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Dalene T. Perrigo

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The Alaskan Caver

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The Alaskan Caver

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Dalene T. Perrigo - Editor

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Cover Photo: Steve Lewis explores in a cold Alaska cave without benefit of a wet suit. Photo: Rachael Myron

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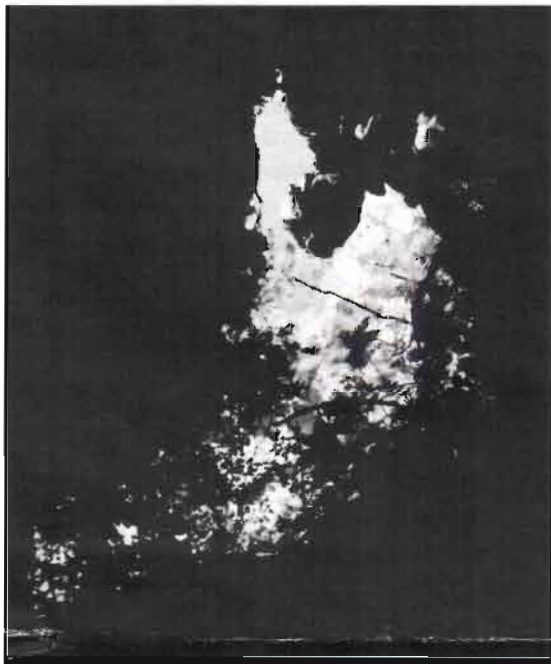
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Off Ramp Cave, with David Love looking down into a hole, was named for its proximity to a proposed roadbed route directly over its top. Photo: Jim Moore

CALENDAR

Oct 2-9, 1999..... AMSAR Technical Rescue Training Courses. American Search and Rescue Institute Inc. e-mail: <amsar@amsar.net> Fax: 760-228-0933 Tel: 800-582-6727

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

Alaska Cave Rescue meets each Tuesday at 7 pm, at Kave Sports, Ketchikan. Frequent rope practice sessions. Sonnenberg 247-1559

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

Glacier Grotto web site:

<http://www.caves.org/grotto/glacier>

THE GREATEST UNDERGROUND ADVENTURE OF ALL TIME

by Marcel LaPerriere

Installment V

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

Within minutes Sergey had reached the knot at the end of the rope. He quickly interweaved the new rope into the existing figure 8-stop knot.

Sergey then tied safety hitches either side of the joining knot, hooked on his safety ascender and proceeded to pass the knot. He was so excited he unknowingly started singing a song in Russian, "NU! vi rebyata daete, klacnya vac tyt." Upon hearing his song drifting up the cavers who were anxiously waiting to hear how Sergey was doing started a song of their own. Dan started singing a rap song. As if it had been planned Bruce provide the accompanying sound effects, "Pa cha pa cha de da day." Dan kept perfect time to the beat, "Sergey is from a land far away... pa... cha... pa... cha. de da day... all day long he caves," Rob interrupted, "for the babes chaa." The impromptu underground rap group was interrupted by a surprised yell from below.

"Bobitchka, bobitchka!"

"What did he say?" Alan asked.

"If I heard him right," Steve said to the group, he said,

"Bobitchka.6598"

"So what in the heck does the mean?" Alan asked.

"If I remember my Russian, I think it means butterfly," Steve answered.

The cavers all looked at each other with very surprised looks on their faces.

"OFF ROPE," a deeply Russian accent rose from the pit.

"Who goes next?" Steve asked.

All the cavers agreed that since Steve had asked the question he should be the one, even though each and every caver wanted to be next.

Steve rigged up and slipped over the edge. Besides the

Continued on page 2

PRESIDENT'S CORNER

by David Love

"Those as hunts treasure must go alone, at night, in the darkness, and when they find it they have to leave a little of their blood behind them."

Loren Eiseley, naturalist and archeologist, from his book *Night Country*.

It's springtime in Alaska and time to begin thinking about

Continued on page 3

cussing that was heard as Steve passed the knot there was soon the word, "Bobitchka," being screamed back up the pit not only by Sergey, but also by Steve.

"Bobitchka!"

Steve's voice was clearly distinguished from Sergey's.

Now the cavers were really confused, why would Steve and Sergey be yelling the Russian word for butterfly from nearly 400 feet below them. "I wonder if they are yelling, babushka?" Dan asked.

"Bobitchka, babushka," Alan said shrugging his shoulders, "It's all Greek to me."

"Don't you mean Russian?" Dan asked. Then he went on. "Babushka is the Russian word for head scarf, maybe they have cold heads."

Then again from below they clearly heard "Bobitchka!!!" Then "OFF ROPE."

By this time each caver was positioned in an impromptu line. Amy, not normally a pushy or aggressive person had worked her way to the front of the line. She already had her stop open and within seconds of Steve's "Off rope," she was over the edge.

Again a few minutes later there was some cussing heard, but this time in a feminine voice. (Each caver cussed the passing of the knot. Sergey in his excitement had tied the safety hitches too far from the figure 8 knot. This meant that each caver had to basically pass three knots in as many feet.

Surprisingly all the cavers were so excited that not a one of them took the time to fix the problem.

"Butterflies," Amy yelled as she approached Sergey and Steve who were by this time a couple hundred feet away from where the rope terminated in a slow flowing not very deep stream.

"Cool, ha?" Steve yelled to Amy. And, who could have disagreed with Steve's overly simple statement. For as each caver neared the end of the rope they were greeted by hundreds of the most beautiful butterflies any of them had ever seen. In fact, now that three lights illuminated the massive room where Sergey, Steve and Amy found themselves, they could see thousands if not millions of butterflies.

"Wouldn't Kent Carlson go crazy over this?" Steve said not really directing his question to Sergey or Amy.

"Where do they come from and what are they doing here?" Amy asked. Steve and Sergey could only shrug their shoulders as Amy walked away from the rope and yelled, "Off Rope."

One by one the other cavers started working their way down the 400 foot drop.

"Did you also notice," Steve asked Amy, "that the water is very warm?"

"Now that you mentioned it my feet didn't feel cold through my boots." Amy bent down and placed her hand

into the water. The temperature was warm. Not quite warm enough for a comfortable swim, but much warmer than the 38 degree water through which most Alaskan cavers are used to mucking.

Within an hour all nine cavers were mesmerized by not only the butterflies and the warmer water but also by the fact that this part of the cave was much different than anyone had ever seen. First, the air temperature had forced every one to remove several layers of clothing. Second, they had entered a part of the cave that was marble. The walls were mostly white, with bands of light pinks, blues and greens. Also there were no decorations in comparison to the passage that was 400 feet above them. There was also no breakdown, just an impressively BIG room with the stream passage that ran southeast to northwest.

After eating a snack the cavers decided that they would split up. Half the team would go for one hour upstream and the other team would go one hour downstream. They agreed that they would meet back in this part of the cave in two hours give or take as cavers always do.

Sergey, Steve, Pete, Dan, and Amy started downstream. Alan, Rob, Erin, and Bruce worked their way upstream. The upstream party was surprised that the passage stayed relatively flat. At times the stream widened making small pools that the group had to work their way around. In one case the upstream team had to swim a pool that was about 50 wide and maybe 100 feet long, but only 5 to 6 feet deep.

As the upstream team was just about to reach their hour turn around time they came to a split in the stream. The right hand stream was coming from a water fall that none could see the top of. Not only that it was the normal 38 degree temperature and as the cavers passed under and by it they all were chilled by the mist. But, the chill only lasted seconds because the left hand stream was now much warmer. In fact it was nearly too warm to comfortably walk in or near, and for the second time the group could now smell sulfur.

"Wow, I'm getting too hot now!" Alan said and he stripped down to a single layer as did the others. "Did you notice?" Alan continued, "that once we passed the cold waterfall the butterflies are no longer anywhere to be seen?"

"Yeah," the others all said nearly in unison.

The upstream team after nearly an hour and a half of exploring finely agreed that they had better high tail it back downstream to let the others know what was going on. They estimated that they had gone nearly a mile, had probably only gained a hundred or a bit more feet in elevation, and had seldom altered a bearing of 320 degrees.

The upstream team arrived back at the agreed upon rendezvous point after a two and a half hour trip. The

down stream team was nowhere to be seen, but there was still thousands of butterflies.

"So, much for meeting back in two hours," Rob said with the sound of fatigue in his voice.

Rob, Alan, Erin, and Bruce, even though they were all getting tired decided that they would head downstream and look for the other team. They left a note on an extra long, extra orange piece of survey tape explaining what they were doing just in case the down stream team had taken some yet unknown side passage.

The group started down stream this time walking a bearing averaging 140 degrees. Unlike the upstream passage that they had just come down this passage dropped off rather sharply. Sometimes they had to negotiate down short falls which reminded the cavers of the lower passage in Roaring Road Cave, except the passage was much, much bigger.

An hour passed, and there was still no sign of the others, and no one had seen any side passages that the team they were searching for could have gone down. In spite of the fact that the cavers were finding the down stream exploration fascinating they were all getting miffed that the down stream team had obviously not turned around when they said they would.

"Let's go just 15 more minutes then turn back," Rob said. "We still have a 4 to 5 hour trip out of here to get back to camp."

Everyone agreed with Rob. Fifteen minutes later they were just about to turn back when they saw a light ahead of them. They all turned out their lights and sure enough there was light coming from the passage ahead.

"Man, it's about time," Rob said. "The others must be coming back." What they didn't know was that the light was not coming from the other cavers.

TO BE CONTINUED.

EXCHANGES

Birmingham Grotto Newsletter 29(1) January 1999 p.3 "Wookey Hole: Commercial Caving in England" by Jaime Fee ... "One of the most interesting aspects, though was that Wookey Hole (located near Bristol) was the first cave in the British Isles to be explored by cave divers. In 1935, Graham Balcombe and Penelope Powell (yes, a woman!) completed the first cave dive. One of the original dive suits is on display at Wookey Hole. Air was pumped through a tube into the huge brass helmets the divers wore. The suit was a bulky canvas and rubber design and had boots with lead weights. Someone up top had to operate the air pump and the air hose often was caught on underwater obstacles. The two made

Continued in next column

it as far as Chamber Seven. ...Over the following years, more sophisticated equipment and re-breathing techniques allowed for further exploration and mapping. The cave now has 25 chambers. The end has not been found."

Continued from President's Corner, page 1

summer caving trips. The preceding quote reminded me a bit of cave exploration and the treasures we often find there. Here's a few lines from a past caving notebook of mine to wet your appetite for the up-and-coming cave season. So, drag out those cave suits, sniff that dried cave mud on them, pull out your helmet, fire up your carbide and get pumped!

Three weeks into the 1995 HIE expedition:

We are beat, exhausted. We have not showered for weeks. My hands are a scratched, lacerated mass of festering devil's club spines, swollen and stiff. My body is bruised and aching. We are all tired and punchy. Each evening we crawl home asking ourselves and each other defiantly,

"Why am I doing this?"

At each terrifying drop reaching in blackness towards the earth's center, at each muddy slime-squeeze or vertical helmet-less exhale we ask the same. The passing complaints or threats that we quit this crazy undertaking have a hollow ring. Spirits run high. Laughter, spilling naturally from a place deep within us, echoes throughout camp. By it's very difficulty, the hardships endured, fears confronted-we make these cave systems a part of us. A good friend of mine once put it this way,

"If it doesn't kill you, it makes you stronger!"

Sometime near the end of the 1995 expedition:

Robb Knotts, myself and Shunshiru Go(from Japan) are sitting around a campfire on the spit near El Capitan USFS Camp, enjoying dry weather and an beautiful clear night. When asked what kind of caving Shun enjoyed most of all, his reply,

"Eeeeeeasy Caving!"

Mid-July, 1995 Prince of Wales Island:

We were wet, muddy, cold almost to hypothermic. We'd been lying in mud up to our chins, meticulously collecting and tagging old bones. Bear femurs, vertebrae, rib bones, a carnassial tooth (the shearing teeth of carnivores). I waited for Dr. Tim Heaton to work his way up the passage, mapping, collecting, cataloging as he went. He handed bones to me to be carefully wrapped and set aside. We ooohed! and aaahed! There were footprints in the mud to my right, some sort of large weasel, maybe otter. Who knows how old. It was tight, too many bones to crawl past him down the passage. I lay on my stomach in a puddle of sticky cave mud and

water, trying to relax, dozing at times, cold. Tim finally squirmed up ahead and turned around. I was hurrying a bit at this point as I was uncomfortable and suspected that Tim must be quite cold as he was not dressed as warmly as I underneath his cave-suit. A rib bone lay between Tim and I at the base of a sediment pile that had fallen from a dome overhead. It was the only place in the passage one could stand. Next to the rib, lay what appeared to be a bone fragment. After mapping them, we collected both, cataloging them and carefully wrapping them. Tim mentioned that the fragment looked odd.

The next day as I was cleaning bones I came to the last one which was pointed and about 2.5 inches in length, had a groove down the middle of the flat side, and the thicker end was broken.

"Strange looking bone," I thought, putting it to the side. I picked it up again, showed it to Tim. Then it hit us! Filemarks on it looked like it had been worked! An artifact! Evidence of man! A bone spear point, half-round in cross-section, a blood groove down it's center, broken at the base. Awesome! Later the jokes about fame and fortune, press releases, etc...

A short bit about surveying, HIE expedition 1995

Imagine lying in some cold, wet cave passage. You're tired, shivering under a thick covering of sticky mud. You can't sit or stand because the passage is small. Your survey partner hands you one end of a muddy blob that is the survey tape and you look for a good spot to be your next survey point. You drag yourself to it and your partner tells you he can't see it. You choose another one. You both stretch the tape tight for a measurement—a whopping 5 feet, which is as far as you can go before the passage curves out of sight. You attempt to write this measurement down in your survey notebook but your pencil is caked in mud and you have to spit on the tip of it to get it to work. Wiping it on your cave suit only makes matters worse. Your survey notes look like mud paintings. Your partner pulls out his compass and inclinometer, also caked with mud. He licks the sights clean so he can read them. Yum! Did you get your minerals for the day he asks, offering some. He asks you to shine a light on the survey point then tells you to get your butt out of the way so he can see it! You squirm forward, contorting your body into impossible positions until your partner can get the shot. Then, you do it all over again!

These short pieces should inspire you towards another cave season. One must have something to look forward to! Now go get muddy! Enjoy, cave safe and beware of Skippy!

ROPE CUTTER

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



Dear Rope Cutter:

I really wanna be a caver, but I am so worried about bad air in caves. Is this really a concern?

Signed Blythe Canary

Dear B Canary,

Bad air is indeed a concern in caves, but probably not in the way you think. The best way to insure good air in caves is to pick your caving partners with care, or at least monitor their food intake for a month before a caving trip. A recent survey conducted about caving partners has shown that those whom are most likely to cause bad air have certain characteristics. Usually they are over five eight and skinny. Since this eliminates most everyone except caving with dwarves like myself, you should at least stay away from the current Grotto president, and one unnamed director of the Tongass Cave Project.

A good test is to find a really good parking spot where the intended partner has to squeeze into the car. If you hear explosive sounds, this is a person to beware of in a cave. The other alternative is to cave with this person in a cave that really breathes. However this can also turn you into a kind of blue icicle which is also hazardous. Caving is dangerous, no doubt about it.

Breathe deeply now while you can,

Phreda Phreatic

P.S. I'd highly recommend that you do not mix certain partners and carbide lights. Explosive is not a word you ever want to use to describe a cave trip.

FUNGAL GROTTO

Heceta Island, Alaska • Preliminary Report #265

Cave #10-5-4-372

Tongass Cave Project • National Speleological Society

by Steve Lewis
April 8, 1999

Description:

Fungal Grotto was discovered during a reconnaissance for karst and caves in units laid out for the Heceta Sawfly Sale. Shunichiro Go and Steve Lewis surveyed the cave on 25 July, 1997. It is south and downslope of the road alignment that was flagged to access one of the units.

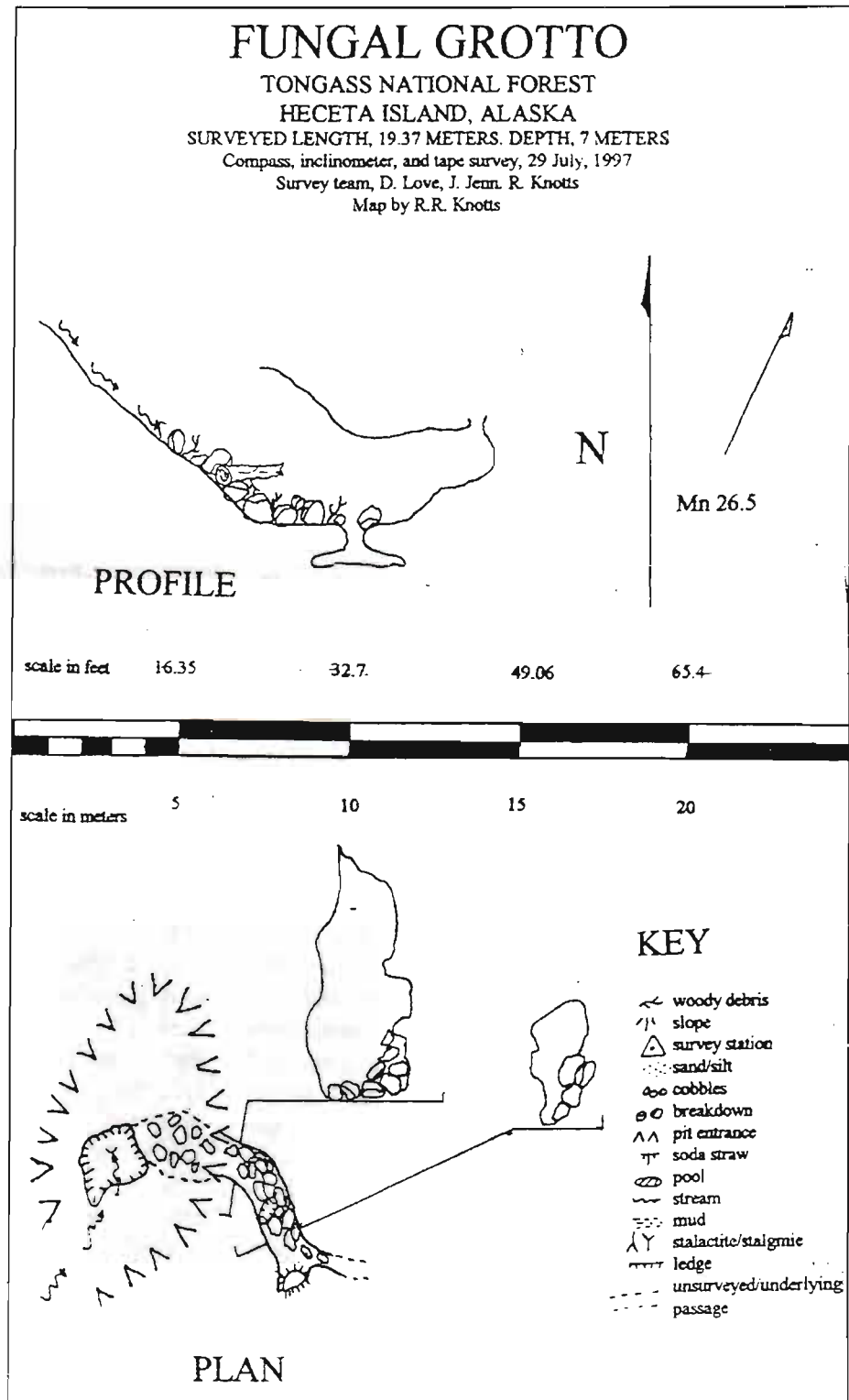
The cave is located in a steep sink which is near the lower edge of a forested area. This is just above several very large sinks at the base of a muskeg.

Surveyed passage totaled 19.7 meters (64.63 feet), with a depth of 7.0 meters (22.97 feet). The cave takes a small stream during wet weather.

Management

Recommendations:

Fungal Grotto and the surrounding caves and sinks should be protected from all surface-disturbing activities. The area is certainly an integral part of the watershed draining along the Arabica system and into Warm Chuck Inlet. The cave is relatively immune to disturbance from visitors—its small size should keep visitation or a minimum.



REPORT ON AN EXPEDITION TO EXPLORE AND MAP CAVES AND KARST FEATURES IN THE KOOK LAKE, BASKET BAY DRAINAGE OF THE KENNEL CREEK LIMESTONE

Chichagof Island, Southeast Alaska

May 11-14, 1998

by David Love

The karst corridor between Basket Bay and Kook Lake is one of the most dramatic places in Southeast Alaska's Tongass National Forest. Located approximately mid-way up the eastern coastline of southeastern Chichagof Island, this area is underlain by limestone from the Kennel Creek Formation. The Kennel Creek limestones lie beneath the eastern third of Chichagof Island, Southeastern Alaska, from Sitkoh Bay to Hoonah, wedged between intrusive metamorphic rock and the western shore of Chatham Strait. Between Kook Lake and Basket Bay, the waters of Kook Creek have etched a spectacular surface and subsurface system over thousands of years. A plethora of sinkholes, fissures, and caves dissolved from the carbonate bedrock define this three-dimensional karst landform.

The limestone bedrock is thousands of feet thick. It is formed from deposits of the calcareous ex-skeletons of marine protozoans, algae, lampshells, clams and snails that died 400 million years ago during the geologic period known as the Silurian. These animals lived in the equatorial regions of the Pacific Ocean. The limestone that their shells created has since been transported thousands of miles northward to be smeared along the western shore of the North American continent by the forces of plate tectonics.

In various forms, it now is an important component of the Alexander Archipelago, the group of islands that constitute much of southeastern Alaska. Some remains limestone, but other portions have been compressed, and heated, metamorphosing into marble. Almost all of the rock was contorted as it smeared onto the coast of North America, causing it to fracture in patterns visible from small scale cracks in boulders to large scale systems of faulting throughout the karstlands of Southeastern Alaska. The same tectonic forces that have created the coastal mountains here in southeastern Alaska are also responsible for building huge coastal mountains such as Mt. Logan and Mt. St. Elias.

Working on the Kennel Creek limestones over geologic time, Kook creek has sculpted bath-tub white marble canyons, carved portholes through mid-stream boulders, and created spectacular subterranean passages. Small underground streams emerge from their dark trav-

els, gushing forth as streamside springs, and, in one spot as a small cold water geyser in the middle of Kook Creek.

Logging and natural blow-down have deposited large numbers of logs into Kook Creek. This is clearly seen near the resurgence or point where the stream sinks underground. During normal flows, the river rushes underground into the whitewater of Water Cave. Nearby, logs have been piled high under the cliffs when the stream backed up during high water levels perhaps caused when heavy rains fell onto warming snow, a rain-on-snow event.

Other caves, perhaps formed before Water Cave pirated the stream, exist around the arc of cliffs near the resurgence. Most interesting is Captured Cutthroat Cave. This cave is accessed by clambering over several huge boulders; then scrambling down a bedrock face into the water filled passage. The cave is named for a rather sickly trout, which we captured and released in the cave. Rather terrifying areas of loose rock and breakdown (rock that has fallen from the ceiling or walls of a cave) further into the cave make this a place to be surveyed once and then exited forever. However, the high ceiling and breakdown filled passage at the end lead to the conclusion that Captured Cutthroat probably once was a substantially bigger cave and the presence of fish suggests that there must still be small passages below the waterline that connect to the present stream system.

Kook Creek reemerges several hundred yards downstream after travelling through the highly metamorphosed, ornately sculpted white, blue and thinly banded gray-green marble of Water Cave. Much of this can be viewed by well equipped and drysuit clad cavers although part of the passage is always sumped, meaning that it ends for terrestrial cavers because the ceilings dip beneath the water's surface. It is likely that cave divers may be able to map the passage for its entirety someday, emerging downstream in Dipper Cave, a long and narrow swimming cave.

During our spring survey, the cornucopia-shaped entrance to Dipper Cave was home to a family of Water Ouzels or Dippers (*Cinclus mexicanus*), whose basket-like nest was ensconced in a pocket in the ceiling limestone. The creek emerges from the cave to flow several

hundred yards through clearcut flanked streambed before sinking once again into Bear's Swim Cave. This cave has several entrances with the cataract the most dramatic. The stream flows under several huge boulders (cavers must climb over them) before dropping noisily down several feet into sculpted limestone passage. The tight passage quickly opens into a spacious cavern with the now wide and shallow stream flowing silently over the cobbled floor. Round a bend the stream deepens to swimming depth and soon disappears silently, sumping as the ceiling meets its surface. Several tight and awkward passages lead off from this river including one that reaches to another large chamber, the Bear's Swim. The easier means of accessing this chamber is to follow a bear trail down from the old logging road and then scramble down a steep muddy boulder pile into the chamber.

Depending on what the tide is, one will either find a wide expanse of polished sculpted marble or a lake. Even at low tide though, the polished floor sinks beneath the water farther into the cave. Cavers have swum further, mapping several passages which either sump, or become too tight to continue. Anyone exploring the far reaches of Bear's Swim or the caves downstream needs to be constantly aware of the influence of the area's 20 foot tides on the caves, as well as the potential for heavy run-off to quickly raise water levels in the caves. Foam noted on the ceiling of Bears' Swim cave was undoubtedly put there during extreme high tides and/or high freshwater flow.

The underground travels of waters in the Kook Creek drainage basin continues to dissolve and deposit calcium bedrock (the fifth most abundant element in the crust of the Earth) from the limestone. This has resulted in limited but spectacular galleries of stalagmites, stalactites, flowstone, and the long hollow deposition features known as soda straws. The galleries and interconnecting passages are formed when waters dissolve the limestone bedrock, much as a sugar cube dissolves in water. The dissolved calcium carbonate comes out of solution when a supersaturated solution enters a bigger area with lower partial pressure, for example, cave passageway or a cavern. It is here that cave formations may be found. Such formations are sometimes beautiful within the cave but most become drab in the dry environment. Depositional structure, chemical ions, pollen grains, fungal spores, even entrapped insects are sometimes encased in these rock formations, potentially encapsulating a snapshot of past environmental, geologic and biologic conditions.

Possibly for thousands of years, life has ventured into the twilight zones of the cave systems here, searching for food, a place to rest or an escape from predators.

River otters leave behind muddy footprints and the digested remains of their daily foraging; munched sculpin, salmon, and cod bones, sometimes of sufficient antiquity to warrant the use of C-14 dating. A brown bear, the size of a small cow, claws his way along the pitch-black passages, snorkeling in the darkness for a late summer salmon dinner. American Dippers raise their young within the protective confines of Kook Creek as it resurges through Dipper's Refuge Cave. The chicks bob and dance, squawking for the breakfast of salmon fry their parents glean from the pools below.

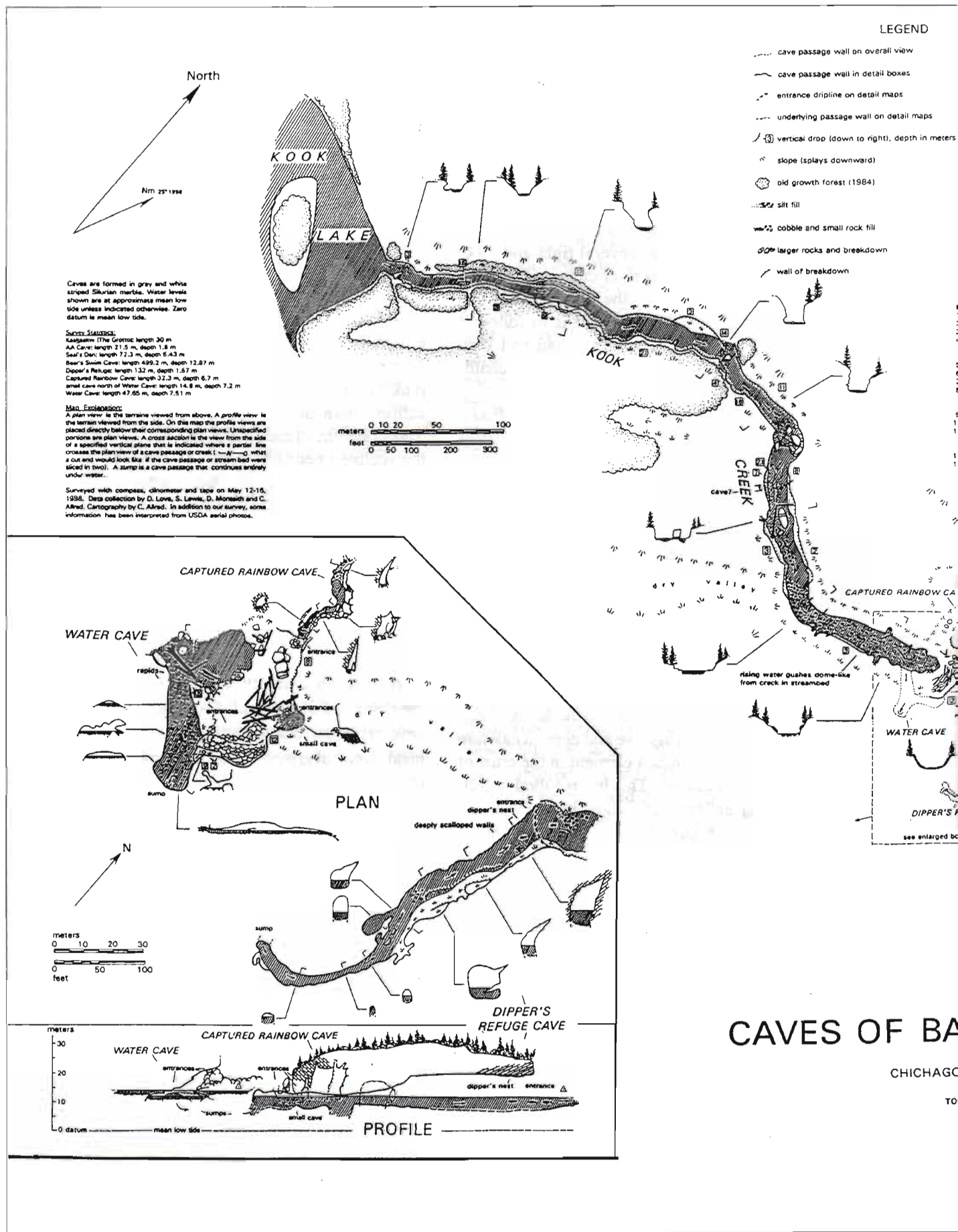
Well-worn depressions at regular intervals along the stream bank attest to the popularity of this creek to the local brown bear population, as both a resting and feeding area. As with other highly-productive karst stream systems, Kook Creek supports a higher proportion of pink, chum, sockeye, coho as well as the occasional king salmon than do comparable non-carbonate streams. Young steelhead and cutthroat trout often can be seen in the sculpted bedrock pools, or heard splashing the surface while feeding on emergent mayflies and stoneflies.

Common golden-eye splashed a low-altitude take-off from the shallow estuarine waters at the back of Basket Bay, their wings beating and whistling in unison. The high-pitched scream of an adult bald eagle split the air above the tidal flats. Two dirty, slow-moving blue forms floated quietly seaward beneath the natural arch known by the name of Kaakaakw to the Tlingit.

Here Kook Creek finally meets the sculpted carbonate shoreline of the sea. The blue forms, dry-suit clad cave explorers, clamber out on the far shore, hand-over-hand, tired but grinning broadly, admiring the fading gold of sunset.

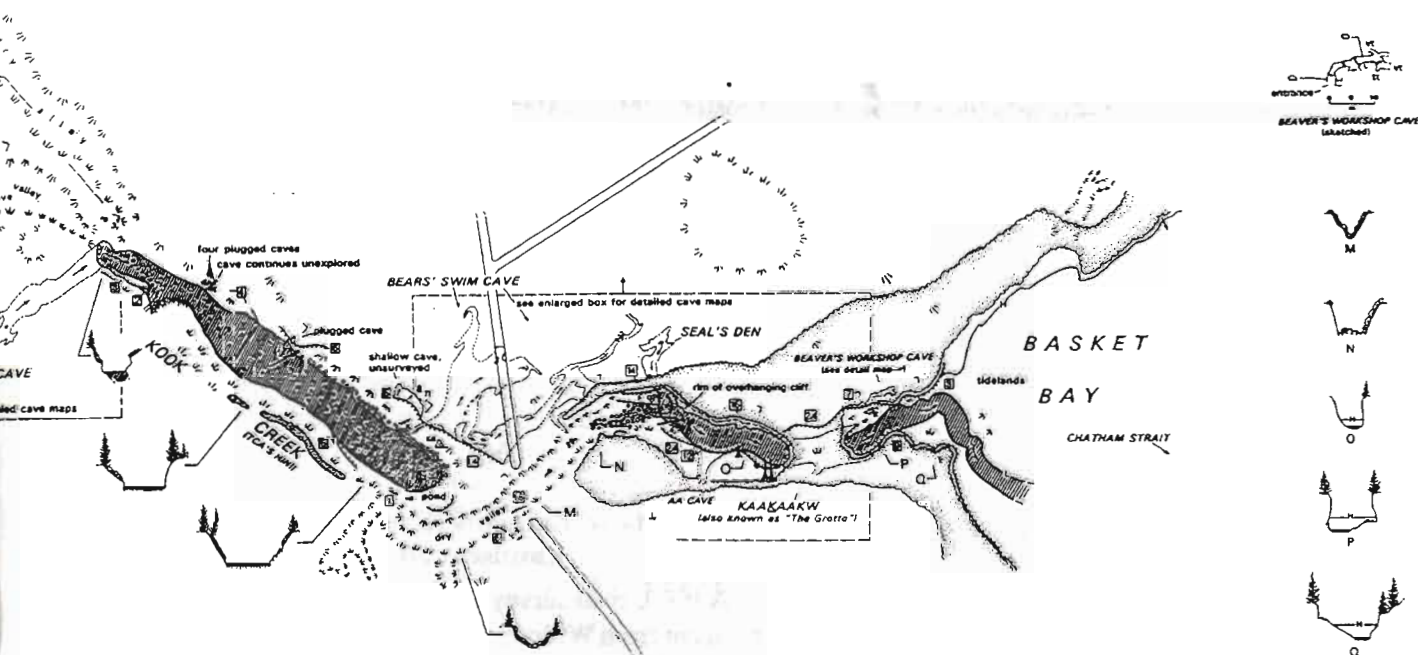
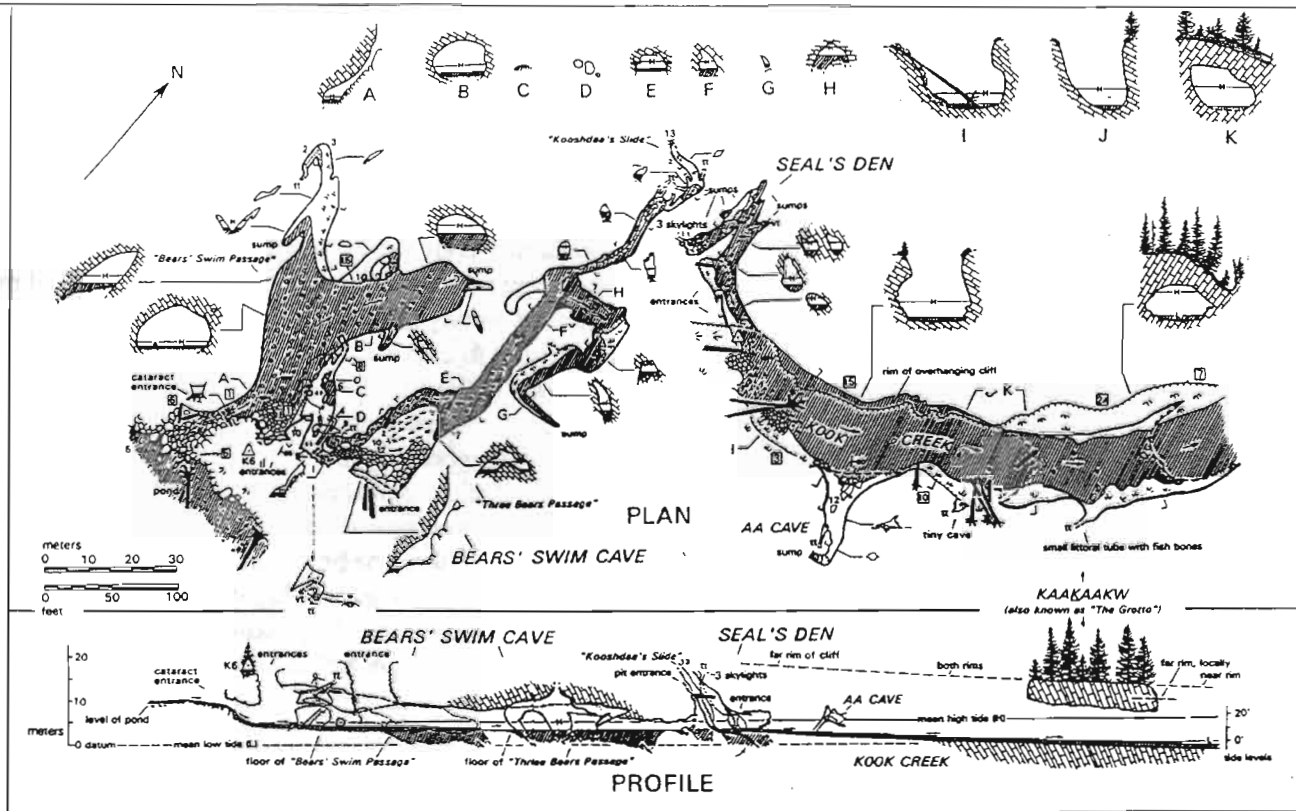
In the not-so-distant past, the old growth Sitka spruce fringing the beach were cut and deeply notched, standing testament to their usefulness as sources of pitch. Images come to mind of a young Tlingit boy calling from the tidal flats as the land disappeared beneath the on-coming sea. This call would have been echoed upstream by other watchers, past the arch, past the first canyon to the seal hunters upstream hunting by spruce-pitched torchlight. The seal carcasses would have floated downstream, and out to sea in front of the village.

This day there were no triumphant hunters paddling carved and steam-bent dugout canoes out to intercept freshly harvested seals floating below the Arch at Basket Bay, no calls from the beach, or smells of woodsmoke from the longhouses. Yet the experience alone, the magic of this place and the intimate knowledge of its history are a rich harvest themselves.



stream and pool or lake
rising and swallet
stalactites and stalagmites
overgrown road
too tight for entry
very tight
continues unexplored
mean high tide level
mean low tide level
eg
isn't noted

stoneflies
cave with rocky floor sloping
the north, contains moving
water
daylight through rock plug
and lenticular intrusions
sound of moving water
from unexplored passage that
down 3 m.
floor karens
isn't noted



BASKET BAY AND KOOK CREEK

AND, TONGASS NATIONAL FOREST, ALASKA
1998
CAVE PROJECT, NATIONAL SPELEOLOGICAL SOCIETY

© 1998 by Carlene Allred

WEST LYNN CANAL KARST INVENTORY

GOALS: Our objectives were to more fully investigate the karst landscape and describe carbonate features of the northern Lynn Canal area.

by David Love

North of Endicott River to Base Camp Coastal Features

On May 28, 1998, Tongass Cave Project volunteers David Love, Kevin Allred, and Jim Moore rendezvoused at the north-facing beach north of Endicott River outlet, west Lynn Canal. This area became the base camp for the exploration of the karst to the north and south during the following three days. The campsite on the south side of the stream has good water, an upland bench for camping and a cobble beach protected from the southeast wind and swell. The stream appears to be sourced from a lake at 685 feet elevation, and flows on surface over what appears to be a volcanic ash/entrained cobble conglomerate (pyroclastic flows).

Thinly bedded marble/shale carbonates occur directly to the south extending from the intertidal area upland. Numerous frost-fractured and/or wave-action littoral caves occur in the friable, highly fractured marble of the area. The largest four of these, Room-with-a-View, After Ate, Chimney Pocket, and Lunch Break Cave, were surveyed via tape and hand-held compass/inclinometer. All littoral caves contained sharp talus and breakdown blocks fallen from the ceiling. The caves named After Ate, Lunch Break and possibly Room-With-a-View should be considered as significant karst features, due to their formations, bone and wood deposits and possible archeological significance.

Lunch Break Cave may have potential as an archeological site or ancient temporary camp as it could have provided shelter from the elements, is located adjacent to a usable beach (at high tides) but lacks readily available water. This cave contains charcoal from what may have been a recent campfire, otter scat containing fish bone and unique speleothems. Current extreme high tides do not appear to reach into the cave and woody debris found in the back of the cave may provide clues as to isostatic rebound rates in the Lynn Canal area. A chamber in the west wall contains calcite micro-gours (shark-tooth like ceiling deposition formations). Their orientation was described as possibly unique by Kevin Allred and calcite has also formed on what appeared to be attached Bryophyte (moss) growth. A beetle and several gnats were collected to be sent to an entomologist specializing in cave invertebrates.

After Ate Cave which dips 30° to the northeast, also contains woody debris that seems to have been deposited in recent times as it contains milled lumber. Tidal movement of woody debris in the back of the cave probably is restricted to extreme tides and recent frost-fractured talus from the ceiling does not seem to have been reworked, however, extreme high tides may reach the back wall as this cave appears to be lower in elevation than Lunch Break. Archeological remains are unlikely.

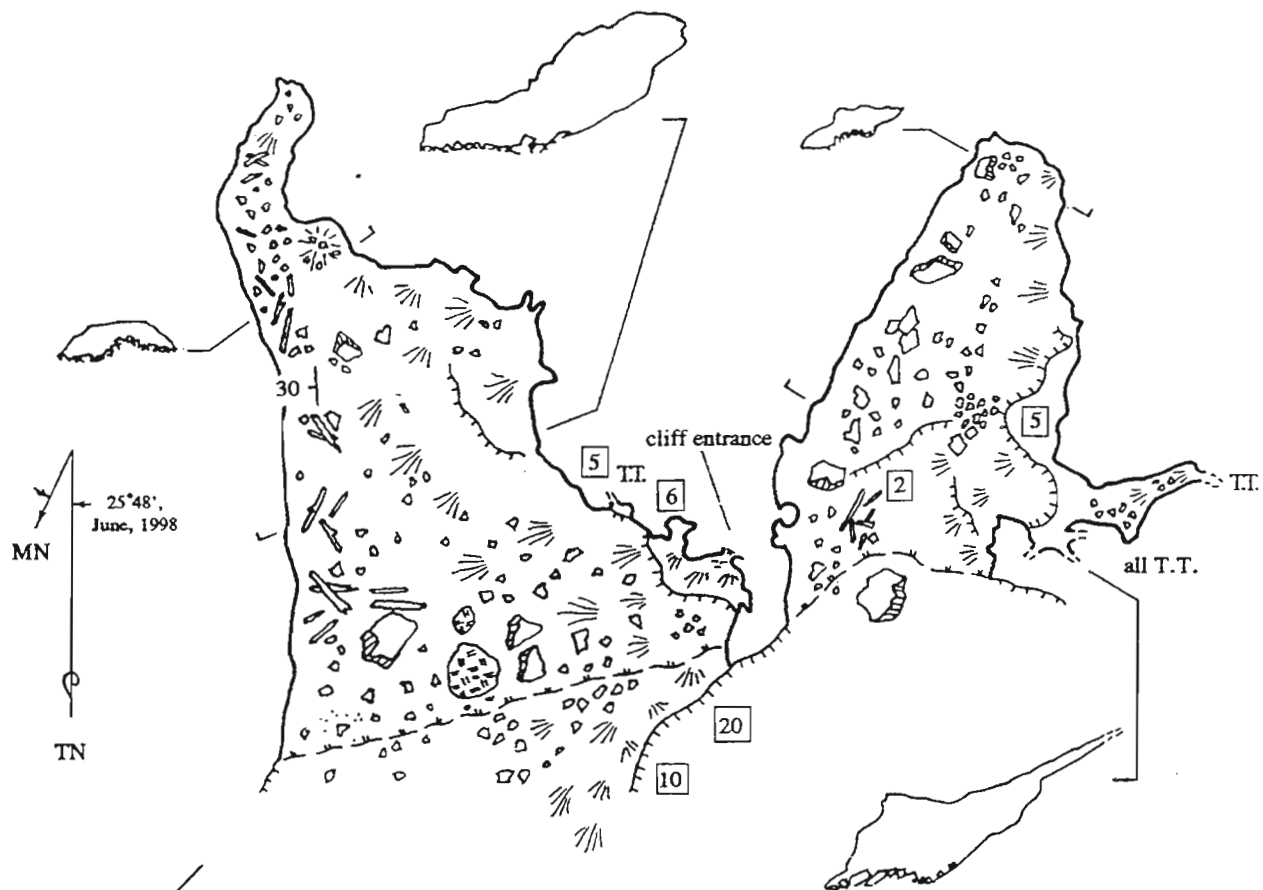
Any archeological remains in Room-With-a-View Cave would likely be buried in talus and this cave would likely not be a long-term habitation given the unstable rock in the cave, and the proximity to the more comfortable and stable Lunch Break Cave.

Cobbles containing possible fossil boreholes of the rock-boring mollusk, *Penitella penita*, (the Flat-tip Piddock) were found high on the beach in front of Lunch Break Cave and may provide clues as to the rate of isostatic rebound in the area. *P. penita* is distributed from Prince William Sound, Alaska, to Baha, California, typically boring into limestone or marble in the subtidal zone (Foster, 1991). Extant *H. arctica* occurs intertidally to around 400 meters depth (Foster, 1991).

Numerous additional features occur to the south and north of the base camp in the coastal carbonate rock, frost-pockets angling upwards at back with talus piles beneath, short phreatic tubes, a mushroom shaped pinnacle (dubbed Mushroom Pillar), a resurgent stream welling up through the beach gravel, intertidal pavement karst containing numerous solution pans (some containing eelgrass tidepools), arches and limestone pillars just seaward of the sculpted coastal cliffs.

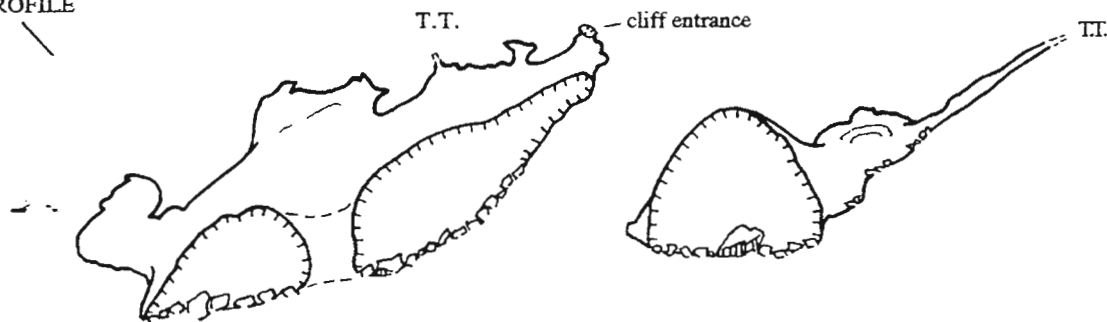
North of Endicott River - Inland Karst Landscape/Features

A 1960s road survey reported by Kevin Allred to have been cut from William Henry Bay to Glacier Point drops onto the beach just to the south of the creek at the base camp, continues onto the glacial terrace south of camp the entire distance to the north shore of Endicott River. This well beaten bear trail continues onto the carbonate bench north of the base camp along glacial terraces to a cable crossing across a creek running through a non-carbonate canyon (Canyon Creek) before returning to the uplands north of trail can be seen in a number of places. (Incidentally, this trail would be relatively easy to develop into a recreational trail.)



PLAN

PROFILE



AFTER ATE CAVE

ROOM WITH A VIEW CAVE

AFTER ATE CAVE ROOM WITH A VIEW CAVE

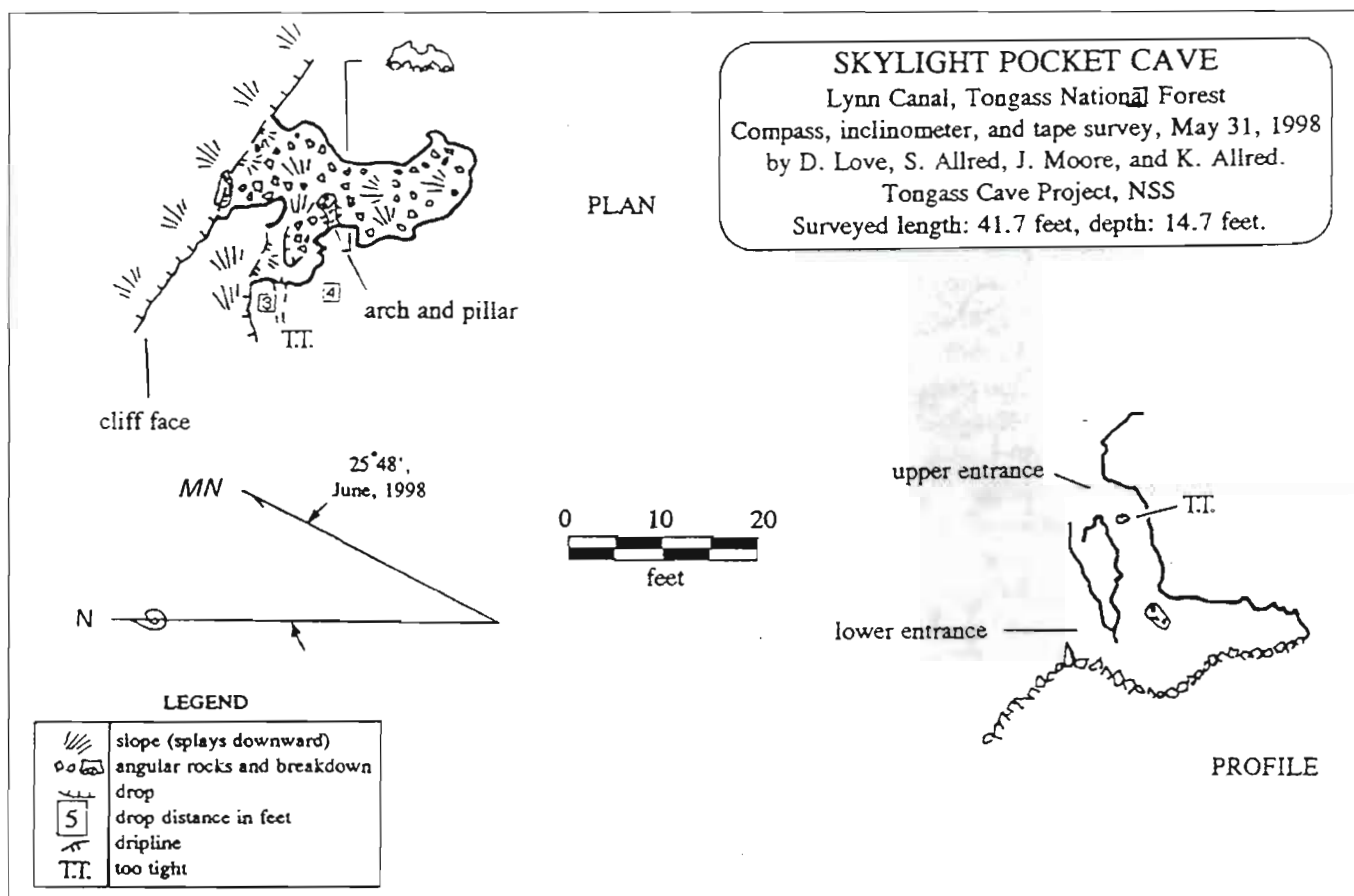
Lynn Canal, Tongass National Forest

Compass, inclinometer, and tape survey, May 30, 1998
by D. Love, S. Allred, and K. Allred. Tongass Cave Project, NSS
After Ate surveyed length: 137.8 feet, depth: 27.8 feet.
Room With a View surveyed length: 49.5 feet, depth: 10.29 feet.



LEGEND	
	rock bedding attitude
	slope (splays downward)
	angular rocks and breakdown
	drop
	drop distance in feet
	silt and sand
	silt
	dripline
	driftwood
	pillar

map by K. Allred



Karst landscape is encountered in several spots along this trail. Two areas with karst topography lie to the south of base camp, both occurring relatively close to the sea cliff edge. Manic Depression Cave was mapped in the first of these areas. This is a solution feature cave having two entrances located at the bottom of a 10 foot deep sink. Both entrances choke after about 10 feet.

Further south the road route goes directly over several sinks including one 10 foot sink containing Off Ramp Cave. This 30 foot solution-cave is fed by a seasonal stream. It begins as a 12 foot vertical drop which turns northwestward to become a crawlway leading to a dome filled with sediment and a small chamber ending in a cobble plug. Cliffs of carbonate rock lie inland from these areas but appear to have little cave formation. Upslope and between Off Ramp Cave and Manic Depression Cave, two caves occur at about 600 feet elevation, the larger entrance of the two visible from the water. The larger cave was named Brakal Cave and Streveler Cave was found uphill and slightly to the west. Both are frost-pocket caves about 30 feet in length. These caves may not have been formed as littoral caves as there appears to be little additional sculpting along the cliffs in the area. Also,

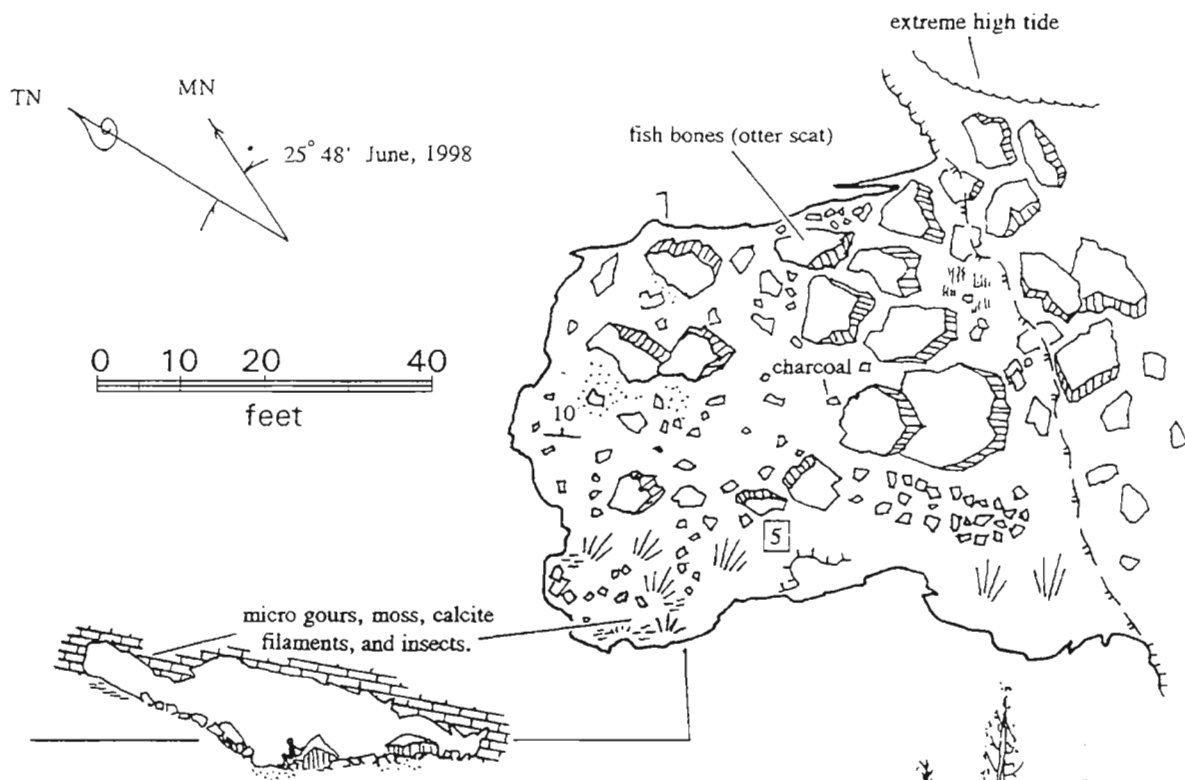
these caves are about 600 feet in elevation, which seems rather high for isostatic rebound.

North of Base Camp to Canyon Creek Coastal Features

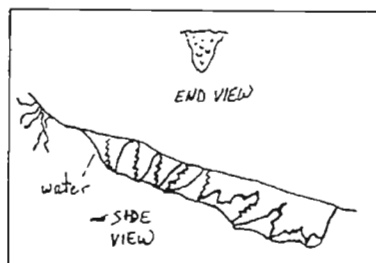
Traveling north, numerous karst features occur between base camp and Canyon Creek. The first feature encountered is a resurgent stream along the beach fringe directly south of the first stream crossed. This resurgent spring bubbles out of the upper beach cobbles and may be sourced somewhere upstream along the stream directly to the north, but we could not find the resurgence point.

Nearby is a lens-shaped opening issuing a small waterfall. This was not entered due to time constraints, but appeared to be tight.

North of this area we found Broken Motor Cave, a shallow, littoral cave previously mapped by Kevin and Soren Allred. (See previous caver attached map and trip report.) Sea cliffs in carbonate rock, intertidal karst pavement covered with tidepools and eelgrass beds, a small cave developed along a fissure and two littoral frost-pocket caves just south of the south shore of Canyon Creek were also discovered.



PLAN
PROFILE



filaments and micro gours

(actual size)

LUNCH BREAK CAVE

Lynn Canal
Tongass National Forest

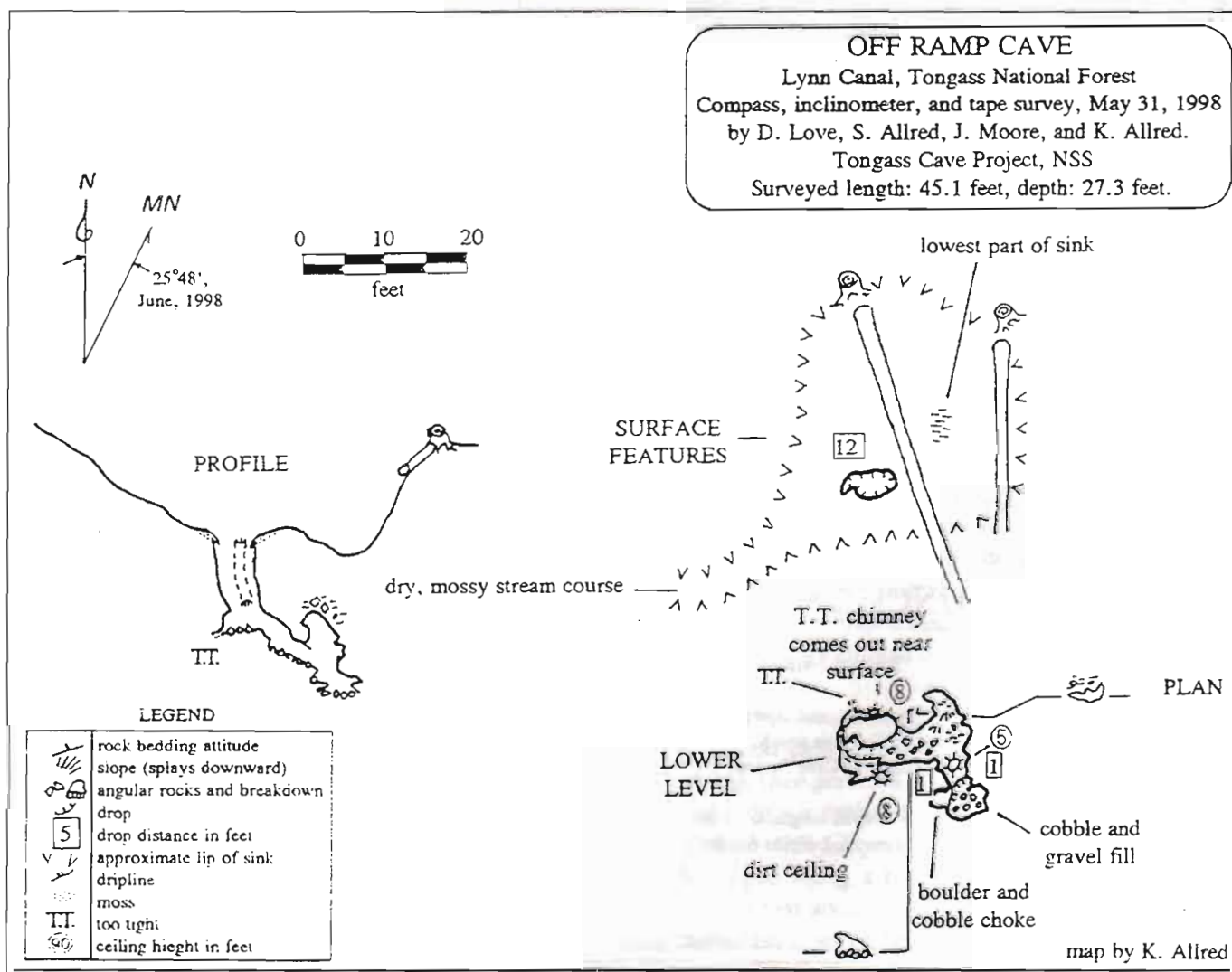
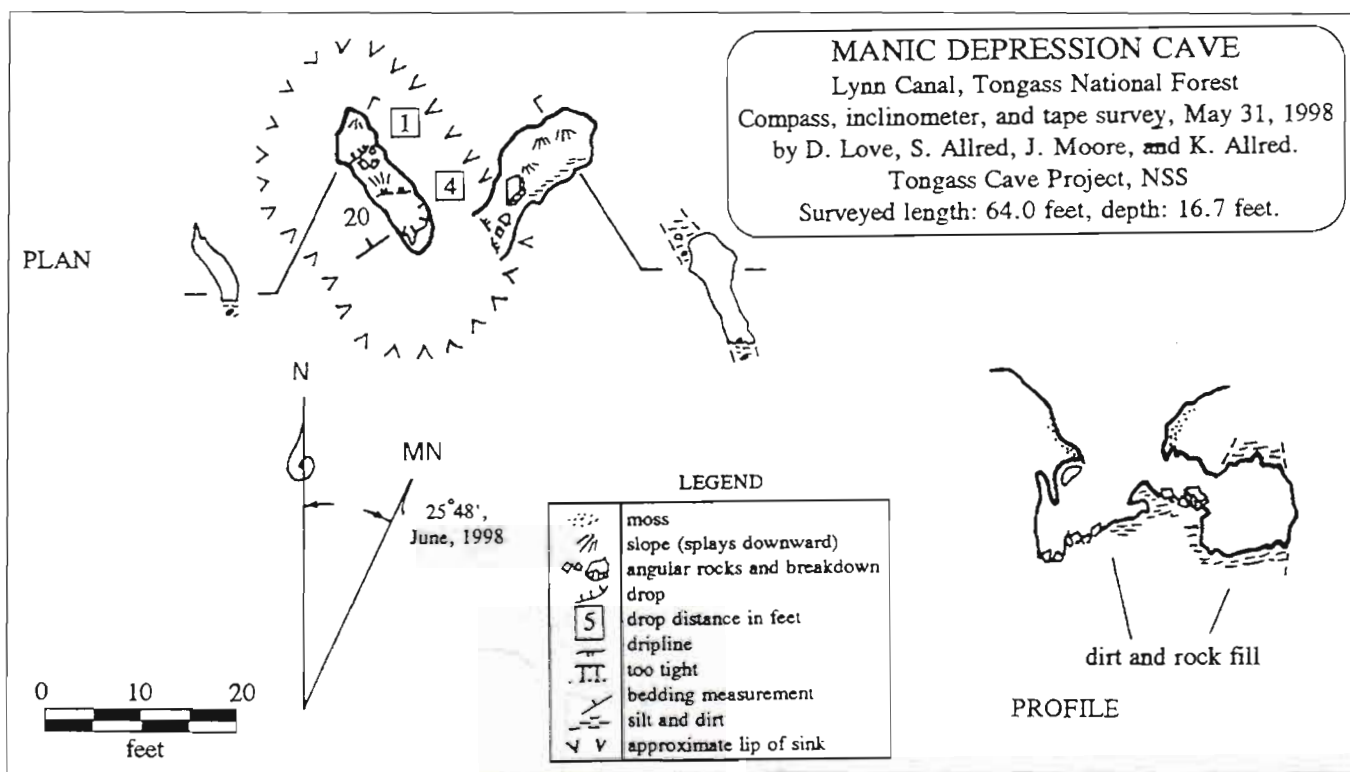
Compass, inclinometer, and tape survey, May 31, 1998
by D. Love and K. Allred.
Tongass Cave Project, NSS

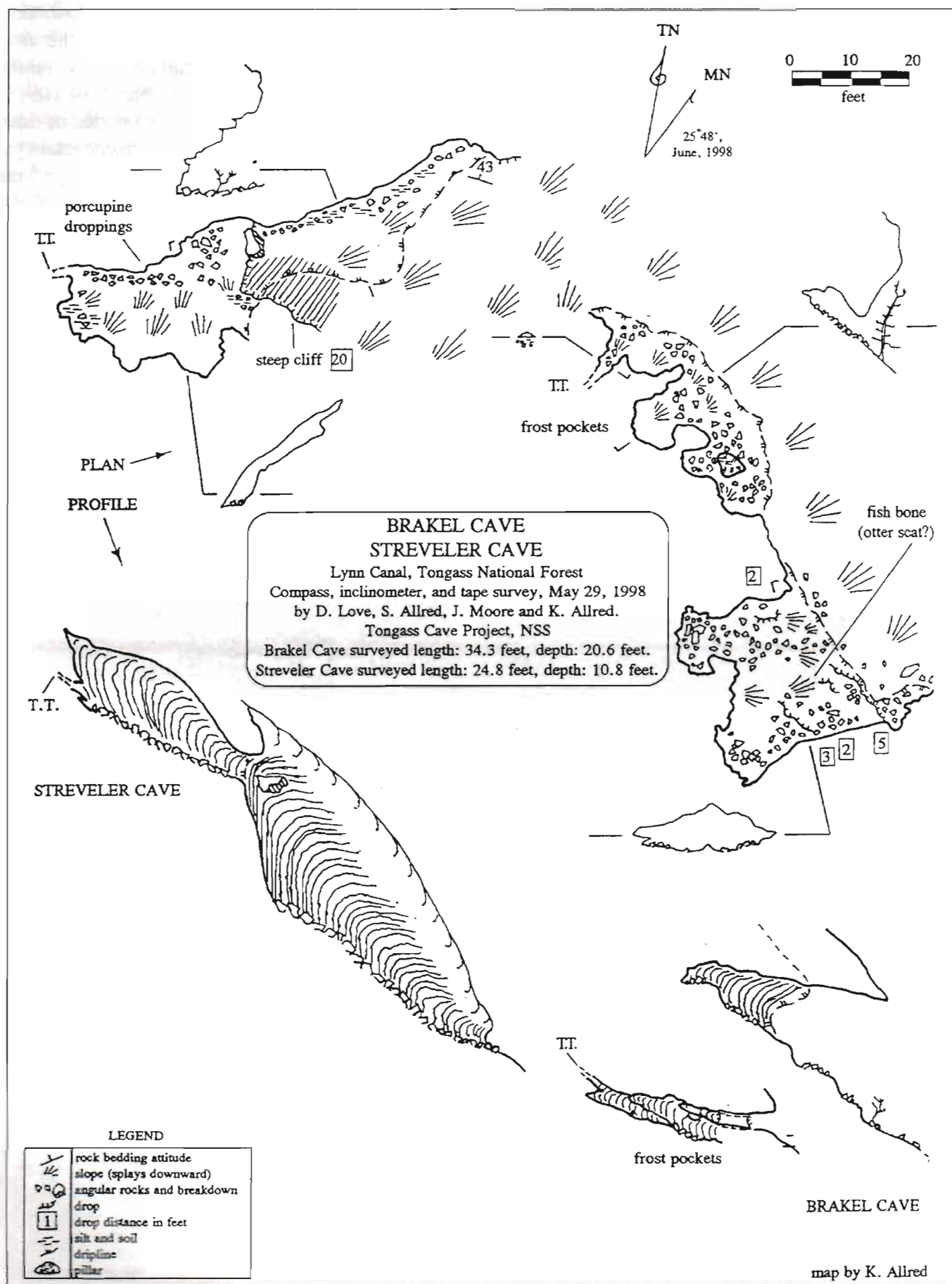
Surveyed length: 50.1 feet
Surveyed depth: 6.1 feet

LEGEND

	rock bedding attitude
	slope (splays downward)
	angular rocks and breakdown
	drop
	drop distance in feet
	silt and sand
	silt
	grass

map by K. Allred



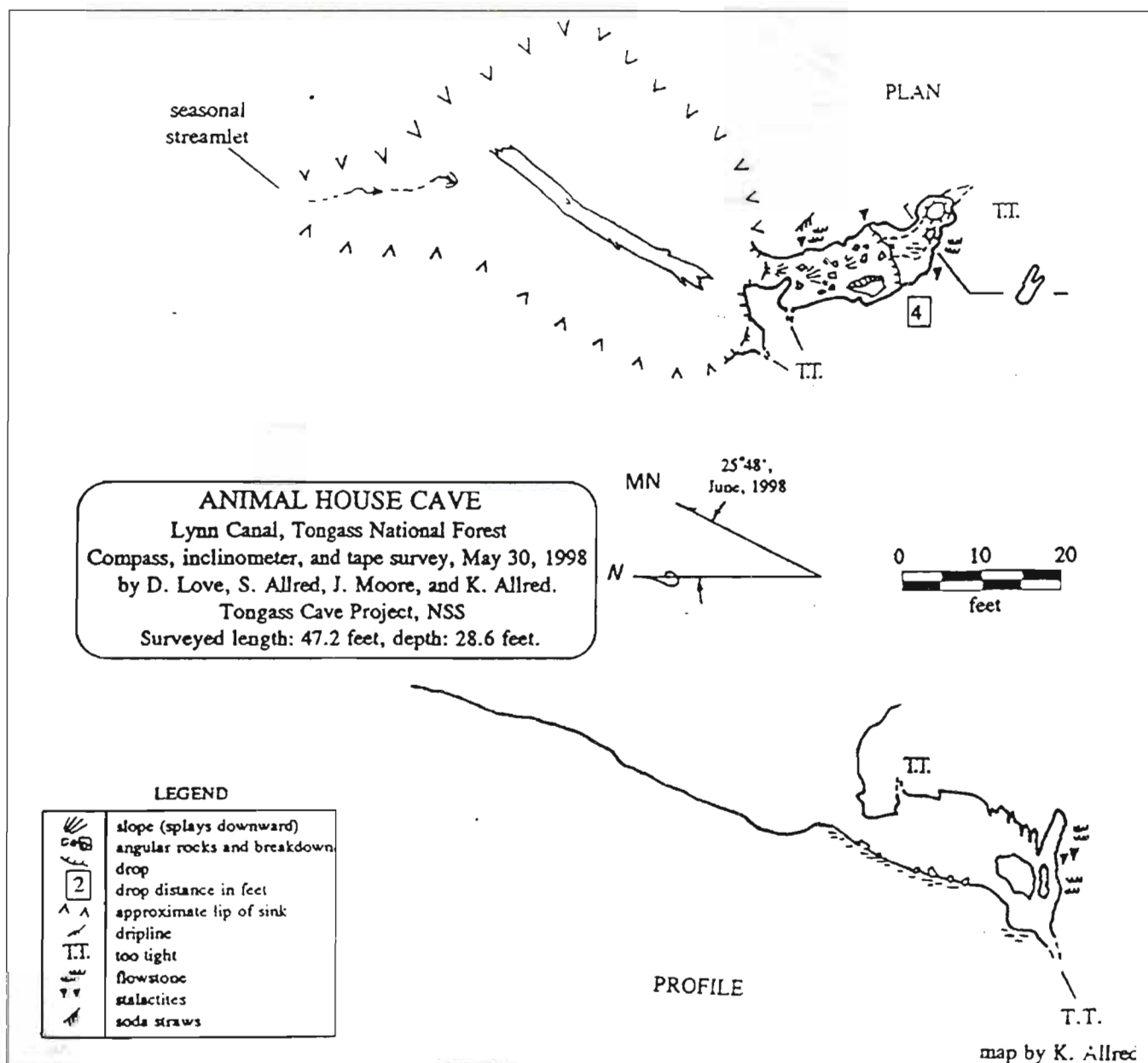


Canyon Creek to north of Base Camp Inland Features

Three separate karsted areas with surface features are found north of the base camp to Canyon Creek, the northern most two areas being more extensive and more heavily karsted extending seaward across two glacial terraces. These two areas contain well-karsted terrain with numerous large surface sinks and several small caves. One cave is located in the bottom of a 12-foot sink taking a seasonal stream on the carbonate/non-carbonate contact. Named Animal House, this cave is located on the second karst bench just above the road route inland from Broken Motor Cave, is about 25 feet long and contains numerous

stalactites, soda straws, popcorn, and flowstone. Porcupine scat is scattered throughout the cave which ends in fill and a too tight lead. Given the extent of the speleothem formation, this cave appears to have been stable for a long period of time, has some sediment on the floor and may contain paleontological remains but no bones of any type were observed on the surface. A chemical analysis of a rock sample from Animal House was made and indicates that the limestone is very pure. This sample was from a whitish to light gray partially marbled breakdown block on the floor which was well rounded from dissolution.

South of Animal House on the lower glacial terrace two features were found in well developed karst.



The first was a cave discovered beneath cut logs which had been used as fill in a sink beneath the road route. This cave dropped about 8 feet vertically into a football-shaped room before ending. The second feature was a keyhole-shaped vadose streamway. They were not mapped.

Just 20 feet inland of the cliff edge directly to the north of the stream north of base camp is Fluted Pit a 10-foot vertical solution pit with a too-tight lead to the west.

South of Endicott River

Coastal and Inland Karst Landscape Features

Limestone/thinly bedded frost-shattered marble grading into shale was found to the south of Endicott River. Three reported littoral caves were frost-pockets less than 20 feet deep, one containing the remnants of a fairly permanent recent camp. A chemical analysis of a rock sample from one of these frost-pocket littoral caves indicates that some of the limestone is very pure. This sample was a fragment of frost-fractured gray limestone.

Carbonate cliffs, extending south from the Endicott River along the beach, end in volcanic conglomerate such as was observed near base camp. We encountered a good trail along an old road route for 1/2 mile south over subtle karst features and poorly drained, skunk cabbage, small seeps and surface water. Upland areas above beach karst may be carbonate rock and may contain some significant features possibly in subalpine/alpine areas. Upper elevation steeply sloping areas appear to be large slumps or possibly talus slopes covered with dense brush. These alpine areas are accessible by hiking timbered ridgeline from beach to alpine to the top of the 1705-foot hill south of the Endicott River Delta. This area appears to be karst from skiff and may contain subalpine entrances.

Summary

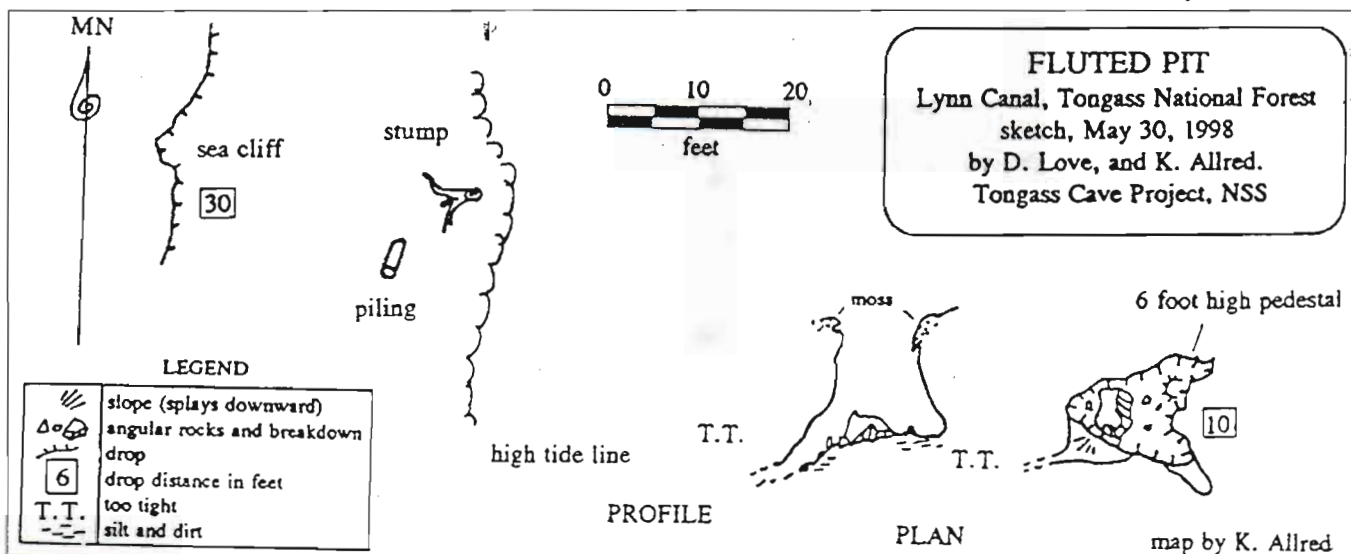
Although the caves we encountered were small, much of the carbonates appeared high in calcite. At least some of the limestone is very pure (> 95% calcite) as evidenced by the results from the chemical assays and should become fully karstified, with well-developed cave systems. There exists a fair possibility of the existence of more extensive caves in the general area. Our reconnaissance was mostly restricted to the littoral areas and benches less than 100 feet above sea level along the old road route. Some of the karst in these areas was well developed and is an indicator of cavern development below the surface. In some areas on the benches above the limestone littoral zone, we expected to encounter more extensive karst, but found poorly drained "normal" terrain. There may be several possible reasons for this:

1. some of the carbonates were too low in calcite,
2. these areas may be non-carbonate,
3. the carbonates are partially sealed by a mantle of glacial till or clay, and
4. the karst has not had time to develop since the last glaciation and/or emergence from the sea due to isostatic rebound.

The proposed road route, atop the numerous karst areas, is not recommended. The Forest Service is required by the Federal Cave Resources Protection Act to protect significant caves. Roads built atop often experience gradual slumping, or abrupt collapse into the dissolving epikarst, a definite maintenance cost and public hazard.

Exploration in the subalpine and alpine areas might result in the discovery of larger cave systems. Further evaluation may reveal unique biology, geology, archeology and paleontology in the area.

Reference Cited: Foster, N.R. 1991. Intertidal Bivalves: A Guide to the Common Marine Bivalves of Alaska. University of Alaska Press.



MISCELLANEOUS

Members of the Tongass CaveProject and the Glacier Grotto thank the Chatham Area of the United States Forest Service for support of the Basket Bay expedition.

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Dear Ladies and Gentlemen:

My name is Yuriy Shurupov, I am an active speleologist from Krasnoyarsk, Russia and I would like to announce that we are currently searching for international participants to the surveying expedition on the caves of Southern Siberia, Russia.

We expect three cavers with at least moderate experience in speleology to come to Krasnoyarsk for about 15 days in late August 1999 or same time in 2000 (depending upon availability of funds) to survey underexplored caves of Southern Siberia, as well as to search for new formations in the area.

We are ready to take care of Visa support (official invitation, approved by Krasnoyarsk Regional Administration) and some travel arrangements within Russia. During the expedition all transportation/meals costs should be covered by the participants, but full administrative assistance will be provided. Guests are welcome to stay with Russian families and use our caving equipment free of charge.

Further details should be negotiated in person.

Please feel free to contact us by: mail: Russia, 660100, Krasnoyarsk, PO Box 24476, Yuriy Shurupov.

T/fax: =7(3912) 21-41-96

e-mail: <root@talent.cross.krasnoyarsk.su>

Below please find more info on the caving area we want to explore...

It is located within Kuznetchiy Alatau - mountain range on the South of Siberia, 300 km long and about 150 km wide. The average height of the mountains is 1500-2000 meters. That's a pretty wild and unpopulated territory with virgin forests. The only communication means there is a railroad going through it.

We are planning to take a train from Krasnoyarsk to Abakan which will be the starting point for our journey. Then we get a train from Abakan towards the city of Novokkuznetsk, but get off half way there at the small station of Khabzas. Most of our activity will be around that area.

From the station we walk 6 km through the taiga (forest) with all the equipment to the Minusinskaya Cave. It was discovered by a speleologist from Minusinsk town but the exact depth and length are still not defined, since to get there one has to rock climb to the entrance.

According to the geological data there is another cave. We have made several attempts to find it so we would like to search for it for a little while after we get out of Minusinskaya Cave

There are several other caves in that area, which are of great interest to us: Accord, Pobednaya, Kamennaya - and we plan to visit them all. We have special interest toward recently found Korolevo Cave. By the up-to-date data it is only 5 km long, but looks like there is much more to it.

### The Alaskan Caver

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