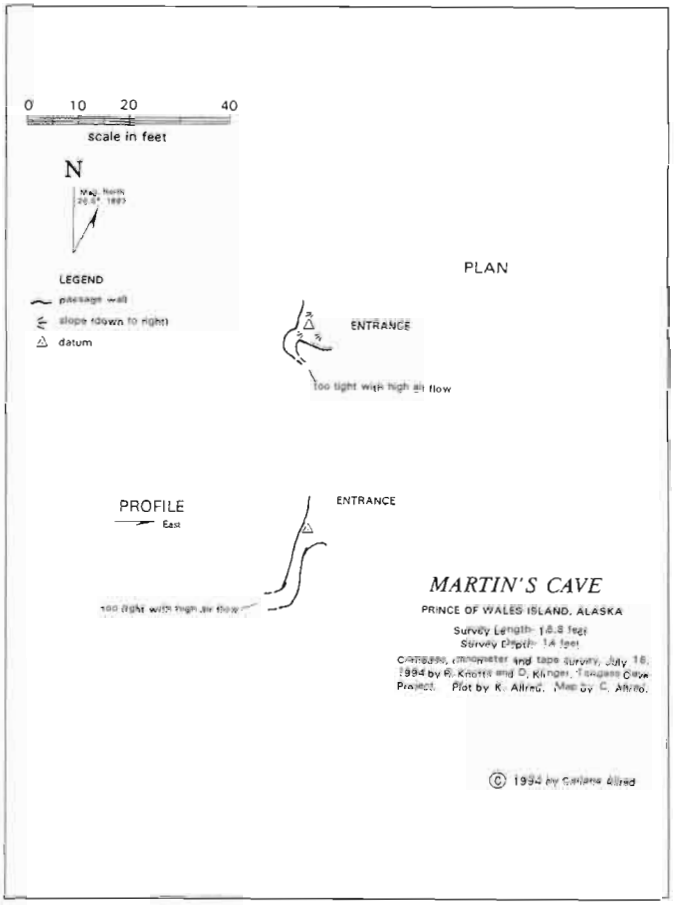
Prince of Wales Island, AK • Preliminary Report #175
Tongass Cave Project • National Speleological Society

by Kevin Allred
November 15, 1994

DESCRIPTION: Martin's Cave is formed in Silurian Marble and contains 16.8 feet of surveyed passage. It is 14 feet deep and requires a handline to enter safely.

Although small, this cave appears to be associated with an extensive hydrologic system beginning with Annie's Cave (see report #177) to Wood's Cat Cave and its resurgence. Martin's Cave becomes too tight, but has high air flow indicating atmospheric connection with a yet unexplored cave system. No speleothems were noted in Martin's.

MANAGEMENT RECOMMENDATIONS: This general area is heavily karsted, and to protect the underground hydrologic and biologic integrity, there should be no logging or road building, even in the uphill recharge areas. The area has great appeal aesthetically, and for recreation.



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GOOCH CAVE

Dall Island, Alaska • Cave #10-5-1-17 • Preliminary Report #196
Tongass Cave Project • National Speleological Society

by Steve Lewis
October 27, 1994

DESCRIPTION: Gooch Cave is located in an area of very highly developed karst that, according to the geological map (Gehrels, 1991), should not be carbonate. Initial inventory suggests that this extension of the mapped carbonate rock area may contain over 1/4 square mile.

Gooch is the Tlingit word for wolf. The cave was given this name because it is located near a prominent game trail that had been used by wolves the day we followed the trail and found the cave.

The cave was explored and mapped without the use of rope. However, a handline in the main passage and vertical gear for the Aparazuk entrance might be necessary for some cavers. Use of such equipment must be weighed against the increased risk of rockfall that it engenders. The main entrance descends steeply from the bottom of a large sinkhole. The clastic debris on the floor is unstably. A small room at the bottom of this has collected much of the debris. A black (basalt?) dike runs along the ceiling of this small room. This may be part of the same dike that runs at about the same level through the Aparazuk Entrance.

Some rockfall danger is still present on the next short free-climbable drops. A potential gravel dig that was taking some water (and had taken a lot of water the previous day without backing up) exists at the bottom of the cave. A short free climb leads to another small chamber that contains a very tight lead up and another potential dig (less likely) in gravel.

Finally, ascending steeply from the bottom chamber is the Aparazuk Entrance, discovered several days earlier when torrential rains had created a substantial stream that flowed into the small entrance hole. This route is not recommended as a normal means of entering or exiting the cave since it includes a seven-meters wet chimney. We temporarily diverted a small stream during our explorations.

The walls of the upper section are well decorated with moonmilk and reddish flowstone. Near the bottom of this passage, a tight joint controlled canyon leads down at about 40 degrees. It appeared to be choked with potential for a gravel dig. Time constraints prevented further survey or exploration.

Total surveyed length was 42.5 meters (140 feet) with depth from the high Aparazuk Entrance to the low point 18.9 meters (62 feet).

BIOLOGY: Time constraints did not permit collecting or inventory of this cave's biological component.

MANAGEMENT RECOMMENDATIONS: Gooch Cave is isolated enough to have defacto protection. However, due to its wet, semi-vertical and unstable nature, its location should only be given to qualified cavers, with the caveat that the Aparazuk Entrance not be used because of the potential for damage to speleothems.

The karst of Waterfall Bay is highly developed and extends beyond the areas delineated on the Gehrels 1991 Geologic Map of Long Island and Southern and Central Dall Island, Southeastern Alaska. Its unaltered state lends it an increased significance, especially since it extends from the alpine right down to sea level.

The entire area needs further extensive exploration to determine the true extent of the karst (the geological map appears to be trustworthy only at exposed coastal sites) and to locate and inventory the caves. Most karsted areas appear to range from high to very high vulnerability classifications per the 1994 Draft Karst and Cave Resource Management Forest-Wide Direction and Standards and Guidelines.

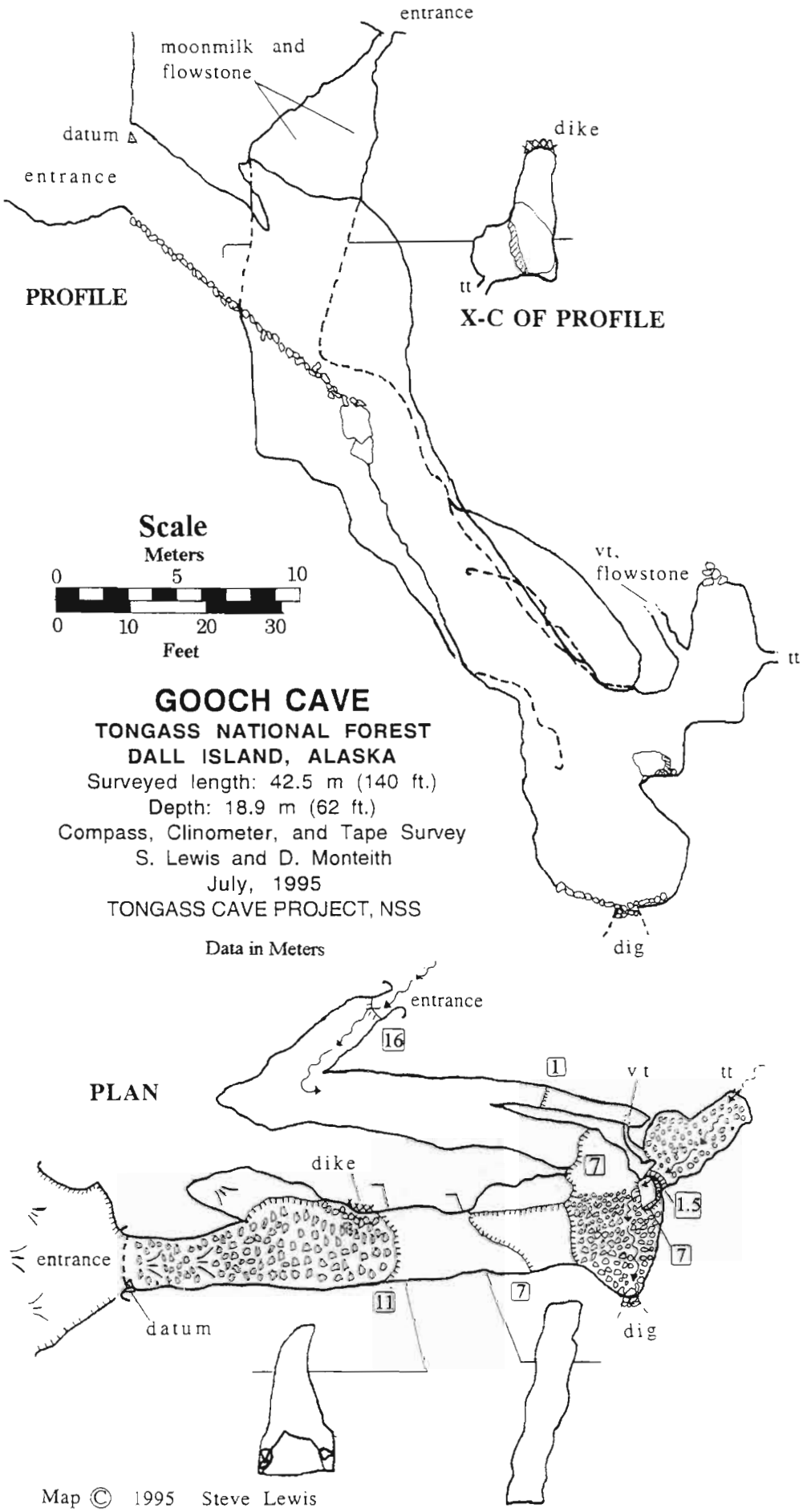
BATS

Thirteen European nations have now signed a pact that aims for coordinated protection of Europe's 30 bat species. Previously each country had its own attitude toward bats, and in some areas they were protected and in other they were not. Because countries are so close together, many bats cross national lines as they migrate seasonally.

For example, the greater horseshoe bats migrate between The Netherlands, Germany, Belgium, France, and Luxembourg. These bats have declined dramatically in the past several years -- their populations dropping from the thousands to the hundreds.

The agreement will help safeguard roosts and feeding sites needed to maintain healthy bat populations.

Source: Cave Conservationist, Vol.14, No.2. P.11. Huntsville Grotto Newsletter February 1995.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GOOCH CAVE
TONGASS NATIONAL FOREST
DALL ISLAND, ALASKA
Surveyed length: 42.5 m (140 ft.)
Depth: 18.9 m (62 ft.)
Compass, Clinometer, and Tape Survey
S. Lewis and D. Monteith
July, 1995
TONGASS CAVE PROJECT, NSS
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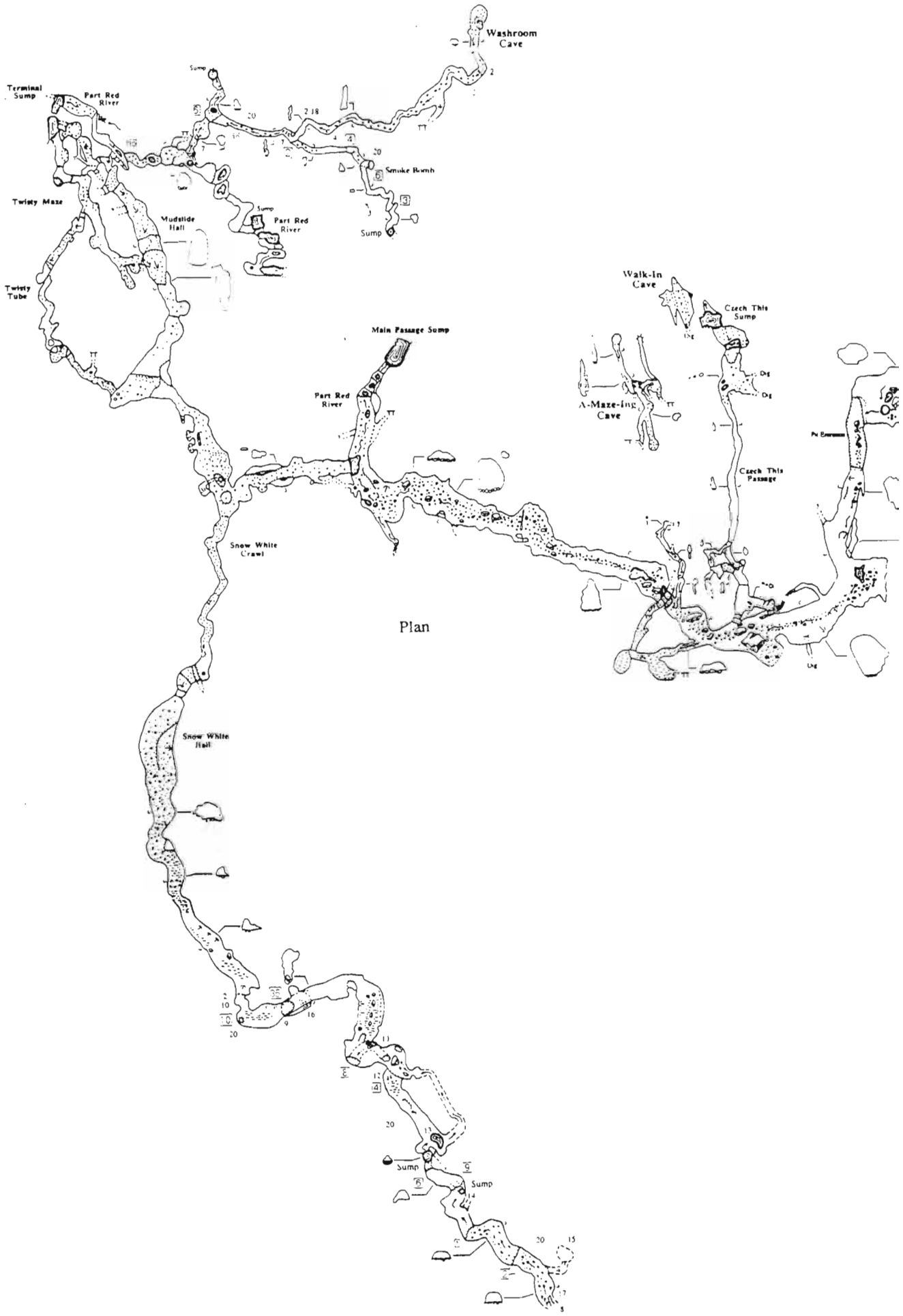
Map © 1995 Steve Lewis


Washroom Cave
Terminal Sump
Part Red River
Sump
Smoke Bomb
Twisty Maze
Mudslide Hall
Sump
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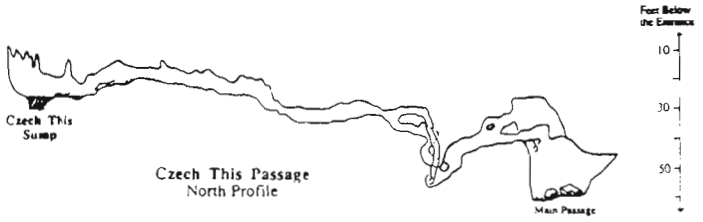
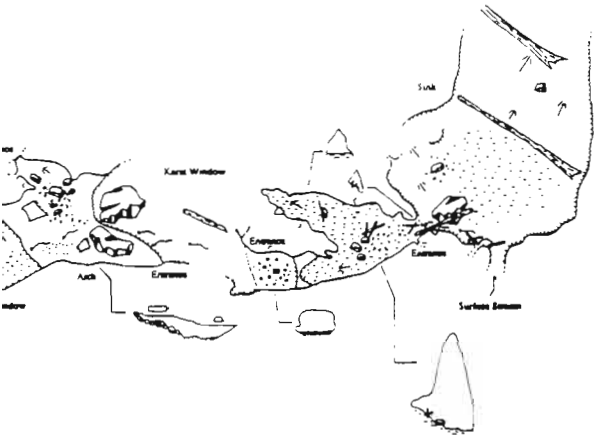
Snow White Crawl
Plan
Snow White Hall
Sump
Sump



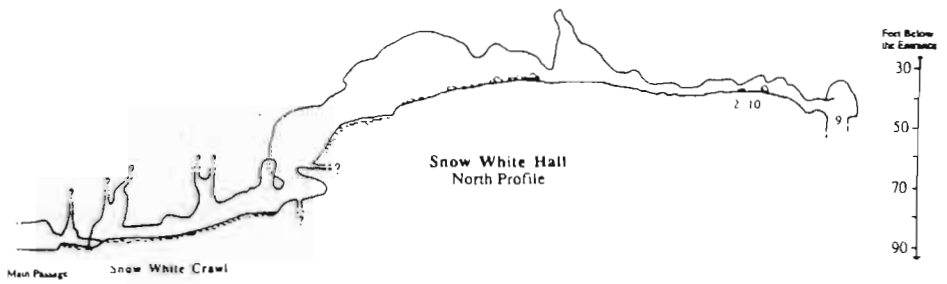
Czech This Passage
North Profile



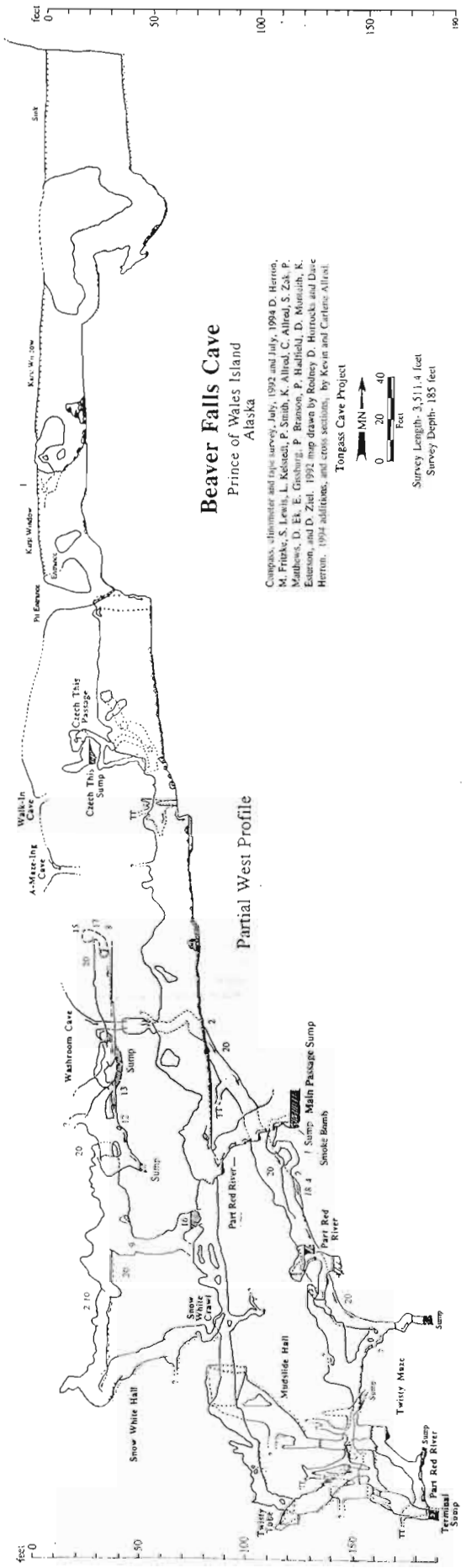
Notes:
1. Cave developed in Heceta (Silurian) limestone. Many passage walls are of shattered limestone (breccia) with clasts fitted closely together. Cement is largly clay.
2. Constructed passage dug out in 1994
3. Paleo-flow direction
4. Trickling stream
5. Continues tight and wet
6. Chimney continues
7. Bridge
8. Passage continues (large)
9. 40 to 60 foot drop, need rope
10. Rope tie off
11. Lower passage sumps
12. Mud stalagmites
13. Climax pool
14. Continues tight
15. May continue after digging
16. White's City Sump
17. Flowstone
18. Firecracker Squeeze
19. Upper B survey sump
20. 1994 exploration and survey

LEGEND

passage wall	TT too tight
underlying passage	chimney
unsurveyed passage	silt or clay fill
log	cobble fill
slope (down to right)	stream and pool
vertical drop	breakdown
14 drop depth in feet	stalactites



Snow White Hall
North Profile



BEAVER FALLS CAVE

Prince of Wales Island, AK • Preliminary Report #183 • Addendum to Report #78
Tongass Cave Project • National Speleological Society

by Kevin Allred
November 17, 1994

FURTHER EXPLORATIONS: By digging a bit in Snowwhite Hall, (see #2 on 1994 map) the passage continued several hundred feet past a 40 to 60-foot deep pit to apparently continue in a well decorated passage. A few small passage loops exist along this new passage. A significant aspect of this new discovery is its horizontal development which corresponds to the levels in Czech This Passage, and the passages near the entrance that are segmented by karst windows. Another new passage called "Smoke Bomb" also follows this horizontal level.

Nearby Washroom Cave was pushed past another dig (Firecracker Squeeze") and this cave was connected with Beaver Falls at a waterfall dome pit. Smoke Bomb was surveyed in this area. Significant mapping had to be redone in Beaver Falls because no nearby tie-in points were found. In fact, it was not until some time later that it was discovered that a large portion of cave surveyed in the Washroom Cave complex was, in fact , previously surveyed as part of Beaver Falls Cave.

This year's surveyors were Pet Smith, Darcie Ziel, Kevin Allred, Eron Gissburg, Paul Hadfield, Kris Esterson, Peter Branson, and David Ek. A significant passage was discovered and surveyed near the Beaver Falls entrance, but needs to be tied into the survey in 1995 or be resurveyed. Total surveyed passage in Beaver Falls is now 3,511.4 feet. Total depth is 185 feet.

Management Recommendations: The recommendations remain the same as Report #78. In addition, some cavers have recommended constructing an 18 inch wide boardwalk to the Beaver Falls Cave entrance, to direct the general public for recreation and education.

AAT TO GO CAVE

Coronation Island, Alaska • Preliminary Report #203
Tongass Cave Project • National Speleological Society

by Steve Lewis
March 3, 1995

DESCRIPTION: Aat To Go Cave is a tight steep insurgence draining a very large and deep sink. It is located along the upper edge of a muskeg and near to the carbonate/non-carbonate contact. Several other caves are located in this intensely karsted area.

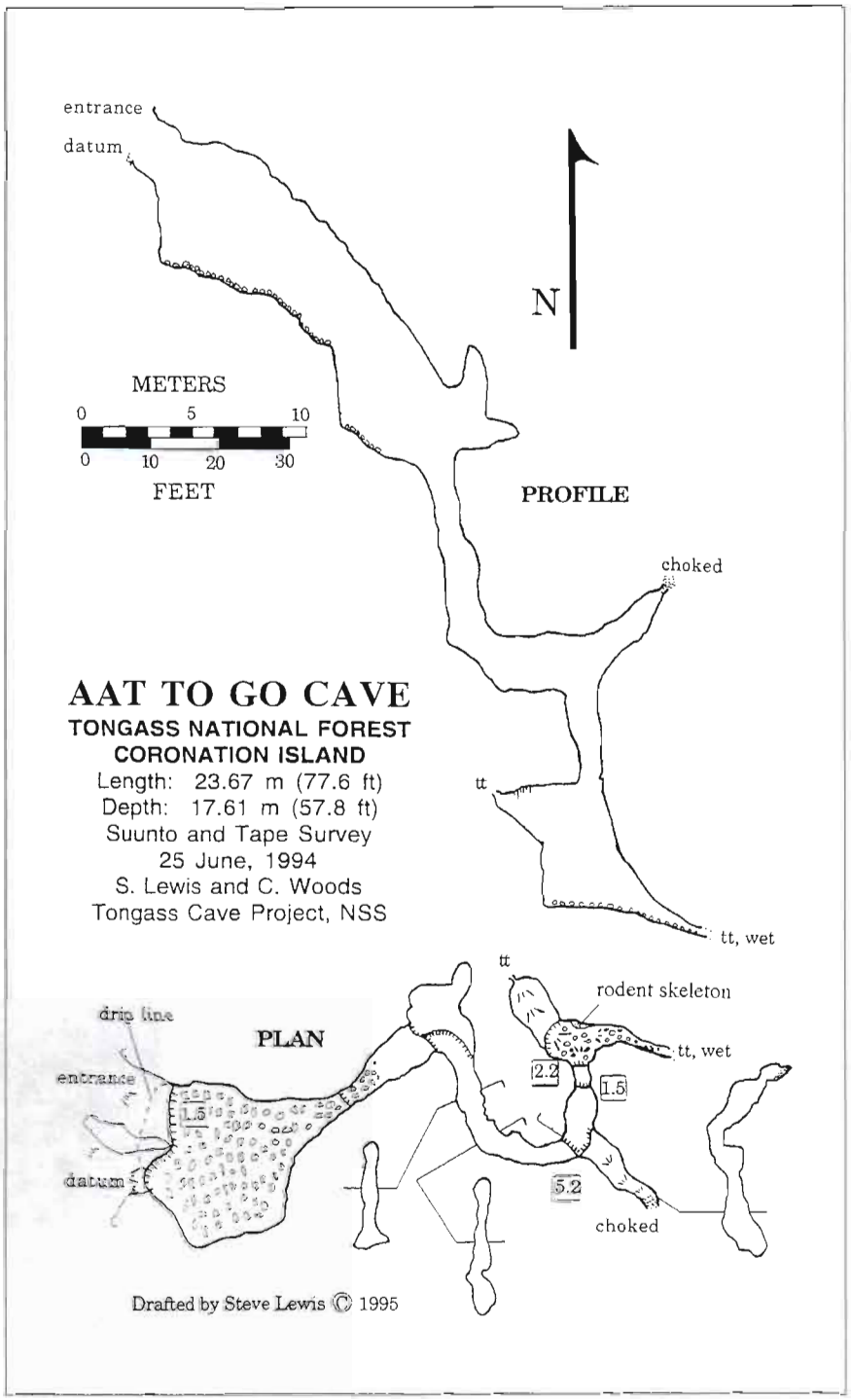
A large resurgence spring that supplies a large portion of the waters of the creek that drains into Egg Harbor is almost certainly fed from this karsted area. This creek supplies domestic water for people using the cabin (now burned, but likely to be restored) at Egg Harbor.

The cave is a fine example of vadose development along structural weaknesses. Too tight passages probably lead to drainages from some of the many sinks in the vicinity. The cave contains a few small speleothems. Vertical equipment is not needed in exploration.

BIOLOGICAL: Kent Carlson collected troglobytic invertebrates in the cave. Rodent skeletons were collected in the bottom and are now in the University of Alaska Museum in Fairbanks.

MANAGEMENT: Aat To Go Cave is part of an intact wilderness system. It is in an essentially pristine state, and should be useful in determining the structure of the karst hydrological system in the area. It is of significant value as part of the wilderness karst/forest ecosystem.

Because Coronation Island is classified as Wilderness, there is little special management recommendation for the cave. Its location may be given to the interested and qualified public although excessive use of the cave or its environs for recreational use could have deleterious effects. This does not appear to be a problem in the foreseeable future.



PUFFIN GROTTO

Alaska • Preliminary Report #188
Tongass Cave Project • National Speleological Society

by Kevin Allred
November 17, 1994

DESCRIPTION: Puffin Grotto was discovered and surveyed by Connie LaPerriere, Marcel LaPerriere and Kevin Allred on July 21, 1994. The imposing entrance is used by nesting puffins and can be seen for some distance out at sea. Puffin Grotto probably formed as a combination of littoral wave action and solution of the host Silurian Marble. Large, rounded granite cobbles are present even in the far reaches of this cave, and many lower walls have been belled out by erosion of these wave driven cobbles. The cave has been raised by isostatic rebound until there are large beach cobbles even at the back of the cave 50 feet above present sea level.

Farthest reaches of driftwood are only about 10 to 15 feet above the present sea level. This is a mystery and presents several possible reasons why the wood is absent from the back of the cave. First, the shape of the cave might prevent wood from drifting farther into it. Second, when the sea level was different, no driftwood was in the area. Third, because of unknown causes such as currents, wood did not then drift into this area. The waves were obviously very aggressive as they are now, judging from the size of the cobbles.

There are two main entrances to Puffin Grotto with a maze of other smaller ones between. The easterly entrance is the best one by which to enter the cave. A boat can be taken to land on the cobbles there under favorable sea conditions. Inside the "Boat Entrance" a passage heads north to finally become plugged with rotten driftwood.

At the landing site, there is access to the main part of the cave and the main entrance. Scrambling over piles of driftwood takes one past several high, inaccessible, decorated, passages taking off from the western wall of the main bore hole. A 10-foot waterfall pours to the floor from this wall. Continuing past breakdown and miscellaneous bone deposits, the passage becomes low and then opens ;up again into "Jonah's Room". Here among the cobbles are deposits of fish bone likely brought in by otters in ages past. Nestled in some of the fish bone and cobbles is a well-worn whale vertebrae likely washed in when the waves once reached here.

A tight draughting tube takes off the ceiling of Jonah's Room, but is too delicate to enter. Smeared moonmilk on the walls indicate someone had entered Jonah's Room in the past and rubbed against the walls.

Total surveyed passage surveyed in Puffin Grotto is 812.6 feet. Total depth is 61.2 feet.

MANAGEMENT RECOMMENDATIONS: With its beautiful speleothems and paleological deposits, Puffin Grotto has tremendous scientific as well as recreational potential. However, the general public should not be directed to this cave until the bones and whale vertebrae have been studied.

Kevin Allred waits on some of the large round cobbles in the entryway of Puffin Grotto during 1994 POWIE . Photo Credit: Marcel LaPerriere

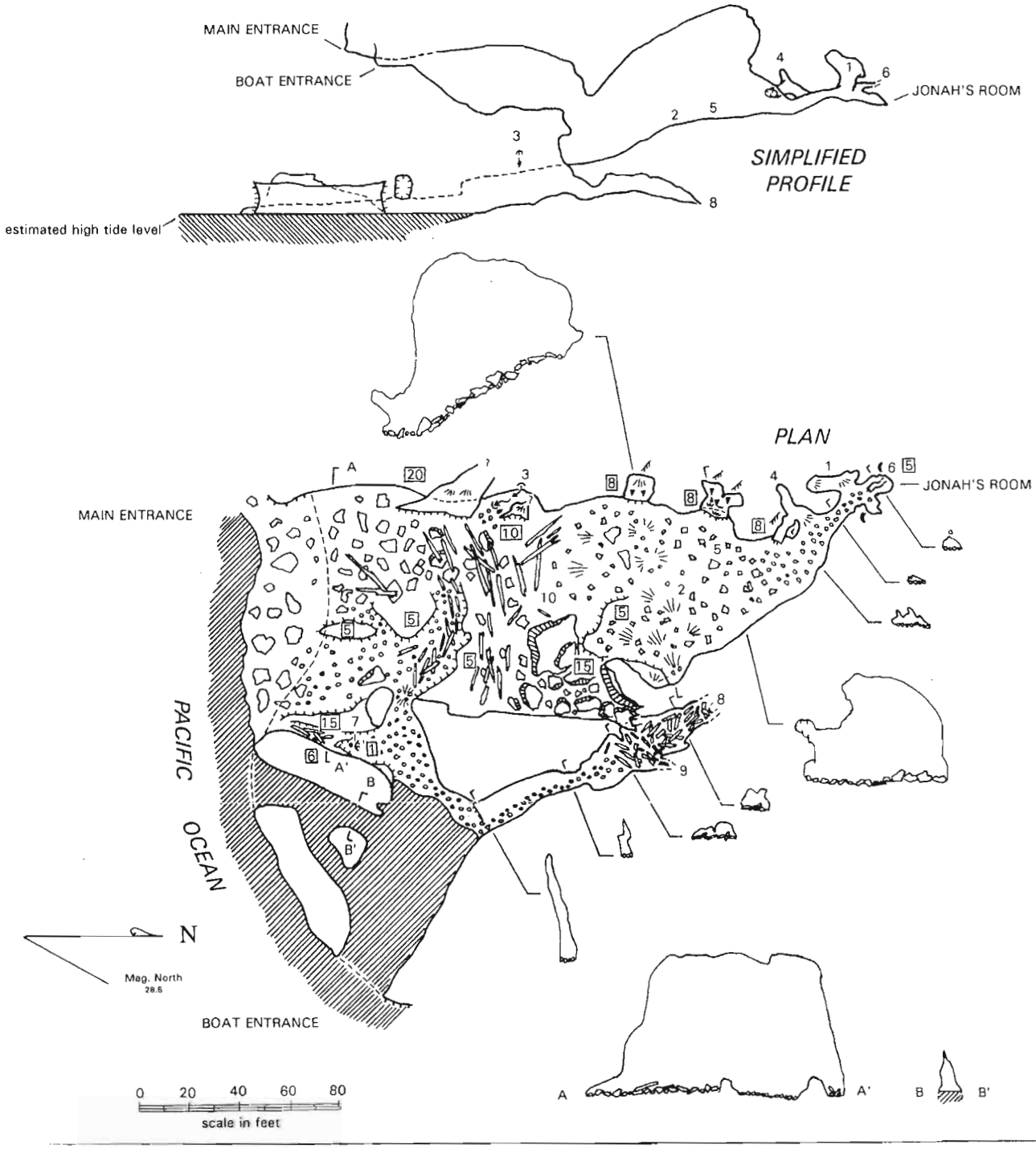
NOTES
1. crystals and small bones
2. bird or bat feces.
   scattered small bones.
3. trickle waterfall.
4. chocked
5. larger bones.
6. overhead tube is too delicate
   to enter.
7. two foot deep pothole
8. too tight. plugged
9. too tight. plugged with rotten wood.
10. driftwood ends here.

PUFFIN GROTTO

Surveyed length: 812.6 feet, Depth: 61.2 feet.

Surveyed July 21, 1994 by M. LaPerriere, Connie LaPerriere, and K. Allred. Map by K. Allred.

LEGEND
- passage wall
- dripline or back passage
- cobble fill
- angular rocks
- breakdown
- ocean
- drop edge [10]
- logs
- slope
- moonmilk
- soda straws
- stalactites
- stalagmites
- flowstone



BROKEN MOTOR CAVE

by Kevin and Soren Allred

On April 19, 1995, we found the sea fairly calm and launched our 14-foot skiff. Our goal was to spend two days beach-combing and checking out caves along the way to St. James Bay 40 miles from our home in Southest Alaska.

After about 10 miles, the outboard started giving us problems and continued until we reached our place.

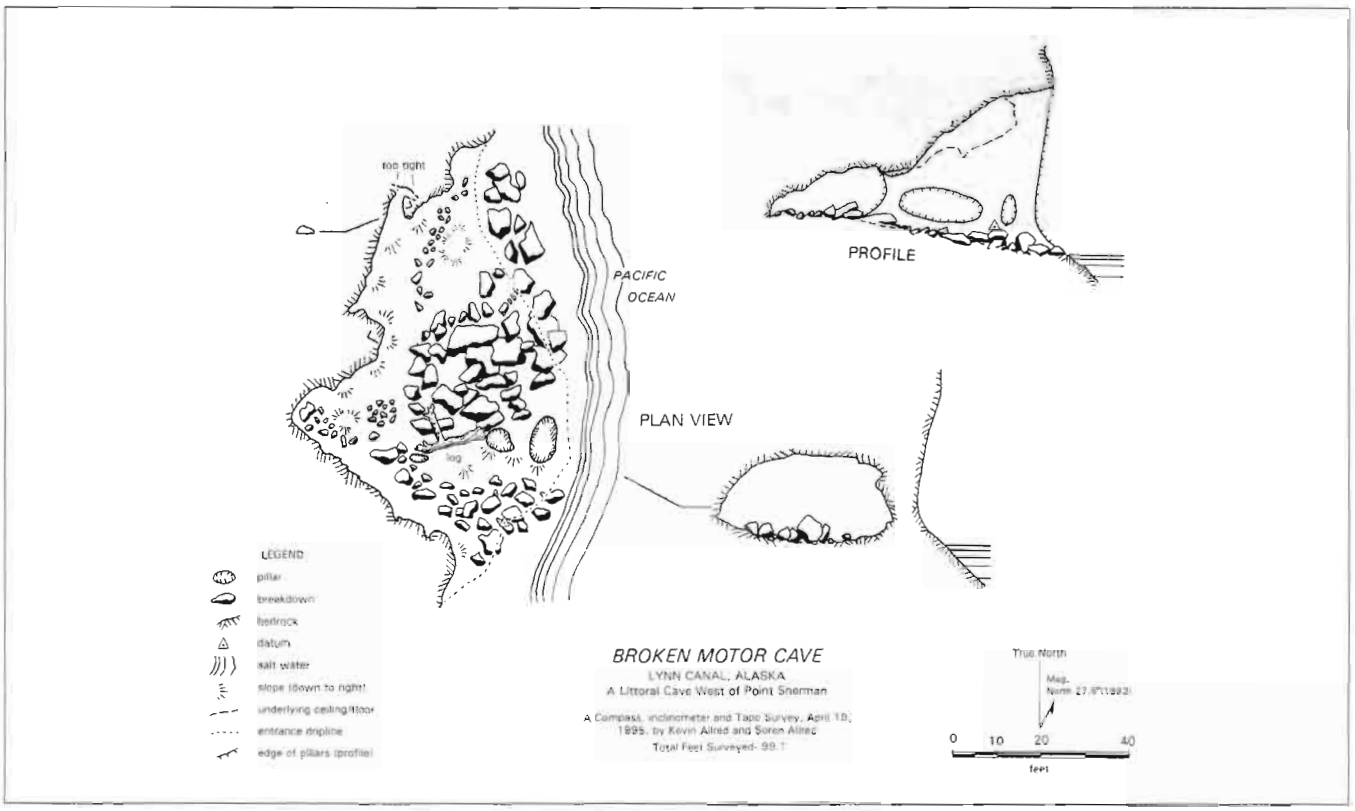
In making the corner around a rocky point, we passed close to one seal haul-out. The cute, fat seals seemed so piteously silly and clumsy as they flopped down into the water. We explored various beaches and discovered a schist deposit having cubes of pyrite near the first clump of marble.

In spite of the gimpy outboard, we persisted and continued stubbornly towards one prominent littoral cave which Kevin had visited years ago but not surveyed. Soren found a round cave entrance that went about 20 feet. It was about eight feet high but soon got down to about five feet. Around the corner, the cave we wanted to map has two entrances and three pillars. Thinly bedded Silurian marble dips steeply towards the west and resembles the marble deposits around Tenakee Springs on Chichagof Island.

Our quick compass and tape survey showed a total of 100 feet through the two entrances to the obvious end. A tree fragment lies midway in the cave and the floors are littered mostly with breakdown. Glacier rebound has lifted this cave six to eight feet so, since the rebound rate is about one foot every 10 years in this area, the cave was still very active 60-80 years ago. More investigation in the region might reveal older littoral caves in higher benches. As usual in carbonate beach deposits, it was fascinating to observe the littoral karren. Here were deep "pan" bathtub-looking features up to four feet in diameter.

We hoped to continue further south to investigate other marble deposits, but soon realized it would be futile. Beating a hasty retreat, we spent a night in a bay on one of the Chilkat Islands and limped ss-ll-oo-ww-ly back home the next afternoon using the spare kicker. Among our treasures, Soren found bones from a bear, deer, seal, and a bunch of sea lion skeletons on the beach.

The completely dead outboard had a blown head basket. Soren was wet up to his waist during one launching of the boat. As usual, the main adventure in Alaskan caving was getting there and back.



FIELD NOTES OF A WEEK OF POWIE '94

by Kevin Allred

Friday, July 8, 1994

CALDER BAY KARST

Tim Heaton, Paul Hadfield, David Love, Terry Fifield, and I flew by helicopter into the Calder Bay sub alpine karst and set up a weatherport in the same muskeg meadow as David and I used last year. Actually, Risa Carlson came up too, but just long enough to have a quick look at the bones in the cave site. After Risa left with the helicopter, we ran 1000 feet of firehose down a creek and over part of a karsted ridge towards the cave. The idea is to have pressurized water so that Tim can wash the silt from bone material near the cave itself. We got the hose end about 600 feet or so from the entrance. Paul and I plan to map in Blue Marble while the others work the hibernaculum.

Saturday, July 9

Today Paul and I entered the inhale entrance. At the exhale crawl, Paul had to pull off his coveralls to fit through. We went into the "Carbonate Labyrinth" to a virgin pit. It was 50 feet deep and we called it "Broken Buckle Pit". At its bottom was a stoopway to a second drop, this one to a thundering stream below. A crawlway led to the top of a canyon with part of the deep drop below ...presumably Haystack Pit. After Paul's ascender buckle broke and he finally got up, we surveyed a canyon passage that contained foamy-looking moonmilk and other speleothems. It ended in a dome. Then we started down a second pit and called it a day before finishing. The others were getting the bear site ready for excavation.

Sun. July 10

Today Paul and I finished the last pit (overhanging 30 feet) in Blue Marble Cave. At the bottom of the pit is a chamber containing very pretty speleothems in an alcove. A canyon led down and became very tight and muddy in one direction. In the other direction, the deep mud floor would sink down as we moved, making us most uncomfortable ("The Mud Sucker"). The way horizontally soon became mud plugged. After a short walk up Caddis Fly Creek and enjoying the beautiful marble, we headed out and did an overland survey to what we may call "Waterworks Cave". Paul could not fit into the tight vertical entrance, so I spent about three to four hours starting a solo survey. There were many tubes and crevices issuing streamlets. Several pits offered challenges, and I mapped everything I could without using ropes. Tomorrow, David and I plan to continue Waterworks again. He and the others collected about 75 pieces of bone today in the entrance room.

Monday, July 11

David and I continued on Waterworks Cave. Numerous pits, domes, and fissures spout streamlets. This, of course, resulted in getting wet. We named various features after the general plumbers theme such as "Plumbers Pit", "Draino Dome", "Shower Stall", and "Sewer Line". Sewer Line we did last, and it was truly miserable. It started out with a passage some four feet wide and one and a half feet high with a six inch deep pool. The mud made it more of a challenge. After the way improved somewhat, David dug out a rock choke and we entered more spacious passage which looped back over where we had started. The cave ended in a sump which could possibly coincide with the upstream sump of Caddis Fly Creek in Blue Marble Cave. The time here has been fun with Paul's British sense of humor and everyone joking and getting along. Tim seems happy with the bones as well as the parts of small rodents. Today, Paul, Terry, and I fly out to El Cap and I then head to the alpine immediately.

Tueday, July 12

EL CAPITAN PEAK

We waited for pickup and after leaving David and Tim to complete the bear dig, we flew out. After only about 45 minutes in camp, I had to go up to El Capitan alpine. Present were: David Ek, Eron Gissburg, and Peter Branson. The first day we hauled rope to Snowhole entrance and enjoyed a beautiful hot day wandering the karst terrain. The next day-

Wednesday, July 13

Peter didn't feel up to Snowhole. He hiked down while the rest of us made one team of three. We rigged the cave and headed for the 70-foot pit lead located past "The Stripper", a chest compressing squeeze into the top of a 30-foot pit. Unfortunately, after the 70-foot pit, a narrow canyon began with short drops and mud. It appeared that some flowstone formed on some walls before the silt/clay varves formed. I'm not sure about the varves being formed after, but definitely the silt was. Perhaps at glaciations? We lost track of time and turned around at two leads. Then as Eron (small and lively) spurted ahead, David had a lot of trouble at several places, especially "The Stripper" where he worked and shoved for an hour or so before finally getting through. My carbide generator was giving a lot of problems as the incredible sticky mud

Continued from page 15

gunked up the works. I struggled on "The Stripper" by going through turned the wrong way trying to avoid pulling the tube from the carbide. We left the cave at 12:30 a.m or so, making it a 16-hour trip. Eron had been waiting for hours and hiked to camp for emergency supplies. David did well considering all the energy expended. Cave temperature: 36 degrees.

Thursday, July 14

We took it easy and checked several leads we had seen earlier. Most were vertical entrances that did not go more than about 50 to 60 feet. One in particular looked very similar to the entrance to El Capitan Pit, but became plugged after 40 feet down. David did that one. Our muddy gear dried rock hard in the sun, as we had not bothered to wash it.

Friday, July 15

My 40th birthday and David opted not to return to Snowhole. Eron and I spent the day (about 12 hours) and finished more of the muddy, tight canyon and mapped out that portion of the cave. David looked mostly to the North for new caves and found only one possible candidate that was not obviously plugged. It was foggy and windy.

El Capitan Cave, currently the longest cave in Southeast Alaska, may lose that desigation. Photo: Alan Murray

Saturday, July 16

It is high overcast with some rain. Pick up day.

Continued from page 1

This year's Tongass Cave Project expeditions called Ketch-a-Cave, and POWIE were once again big successes. The Ketch-a-Cave Expedition spent two weeks working on Prince of Wales caves, two weeks on Heceta caves and one week on Dall Island caves. Prince of Wales Island Expedition (POWIE) spent a couple of weeks wrapping up surveys on Prince of Wales Island and working with Dr. Timothy Heaton excavating some more bear bones.

In future issues of The Caver Steve Lewis will give an in depth report of the Ketch-a-Cave Expedition, so I will report a few highlights.

This year we had around 10 people on the expedition at any time. We had the honor of hosting Shunichiro Go, a caver from Japan, and Serguie Levachev a caver from Russia. Both cavers are extremely good cavers, and both did an excellent job surveying. The rest of the group was from Alaska and we had all been on previous expeditions, with the exception of Ward Serrill and Kathy Turco. Ward and Kathy are working on a cave education program that will be seen around the state next winter.

Without a doubt the highlight for all of us was the two weeks on Heceta Island. We surveyed or started surveying over 20 caves. The big find was Arabica Cave named by our Russian friend and caver in honor of his caving club. We just scratched the surface with the1900 meters we mapped and surveyed in Arabica so far. Without a doubt, this cave will be longer than El Capitan Cave, so next year it should officially be the longest cave in Alaska. We still have around 30 large leads in Arabica, and it is anyone's guess how many more leads we may find.

The other big find was Icy Fate Cave, so named because it was full of ice and there were two deer frozen into the ice. Icy Fate also has going leads, with around 800-1,000 meters surveyed.

With few exceptions all the Heceta caves tested our vertical skills. Arabica starts off with a 100-meter rappel and Icy Fate one of 75 meters.

As I wrote last year, the highlight for me is the people. In addition to our international friends there was Amy Russell, Eron Gissberg, Steve Lewis, Rob Knots, Dave Love, Dan Monteith, Kris Esterson, and my wife Connie. Not only are the above named great people, and cavers, but with their great senses of humor there was never a dull moment.

If you get a chance ask any one of the above named about Skippy, the possessed mouse that from time to time made us do evil things to our fellow cavers.

Other news from the Ketchikan area: Gary Sonnenberg, Alan Murray, Connie LaPerriere and I earned $420. for the Grotto by working as judges during the Ketchikan King Salmon Derby. A big thanks to Gary for making the arrangements with the Ketchikan Chamber of Commerce.

EXCHANGES

Georgia Underground Vol 31, No. 3, pp. 1-4. "Walking Fern Pit and "Whopper Well" - the Unknown Route" by Alan Cressler NSS 24392. "I made another interesting discovery on my rappel. There is a massive drapery formation that spans the entire length of the pit. The formation is over 240 feet high and that may make it the tallest formation in the country."

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The NSS Bulletin Vol. 57: No. 1. pp. 20-23. "New Records of Fishes Within Florida Caves" by Buford C. Pruitt, Jr. Summary: "Twenty-nine species of fishes are now known to occur in cave habitats in Florida, of which 17 are from within dark zone habitats and 12 within twilight lit cavern entrances to caves. Only eight species were known previously from cave dark zones and none of the cavern-dwelling 12 had been reported. This significant increase in the known checklist is due to the use of cave diving technology. The relatively large database reported in this study indicates that for Florida, no troglobitic or toglophilic fish is likely to be discovered and the number of trogloxenes is unlikely to increase much beyond five, but possibly many accidentals will be added."

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The Speleograph Vol. 31, No. 6 June 1995. pp. 74-75. Congratulations! The Oregon Grotto was selected as one of three national award receipients for the Chief's 1995 Volunteers Awards. The anouncement letter from the Chief, Jack Ward Thomas, says, "Your service is commendable and you exemplify what the Forest Service stands for "Caring for the Land and Serving People."

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Freeloaders, A Nittany Grotto News Special Issue, Vol. 42, No. 2. pp. 1-31. May 1995. "Harrison's Cave Project Report". This report of the Barbados 1994 Harrison's Cave Expedition, is author Fred L. Wefer's diary of events occurring as the team of specialists investigated cracks in the walls and ceiling of the cave, some air flow problems, pollution of the streams, etc.

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Cave Conservationist Vol. 14, No. 2. P 5.May 1, 1995. The Carlsbad Cave lunchroom debate centers around contracts with the concessionaires.

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The Speleograph, Vol.31, No.5. p66. May 1955. (This letter is taken from the March 20th, 1995 High Country News:) Dear ICN, Last summer I spent several days in Salmon, Idaho, as part of my research on the human dimensions of ecosystem management. I expected to hear the same sort of petulant threat-mongering that Jon Margolis mocked - something I've heard increasingly often in my years of listening to the voices of the rural West (HCN, 2/20/95)

Instead I found a community where it was still thought proper to be polite to strangers bearing notebooks. Salmon was a working town where mining and logging were honorable occupations, but where folks also were proud of the contribution that river rafting makes to the local economy. It was a place where the Forest Service and BLM were said to be part of the solution as well as part of the problem...a place where conservative Mormon farmers and ranchers set up a phone tree so they could quickly turn off the irrigation pumps when a salmon or two were seen waiting to head up the Lemhi River to spawn.

I'd hoped to be able to do a follow-up study this summer to try to discover what made Lemhi County different. Why was it still possible in Salmon - but not in Joseph or Kalispell or Republic or Silver City - for there to be civil discourse between people who care equally about the land but want such different things from it?

Now I can forget that idea. Folks in Salmon are polishing their six-guns just like their counterparts across the West - thanks to the Wilderness Society, Pacific Rivers Council, and the Sierra Club Legal Defense Fund lawsuit that would block all grazing, logging and mining on the national forests of central Idaho. I suppose it's easy when you're in an office in Portland or San Francisco to forget that living, breathing people are part of the landscape of the West. It may be easy, but it's also disastrous. This sort of one-size-fits-all approach to environmentalism, imposed from outside by people who wield their legal hatchets simply because they know they can, will harm the environmentalist cause just as surely as any dam.

If we lose the Endangered Species Act and other environmental laws in the 104th Congress, it won't be because the bad guys got elected at precisely the wrong time. It'll be because the good guys tried to kill a gnat with a meat cleaver, and in the process managed to slice their own jugulars.

Mark Brunson, Logan, Utah (The writer is an assistant professor of forest resources at Utah State University and a former Montana journalist.)

MISCELLANEOUS

A trip to Europe this summer provided the editor with opportunities to spread the Alaska cave story as well as participate in the art of being a tourist. On the 28th of June, 378 of us boarded the Boeing 747 at SeaTac Airport in Seattle for the nine-hour flight to London. My seat mate in row 51 was a climbing guide on his way to the Himalayas. As we flew over northern Canada, Greenland, and Scotland he memorized the names of the climbers he would lead and shared a little about mountain climbing at the top of the world. He did not seem attracted to the challenges of using his expertise for exploring underground.

Members of the staff at Scott Polar Research Institute in Cambridge, England, however, were interested in Alaska's caves and the scientific knowledge gained through the explorations each summer. The Institute has the diaries of Scott, the British explorer of Antarctica who reached the South Pole,and those of other polar explorers as well as scientific and technical information and data on a number of polar topics. Several issues of The Alaskan Caver were added.

At Tromso, Norway, which is about the same latitude as Barrow, a group of us boarded a fishing vessel at 9 p.m. and were dropping lines over the side at midnight. As a cool breeze rippled the waters of the fiord, jackets were pulled a little tighter, but talk continued, ranging from fish farming there and in Canada to life and interests in Alaska. A Caver remains with the hosts at the University of Tromso.

A young businessman from Heidelburg, Germany, also has a Caver. During one of my many flights, this enthusiastic caver told of his explorations in Germany, and his willingness to share a story with you the readers. I hope it happens.

Vienna, was the last major stop. As the train wound through the mountains, I thought of the caving invitations that I have never accepted in this country.

Yet, it was in Europe that my husband and I first became fascinated with the history, geology and locations of caves. During the summer of 1960 we toured LasCaux in France and later that same year visited a cave in the Pyrenees Mountains in southern France. Whereas the former catered to tourists, the latter offered an unsophisticated experience. To enter this cave, we followed the caretaker along a winding path and paused before a large wrought iron gate as he opened the lock. It took nearly 30 minutes of walking to reach a huge underground room with evidence of many ancient campfires. We wondered if this might be one of the caves used by the Huguenots as they awaited a chance to escape from France. Even more intriguing, was the little side passage with figures of animals painted on the wall.

Many questions remain unanswered concerning the people who used caves in France and those in Alaska. However, recent scientific and historical studies within Alaskakn caves, may reveal significant clues to a few of these inquiries.

I have a few extra Cavers to help spread the word.

CAVES of SOUTHEAST ALASKA

A 14-minute video on the caves at Prince of Wales Island is available from

Marcel LaPerriere
PO Box 9062
Ketchikan, AK 99901

Send $15 plus $2 for shipping to the Glacier Grotto in care of Marcel.

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