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December 1997

### Alaskan Caver Alaska Caver

Chuck Pease

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# The **Alaskan Caver**

Volume 17 Number 6

December 1997



# The Alaskan Caver

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Dalene T. Perrigo - Editor

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## Table of Contents

Appeal intervention .....	1
President's Corner .....	1
Rapan Cave #304 .....	4
Letters .....	5
The Devil's Own .....	7
A# Minor Cave #284 .....	9
Sinuuous System #231 .....	10
Siberian Sword Cave .....	10
Glacier Grotto Membership List .....	14
Russian Canyon Cave #205 .....	16
Miscellaneous .....	18

Cover Photo : "Living Rock", a combination of minerals and bacteria, found in a cave on Prince of Wales Island. A Murray

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Annual dues are \$15 for a single and \$20 for a family membership. The Alaskan Caver is included in the membership fee. For an additional \$8, six Cavers will be sent by airmail to overseas addresses. Institutional subscriptions are \$20 per volume. Send dues to Glacier Grotto Treasurer.

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*A caver squeezes through a tight place on Prince of Wales Island.*

## CALENDAR

**May 22.....**NSS-CDC (cave diving) Annual Workshop. Holiday Inn, Lakecity, FL. Marianne Gamble (904)935-2974

**July 12.....**NSS Convention, Twin Falls County Fairgrounds, Filer, Idaho. David Kesner, Boise, ID (208)939-0979. email drdave@micron.net.

**July 18.....**Ketchicave '98 Kosciusko Island, AK. Kris Esterson (850)513-1938 e-mail kae7077@garnet.acns.fsu.edu

**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 Kave Sports, Ketchikan. Frequent rope practice sessions. Sonnenberg 247-1559

**Southcentral Area** meetings: Call Bob Hicks at 248-2830 hm or 272-8401 wk.

## APPEAL INTERVENTION

Letter by Steve Lewis

Dear Chief Dombeck:

The Glacier Grotto is submitting the following intervenor comments, pursuant to 36 C.F.R. 217.14 (c), on the appeals listed below.

These appeals all objected to the Record of Decision (ROD) adopting the revised Tongass Land Management Plan, signed by Regional Forester Phil Janik on May 23, 1997. This Revised Tongass Plan is based on Alternative 11 in the revised supplemental Final Environmental Impact Statement.

97-13-00-0101 Southeast Alaska Conservation Coalition (SEACC)

97-13-00-0109 Tongass Cave Project (TCP)

97-13-00-0103 City of Wrangell, Ketchikan Gateway Borough

Concerned Alaskans for Resources and the Environment, John Conley, and Doug Roberts

The Glacier Grotto is eligible to intervene in these appeals because we are both interested and potentially affected by these appeals (36 C.F.R. 217.14(a)). The Forest Service acknowledged the Glacier Grotto's request for intervenor status in these appeals on November 19, 1997.

Our intervention is supportive of the TCP appeal and the portions of the SEACC appeal relating to karst. We strongly disagree with the City of Wrangell et al, in their assertion that there is no basis for the new Karst Standards and Guides in TLMP.

We have included articles from the February 1995 NSS News (Exhibit A) which gives a good summary of the history of caving and karst ecosystem protection on the Tongass. These articles end on an optimistic note concerning the direction karst protection was taking on the Tongass at that time. Two years later, Steve Lewis presented a paper at the October 1997 Karst and Cave Management Symposium in Bellingham Washington which was much less hopeful (Exhibit B). This paper outlines the role that the Glacier Grotto, Tongass Cave Project, and cav-

Continued on page 2

## PRESIDENT'S CORNER

1997 didn't start out exactly like I was expecting! I was minding my own business when the next thing I knew, the election committee, Gary Sonnenberg and myself, had a dilemma - nobody was willing to run for President of the Glacier Grotto. Gary made sure I drew the short straw, and before I could blink I was hit by the nomination train. Even then I

Continued on page 4

ing public have played as advocates for karst protection. Using the 1997 Heceta Sawfly Sale as an example, the paper reveals that karst protection on the Tongass continues to be inadequate despite the fact that the Forest Service has developed Karst Standards and Guidelines that are included in the Final TLMP. Both the Tongass Cave Project and SEACC mention this sale in TLMP appeals.

Exhibit C is the original Forest Service Survey for Karst and Cave Resources for the Heceta Sawfly sale. The Glacier Grotto objects to two statements in the first paragraph:

1) The report states that there are not protocols governing management in partial cuts.

2) Fieldwork was done "cooperatively and on the ground with timber specialists." The author recommends this approach for future projects.

The Glacier Grotto feels that Karst Standards and Guides must be applied to all timber sales and implemented uniformly, whatever the method of harvest. Buffers in partial cuts, and in clear-cuts, must be a minimum of one tree length or 100 feet wide; whichever is greater, with minimal harvest in the next tree length. Furthermore, it is essential that all karst inventory occur before planning and layout for timber harvest begins.

Exhibits D, E, F, G, H, I, J and K are letters and reports which, along with Exhibit B, clearly define the problems noted with the Heceta Sawfly Sale and explore possible solutions. Exhibits L and M are the Forest Service's reevaluations of the Heceta Sawfly Sale. The document that the initial Forest Service evaluation of the Heceta Sawfly Sale was seriously flawed. During November 1997, the Forest Service made an effort to address some of the problems with the sale. Nevertheless, many serious problems remain. Among these are the following:

1) Timber layout was completed and roads were built before the revaluation was completed.

2) Many of the units provide hydrological inputs to documented high vulnerability karst and significant caves, but are still recommended for harvest.

3) The new recommendations consistently provide for 100-foot buffers rather than the windfirm buffers called for in the Karst Standards and Guides. Windfirm buffers requires a minimum width of two tree lengths (with some harvest in the outer half). Harvestable Heceta old-growth is almost without exception greater than 100 feet in length.

4) Roads were built over high-vulnerability karst. While these roads were assuredly built to standards that attempted to protect karst, we continue to believe that

there were viable alternatives to road construction that were not properly considered in the initial planning for the sale. No discussion of this problem occurs in the new documents.

Assessments of these reports are being prepared, but will not be completed in time for inclusion with intervention. It is clear that cavers and the Forest Service continue to disagree on a number of critical points about what constitutes good protection for karst and caves.

The problems that occurred on Heceta Island have had negative impacts on karst and have also seriously jeopardized one of the finest examples of collaborative stewardship on the Tongass. Trust must be restored between cavers and the Forest Service if this continues.

Restoration of trust will require hard evidence of serious implementation of karst protection. Cavers have seen too many examples of fine words, spoken and printed, that get ignored or reinterpreted when it comes time to implement protection for karst on the ground.

Problems in protecting karst are not limited to one timber sale or one area of the Tongass. We have included evidence from planning documents for the upcoming Indian River Timber Sale on the Chatham Area. The authors of the Indian River Karst Vulnerability Assessment, Final Report (Exhibit N) arbitrarily modified Karst Standards and Guides without consulting other collaborative stewards of karst. This was done when they decided to eliminate steep slopes from consideration in defining high-vulnerability areas on the basis of soil depth. The results of this arbitrary decision are unclear because no further evaluation of slope was made in Stage 2 of the assessment. The Glacier Grotto agrees that there may be times when it is appropriate to modify Karst Standards and Guides for specific situation. However, such decisions must not be made unilaterally and the results of both alternatives would be considered in vulnerability assessments.

Although karst vulnerability was initially assessed for the Indian River Project Area, it appears to have been ignored in further sale planning.

Using the Indian River DEIS, we compiled a table showing units and roads located on karst which are included in the alternatives (Exhibits O and P). High-vulnerability karst has not been removed from the timber base and no explanation is provided as to mitigation planned for harvest on moderate-vulnerability karst. Roads seem to have been planned without regard to terrain through karst. There is no explanation of why roads must be placed on high-vulnerability karst or discussion of alternative locations for roads.

On the third Area of the Tongass, the Stikine, it appears that planners are attempting to meet the new Karst Standards and Guides. This is based on TCP director Pete

Smith's verbal reports to Glacier Grotto members about his TCP cost-share agreement work on the Stikine. However, as on the rest of the Tongass, he notes Forest Service field crews are frequently not trained adequately to recognize karst.

While the Glacier Grotto believes it should be possible to harvest timber on low-vulnerability karst, and perhaps even on some moderate-vulnerability karst, we concur with the Tongass Cave Project that NO harvest should occur on karst within the Tongass until a number of goals are met. These include the following:

1) Wording in the Karst Standards and Guides must be more definitive and less subjective. It must also be strengthened so that wordings such as "may be" and "should be" become "will be", and weakening phrases such as "where appropriate" and "unquestionably high" are removed.

2) It must be made clear that if any one of the eight criteria for high-vulnerability karst is met (Forest Plan, appendix I-15) that an area must be determined to be high-vulnerability karst.

3) Karst Standards and Guidelines must be no different in partial-cuts than in clear-cuts.

4) It must be made clear that no planning for harvest shall occur anywhere until all potential karst is identified.

5) It must also be made clear that if karst is found within an area proposed for harvest then the other three components of karst landscape assessment will be undertaken before any planning for harvest begins.

6) All identified high-vulnerability karst must be removed from the timber base before any planning for harvest begins.

7) Buffers around karst must be windfirm. This requires a minimum width of two tree heights with some harvest in the outer half or 100 feet, whichever is greater.

8) Areas draining into high vulnerability karst must be considered high-vulnerability karst in practice as well as in the words of the Standards and Guidelines.

9) A clear definition of what constitutes "more restrictive practices" used when harvesting on moderate-vulnerability karst must be agreed upon. See appeals by TCP, SEACC, and Exhibit B.

10) Clear definitions of what constitutes "no other alternative to road construction through high-vulnerability karst" must be composed and agreed to by cavers, experts on karst and the Forest Service to avoid such arbitrary determinations as were made on Heceta Island. The TLMP FEIS ROD states that even if there is no other alternative, such roads are prohibited "if resource values of karst will be compromised". This might be a reasonable solution if all parties involved in collaborative stewardship define in writing the meaning of "compromised".

11) Karst Standards and Guides are amended for particular situations.

12) All of this shall be incorporated into a Tongass-wide Karst Protection Implementation Handbook to be developed collaboratively by the Forest Service, TCP, Glacier Grotto, and karst experts. Such a book should also include descriptions as well as photos and drawings of all types of karst. This shall be made required reading for all planners and field personnel.

Finally, our comments on Appeal 97-13-00-0103 by the city of Wrangell and others. This appeal claims there is no basis for the new Karst and Guides and recommends that the Karst Standards and Guides for 1992 be retained. We disagree.

The Forest Service has determined that the current Karst Standards and Guides are the minimum necessary to meet the requirements of the Federal Cave Resources Protection Act of 1988 (FCRPA). As stated in the TLMP Record of Decision (p.18, pp.7), and reiterated in the Forest Plan, Appendix I, page 2, paragraph 3, "The intent of the FCRPA is to protect resources in caves not resources in karst; however, caves and their associated resources are an integral part of the karst. Therefore, the karst should be managed as an ecological unit to protect cave resources (Baichtal, 1993e, 1995)".

The Glacier Grotto does not believe that the current karst vulnerability classification system and Karst Standards and Guides fully meet the requirements of the FCRPA and adequately protect karst and caves. Nevertheless, we certainly do agree with the Forest Service that the new Karst Standards and Guides come much closer than do those from earlier documents to meeting FCRPA requirements. Without doubt there is a strongly confirmed basis for new Karst Standards and Guides.

Thank you for the opportunity to intervene and comment on these appeals.

To reiterate our comments:

1) The Glacier Grotto agrees with the Forest Service that more stringent Karst Standards and Guides than those in preliminary TLMP documents are necessary.

2) The Glacier Grotto feels that there are significant flaws in the current wording and implementation of the Karst Standards and Guides that will need to be corrected before the TLMP FEIS truly meets the requirements of the FCRPA and adequately protects the karst and cave resources on the Tongass.

These are outlined above and also described well in appeals by the Tongass Cave Project (97-13-00-0109) and SEACC (97-13-00-0101).

3) While we believe that it should be possible to harvest timber on low-vulnerability karst, and perhaps even on some moderate-vulnerability karst, we

*Continued on page 15*

Continued from page 1

didn't complain too loudly until I remembered I had to write a President's Corner for every issue of The Caver. You have to realize that in high school I once took a big test and answered every question correctly, only to get a "B" for my grade. It seems that I misspelled my name!

The summer of 1997 was a real rollercoaster ride. Kevin Allred received national recognition for his contributions to caving, the expedition to Heceta Island became a major seismic event, and we ended the year with high hopes that the proposed revisions for cave and karst management will result in some real protection for cave systems throughout the Tongass, inventory work finished years before units are laid out for harvest, and a return to the level of cooperation and trust between the cavers and the Forest Service that is needed to get the job done.

The time I spent with Tom Aley and Jim Baichtal was extremely educational. I feel that I learned a great deal because before then, I didn't know enough about geology and hydrology in karst to even ask any questions. Now I have a lot of questions, a great desire to learn more, and a very long way to go.

An important event in Glacier Grotto history happened

this year - the 10th Anniversary of POWIE (Prince of Wales Island Expedition). It was also the 3rd year for what I have called POWIE Jr., and the first time I missed that "expedition". (The only time I can really get away is in the early Spring, and what always started out as a planned two person trip for a few days would end up with 7-10 cavers.)

Another milestone this year was supplied by Carlene Allred in the form of a T-shirt design. If you don't have yours, contact Connie or Marcel LaPerriere and they will be glad to take care of you.

One last thing that happens every year about this time - your membership dues. Don't forget to send them in if you haven't done so already. There are some exceptionally good maps that will be coming out soon, including a very large one of Icy Fate by Connie LaPerriere. Icy Fate is putting up an extremely serious challenge to become the longest cave in Alaska!

Some of you may have noticed that my name appeared on the ballot for 1998. Once again I was blind-sided by that same "train".

1997 didn't end exactly like I was expecting either!

## RAPAN CAVE

### Heceta Island, AK • Preliminary Report #304

Cave #10-5-4-310

#### Tongass Cave Project • National Speleological Society

by Steve Lewis and Nick Olmsted

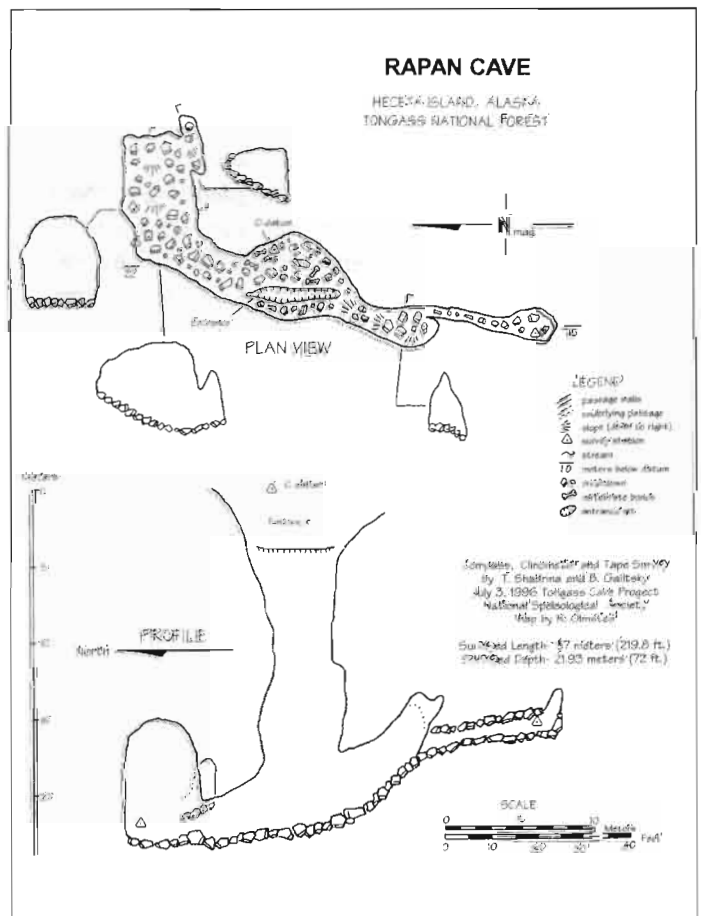
February 28, 1998

#### DESCRIPTION:

The entrance pit slot of Rapan Cave drops 22 meters (72.2 feet) into a large breakdown floored room where bones were noted. The passage extends down to the north and east over more breakdown, and up to the south, shrinking but still floored with breakdown. Part of this southern passage appears to be passage formed beneath breakdown, perhaps signifying an old collapsed dome.

#### MANAGEMENT RECOMMENDATIONS:

Rapan is a relatively easy cave but does require knowledge of rigging and vertical skills. It appears to be relatively dry and not prone to filling with snow and ice. Its entrance slot and inactive nature give it good potential as an animal trap and paleontological respiratory. As with all the caves on Bald Mountain, Rapan Cave should be protected from development.



## LETTERS

Dear Chief Dombeck

This letter is a Notice of Appeal filed pursuant to 36 CFR part 217, objecting to the Record of Decision (ROD) for the Revised Land and Resource Management Plan for the Tongass National Forest, signed by Regional Forester Phil Janik on May 23, 1997. The Revised Forest Plan is based on Alternative 11 in the Final Environmental Impact Statement (FEIS), as modified in the ROD).

The Tongass Cave Project is a nonprofit project of the National Speleological Society. Our purpose is the exploration, study, and conservation of caves in southeast Alaska. For the last 10 years member of our group have assisted the Forest Service in understanding the magnitude and values of cave resources within the Tongass. Many exciting, now discoveries have already been made. For example, the deepest pit in the U.S., some of the most outstanding karst in the world, new species of cave adapted invertebrates, the oldest animal remains discovered in southeast Alaska that revolutionize the concept of how animals and people migrated into the Americas, and most recently, a very old archaeological site.

As part of our exploration and conservation activities many of us have been involved in the field in attempts at protecting these cave and karst resources from the impacts of timber harvest. Over the years, the Forest Service has become much more aware of these values, and has tried to lessen negative impacts known to occur when clear-cuts and roads occur over karst. A higher proportion of karst has been harvested in the past, due to high yields commonly occurring on well-drained karst (FEIS, Part 1, 3-84, Land and Resource Management Plan I-5).

The present guidelines do not have specific enough definition of how a given karst is rated, or how big the categorized areas are. The system is based on the judgement and whims of whoever is evaluating the terrain for timber harvest (usually one interested in timber harvest). It is likely that there is no way that these terrains can be categorized in writing. Examples of imprecise wording which leads to mismanagement are as follows:

Under Karst Resources definitions (Land and Resource Management Plan I-11): The "Epikarst" definition is vague in that it is not clear if this includes the soils.. The soils should be included as a critical part of epikarst.

Standards and Guidelines under definitions, (FEIS I-26): "Significant karst features". It should state that these features which have direct atmospheric and/or hydrologic connection can be any size. In other words, add "regardless of size" at the end of the first sentence. In the last sentence, clarify that these features do not have to be "primarily" stream resurgence and resurgence points, and cave entrances. In other words, add "closed depressions" and channels which have subsurface drainage" to the list of primary significant features in karst in the last sentence. The word "primarily" should be eliminated in the last sentence as unneeded.

In Section 4, under Significance/Inventory/Project Clearance, the nine resource components are imprecisely defined, and are subjective to those who happen to be judging their significance. For example, under biological, if one other cave in the world were to contain the same species found in the cave being evaluated, the cave could be interpreted as non-unique biologically, and therefore not significant in spite of its obvious importance worldwide. The hydrological significance is based on the words "unique" and "complex", which can be very subjective. The mineralogical resource is determined partly by its abundance, sensitivity, and uniqueness which are subjective. Under paleontological, the word "important" should be removed, since it is subjective. Under the cultural category, replace the words "if not managed" with "if not protected". Under the recreational category, remove the word "heavy" as subjective.

The most glaring, imprecise wording is in the sections of Standards and Guidelines which deal with assessment of the karst vulnerability in order to then apply management prescriptions:

Under Low Vulnerability Karstlands classification (Land and Resource Management Plan I-13) a) It states that this karst development is "limited". This word is subjective, And this type of karst may be every noticeable compared to other karst in other parts of the world. Also, the fact that glaciation has modified a karst should not lessen its significance. Remove the glaciation clause. b) It states that this type of karst is "relatively shallow". Again, this is subjective, and needs some measurements in feet or meters if you intend to include this definition. c) It states that this type of karst has solution features "which are not numerous". Numerous compared to what? Numbers are needed here. d) In this karst type, it says that soils are primarily mineral. I should state that muskeg may also be present. e) It states that no caves are present. How do they know this? It is likely that caves are present under any type of karst, since the water has to go somewhere underground, and caves form by acidic water. There may not be any easily noticeable entrances to those preparing these areas for timber harvest. In the low vulnerability manage-



ments objectives, it says that timber harvest and related activities could be conducted in such areas. The karstic topography is an indication of subsurface drainage and cave networks along with their various resources which can be easily disturbed. "To fully protect the cave resource, the caves and their karst landscapes need to be managed as an ecological unit" (FEIS, 3-82). Therefore, we request that no timber harvest or road building occur atop low vulnerability karst, and the recharge areas be managed so as to prevent sediment washing into these karst areas.

Moderate Vulnerability Karstlands (Land and Resource Management Plan I-14): under the classification a) It says that this type of karst is moderately well developed. Compared to what? How can we define it? b) Epikarst is up to eight feet in depth. What is epikarst, and from where is this measurement taken? The high side of closed depressions, or the low side? The exposed rock faces, or the soil? One feature, or more than one? c) solution features are present but not numerous. What is the definition of "numerous"? d) it states that the soil would not be transported beyond the rooting depth of young conifers. This is very vague, as it does not specify how much of the soil, what the rooting depth is, and how old young conifers are. e) No caves are present. How do we know that no caves are there? The fact that karst in any form is present would indicate that caves are present, since there is underground drainage. h) There is apparently a mistake here. Change the word from "low" to "medium" vulnerability. Under management objectives for medium-vulnerability karst, the section is full of words which allow the management to disregard the karst in their timber harvest activities if they so choose. These words are: Line 2 and 3, "could be". Line 5, "may be required". Line 6, "may be appropriate" Line 7, "may be required". Line 8, "to the extent feasible". Line 9, "should not". Line 13, "may be required", "may relate". Line 16, "should be". As with the low -vulnerability karst, no attempt is made at describing how big these areas are. Under (a) It gives a minimal buffer of 100 feet from the edge of significant features, but only if they are proven to contribute water to class I or II streams or contribute water to a significant cave. This summer on Heceta Island, preliminary studies have not been done, and timber harvest begun on areas overlying significant caves (personal communication, David Love, Steve Lewis, and Connie LaPerriere). This paragraph supplies a loophole whereby the Forest Service can proceed blindly with timber harvest without the necessary evaluation. The minimal 100-foot buffers were measured this summer from the center of the karst features, rather than the edges (personal communication, Steve Lewis) Under (c), we have seven years of experience working with these small buffers, and having them blow down. I can not think of one single buffer placed around entrances and features that has not failed to either completely, or partially, with serious impacts to the drainage into the features and caves. It is disheartening to see no improvements in the harvest activities on karst in the Tongass National Forest. Therefore, as per the Federal Cave Resources Protection Act, we recommend that no further timber harvest activities occur on any karst in the Tongass National Forest.

High-Vulnerability Karst (Land and Resource Management Plan I-1-15): Under the classification a) It says that this type of karst is extremely well developed. This is subjective. Well developed compared to what? b) How is the epikarst measured as in moderate vulnerability. c) What is the definition of "numerous" karst features? d) How deep are shallow soils? The words "may be" in the second sentence are vague. Again, the "rooting depth" and age of "young conifers" is not specified. It is stated that soils would rapidly be transported to the lateral karst conduits at depth. What is the definition of "rapidly"? e) "Caves may be present?" should read "cave entrances may or may not be present". Under Karst Management Objectives on page I-16, it says that Karst found to be of "unquestionably" highvulnerability shall be identified and removed from the commercial forest lands suitable land base. The word "unquestionably" should be removed, and all karst removed from the commercial lands suitable land base. In the section called "catchment Area Management", there are several "if" words which ,must be changed: Line 7, "should be". Line 8,9, "should be", Line 10, "should".

Finally, as another critical problem with the Plan, other types of timber harvest are allowed on High-Vulnerability karst; the "unprogrammed" types such as personal use, etc. (Land and Resource Management Plan 4-19). This is another loophole that must be eliminated from the Plan.

Summary: As a result of the seemingly impossibility of exact definition of various types of karst in the Management Plan, the caves continue to be severely impacted by logging and roadbuilding activities where similar guidelines are being implemented in the Ketchikan Area. The Tongass Cave Project requests that all karst within the Tongass National Forest be removed from any timber harvest base, and that no further road building activities occur on the karst. Recharge areas should be managed in such a way as to prevent sediments from washing into the karst. This may require extensive buffers (a minimum of two tree lengths) along the boundaries of the karst areas and along the stream corridors leading to karst. Further studies must be done to study the areas of karst previously harvested, and any damaged soils and other resources. This might help determine if further protection is needed in the non-carbonate recharge areas.

Sincerely, Kevin Allred, TCP Director

# The Devil's Own

by R. R. Knotts

*Story to date: The author (storyteller) accompanied M'Lord Dawson on a quest to find a an underground route to foreign lands. The party of 30 progressed for days through underground passages with and without decorations until they reached a precipice that could only be the entry to Hell. The storyteller is selected to enter the unknown and tied to a rope that is lowered into an abyss. After the long drop, he hears the rope drop next to him and realizes that he has been deserted by the team on top. He is totally alone.*

My torch had burned a quarter of the way through when I finally roused myself from the fit of melancholy and proceeded to look around. At first I thought to scale the sheer walls of my prison, and thereby put myself on top, but soon abandoned that as futile. The only other remaining egress was one tiny slot in the corner of the pit, scarcely wide enough to accept my body while turned to one side.

I squeezed myself into the fissure, holding the torch out in front, and proceeded to move snakelike down the narrow corridor. Certainly it must have been the Devil's own path, for who but a serpent could navigate in such a space? The trail trended ever downward, never up, and even though it soon broadened into a sizable tunnel I found myself trembling for fear of meeting one of Satan's spawn.

When I first heard the voices I thought them a figment of my imagination. Who else could be in these dark passages, except by accident, or one of the Devil's own? But then I heard them again and knew it was no wishful thinking, but a thing real and true, quite possible M'Lord's fabled land for the accent was strange and many of the words unfamiliar.

"OFF ROPE!" A loud voice proclaimed. A fainter voice answered, whose words I heard not, only that they were there. Then a light so bright as to be that of a wizard flashed before me and I knew I was saved. No demons can exist in so brilliant a light as can only be produced by the Almighty Himself, even small children knew that, and I was nearly 15 at the time. I scrambled down the passage to catch the bearer of such a light, running head-on into the most amazing person.

He was clothed head to toe in shimmering yellow fabric. I fit almost like tights, only looser, a single piece garment that was like a robe with legs cut into it instead of a skirt. Around his waist was a belt of gleaming weapons like none I had ever seen. It had shiny metal devices clipped hither and yon, connected by yards of bright-colored ribbons and matching cord, but the light mounted on his helmet was how I knew he must be an angel of God. It was a beam such as one reads about in the accounts of the Second Coming, so brilliant and pure, white like the soul of an infant, piercing the darkness like God's own word.

"Bloody Hell!" The angel said when he first saw me. "How'd you get down here"?

So I told him of M'Lord's expedition beneath the Earth, of finding the river, and then my own misfortune. He shook his head in disbelief.

"Looks like we've got a bit o' company, mate!" he shouted to an unseen companion. That's when I first noticed the rope dangling from above.

It danced and jerked like an a live creature, and when my eyes followed its course heavenward, I saw the second angel sliding down its length. I noticed then, too, that the shiny devices were tools, not weapons; tools to aid in the descent of a rope. So finely crafted and precise, they were certainly not made by human hands. I was overwhelmed to be in such divine company and could scarce keep my knees from folding in homage.

His companion also greeted me in disbelief, after signaling the heavens the same "OFF ROPE!" message as before. I realized that their signals were some holy ritual, undoubtedly practiced by angels and other lesser minions of the Divine.

"So what", the second angel asked me. "Are you into some kind of speleo-anachronism, or something?" His brilliant light blinded me as he peered into my face. And so I shared my tale yet a second time, sparing no details, perhaps why I am able to remember so clearly in these my waneing years.

He too, did hardly believe me, and so instructed me to lead them to the pit. Which I did, retracing my steps through the Devil's constriction until we stood at the pile of abandoned rope.

**Continued on page 10**

"You came down that, on bloody sisal?" The angels shared a look that chilled my bones. Perhaps sisal was unholy ordinance, practiced only by Satan and other evil beings. How could I have known, not practicing much religion during that time of my life? "Can you spare me, oh holy ones?" I pleaded for my very life, knowing full well only they alone could save me from the pits of Hell. They shook their heads in the manner of priests administering last rites to a nonbeliever; again the chill coursed through my bones.

"Not bloody likely," the first angel admonished, his face the texture of stone. "I reckon that's about the stupidest stunt I've ever heard of, dropping a pit like this on braided-sisal twine. You're damn lucky to be alive".

With that I had nothing but agreement, and told them so. Their stony looks never softened, but I knew, eternal damnation would wait another day. They shined their heavenly lights around the chamber, spotting yet another passage that had escaped my feeble torch unawares, and we began ascending together single file, myself in the middle position. We were nearing what I thought must have been the top of the precipice when the lead angel turned to me.

"Bollocks", he said. "This passage's damn tight". He squeezed himself into a small depression along the side, handing me one of his tiny magical torches and he did.

"Go ahead and push this lead a bit, lad", he instructed. "See if it goes anywhere before we wedge our fat arses in there".

I did as he instructed, so amazed at the magic torch I could scarcely walk. It was just a tiny cylinder of metal, and yet it glowed brighter on one end than any normal torch I had ever seen, and produced no heat, save that of

my sweating palms. I squeezed through the narrow crack above us, coming out in a jumble of boulders strewn across the floor of the Spartan passage that I remembered as being just before the pit of my intended doom.

As I stepped onto the floor level of the larger passage my foot rolled a huge boulder into the crack, plugging it forever. Of the angels there was no more sign, not a breath, not a sound, not a flicker of light, save that of the magic torch in my hand. This I contributed to their holy mission being accomplished, even the rolling boulder being of their design, the better to block Satan's spawn from coming into our realm.

I rushed to join my companions, eager to share the news of being spared by divine intervention, only to find the main passage blocked by a wall of hanging blankets. I ripped the blankets aside, moving toward the precipice. As I did this a discarded torch smoldering on the ground burst suddenly into flame, a fact I realized later must have been Satan himself trying to spirit me away.

M'Lord and the members of his party lay about the floor in disarray, sleeping, though nary a breath escaped their lips. Their faces were blue, as if from choking, and yet no marks were about their necks. It was the Devil's work, of that I was certain and I fled the place as if Lucifer himself were nipping my tail.

The magic torch had nearly spent its powers by the time the river junction drew nigh. Off in the distance I could see the smoke flames of several pitch-bound torches, and I broke into a joyous sprint at the sight of them, falling to my face on the rubble scattered across the floor next to the river, dropping the magical torch and watching it sink into the depths of the murky water.

It was no matter, I was saved.

---

# Dues are Due

Annual dues are

- \$15 for a single membership
- \$20 for a family membership
- \$20 for Institutional subscriptions

The Alaskan Caver is included in the membership fee.

For an additional \$8 six Cavers will be sent by airmail to overseas' addresses.

Send dues to:

Connie LaPerriere,  
PO Box 9062  
Ketchikan, AK 99901

Connie can also answer any questions regarding membership, dues and payment.

Please pay as soon as possible.

# A# MINOR CAVE

Heceta Island, Alaska • Preliminary Report #284

Cave # 10-5-4-278

Tongass Cave Project • National Speleological Society

by Steve Lewis  
February 28, 1998

## DESCRIPTION:

A# Minor Cave is located on the slopes below Vive Silva Cave, just above the current logging roads. It is a short cave of 27.68 meter (90.8 feet) in length and is 15.23 meters (50.0 feet) deep. Its entrance is in one of the numerous large sinks on this ridge. A steep roped descent of about 20 meters (65.6 feet) brings one to a wide stoopway. Just above the bottom of the well a bed of crinoid fossils adds interest to the pit wall. The stoopway branches into several tubes, all too tight for human entry.

## BIOLOGY:

No biological survey was made.

## GEOLOGY:

The well exposed crinoid fossils were of interest.

## MANAGEMENT

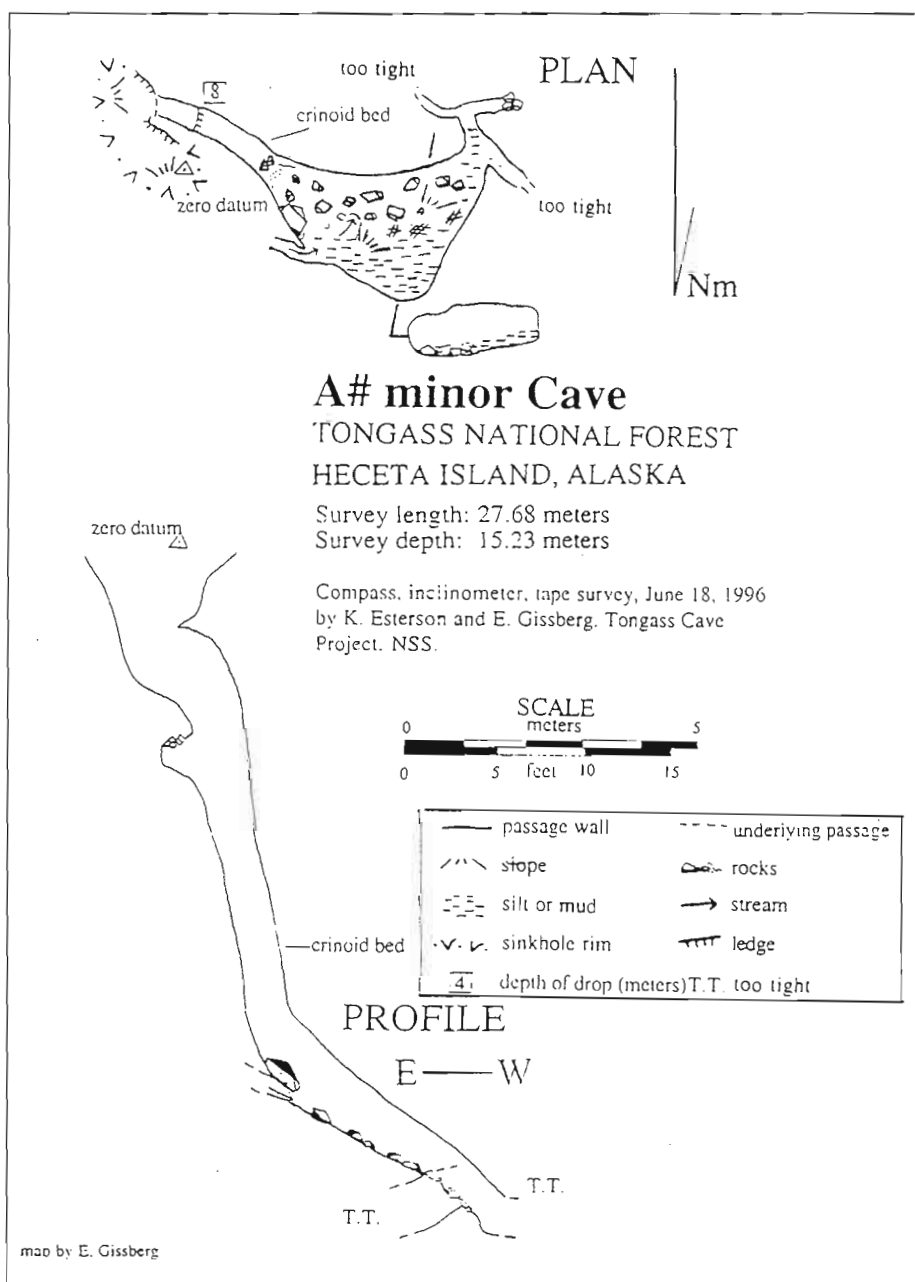
### RECOMMENDATIONS:

This cave is safe for the beginning vertical caver as it has good tree anchors. The bed of crinoid fossils offers more of interest than is found in many of the short vertical caves found in the Tongass.

The cave is in an area of intense karst. Its upslope neighbor, Vive Silva Cave, currently the deepest in the state, has been documented to drain to the Warm Chuck resurgence, main drain for the huge block of karst which also contains Sinuous System, Arabica, and Icy Fate caves, as well as many of the caves and karst on Timber Knob and Bald Mountain. It is virtually a certainty that any water entering A# Minor Cave also drains to Warm Chuck.

No further timber harvest or other disruptive management activities should occur within this block of

highly developed and highly vulnerable karst. Research into the drainage patterns of this system and the disruptions caused by past and current management should be continued. Further exploration will yield many more caves.



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## SINUOUS SYSTEM

Heceta Island, Alaska • Preliminary Report #132

Cave #10-5-4-176

Tongass Cave Project • National Speleological Society

by Steve Lewis  
February 28, 1998

### DESCRIPTION:

Sinuous System was discovered by the Blue Ribbon Panel Karst Team in 1993. It drains a small fen and is surrounded by a large clear-cut and the road wraps around the lower sides of it. Nevertheless, the entrance is very beautiful, with grass and sedge covered slopes and small trees surrounding a spectacular dark gray limestone slot that takes a small stream. It also occasionally takes small deer, as the first teams discovered to the dismay of their noses. The cave was pushed to a burping sump in 1997, but the attached map only shows survey through 1996. As of 1996, the cave contained 240.33 meters (788.5 feet) of surveyed passage and was 138 meters (452.8 feet) deep.

After passing the initial drop and smelly deer carcass, the first explorers found themselves in a narrow but very high canyon passage which occasionally shrank as it passed through such places as the Suicidal Squeeze. The cave is tight, vertical, and frequently awkward, with bolting required in a number of places. Although active hydrologically, the cave does not appear to flood and thus there are numerous stal, soda straws, and moonmilk formations above the streamway. There is also bat guano in some of the upper passageway.

Dye traces showed that Sinuous System drains to Warm Chuck Inlet, with the waters passing below the drainage basin between Sinuous and the Arabica Valley.

### MANAGEMENT RECOMMENDATIONS:

This cave is beautiful but difficult, requiring excellent vertical skills and many hundreds of meters of rope. It is recommended as a wonderful recreational experience for the adequately prepared vertical caver. However, the cave is difficult, with several very awkward squeezes on rope.

The area around Sinuous is relatively unexplored for karst because of the recent heavy logging harvest. Nevertheless, it is certainly in an area of intense karst development. Dye traces have documented it to drain to the Warm Chuck Resurgence, main drain for the huge block of karst which also contains Arabica, Vive Silva and Ice Fate caves, as well as many of the caves and karst on Timber Knob and Bald Mountain.

No further timber harvest or other disruptive management activities should occur within this block of highly developed and highly vulnerable karst. Research into the drainage patterns of this system and the disruptions caused by past and current management should be continued. Further exploration will yield many more caves.

Although sumped in 1997, it is possible that a reasonably dry summer might allow cavers to push beyond the current limits of exploration.

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## SIBERIAN SWORD CAVE

THE MAP WAS PRINTED IN THE AUGUST 1997 ISSUE

DESCRIPTION: Siberian Sword Cave has several entrances that pass through large blocks of frost shattered rock. Five meters (16.4 feet) higher a vertical shaft opens to the surface. From the edge of this pit, it is 43 meters (141.1 feet) down to a floor of breakdown and ice. Several unsurveyed high leads still beckon. Several parallel pits drop into this chamber. A side lead at about -30 meters takes one to the top of a spectacular drop of nearly 110 meters (360.8 feet). Water enters this drop at about -90 meters (295.3 feet), from a too-tight side passage 60 meters (196.8 feet) down the drop. This water continues flowing along the walls and then the floor of the tall narrow canyon at the bottom of the drop. This slopes down too what was an impassable sump at the time of exploration, the current low point in the cave. Two small leads high above the sump remain unexplored.

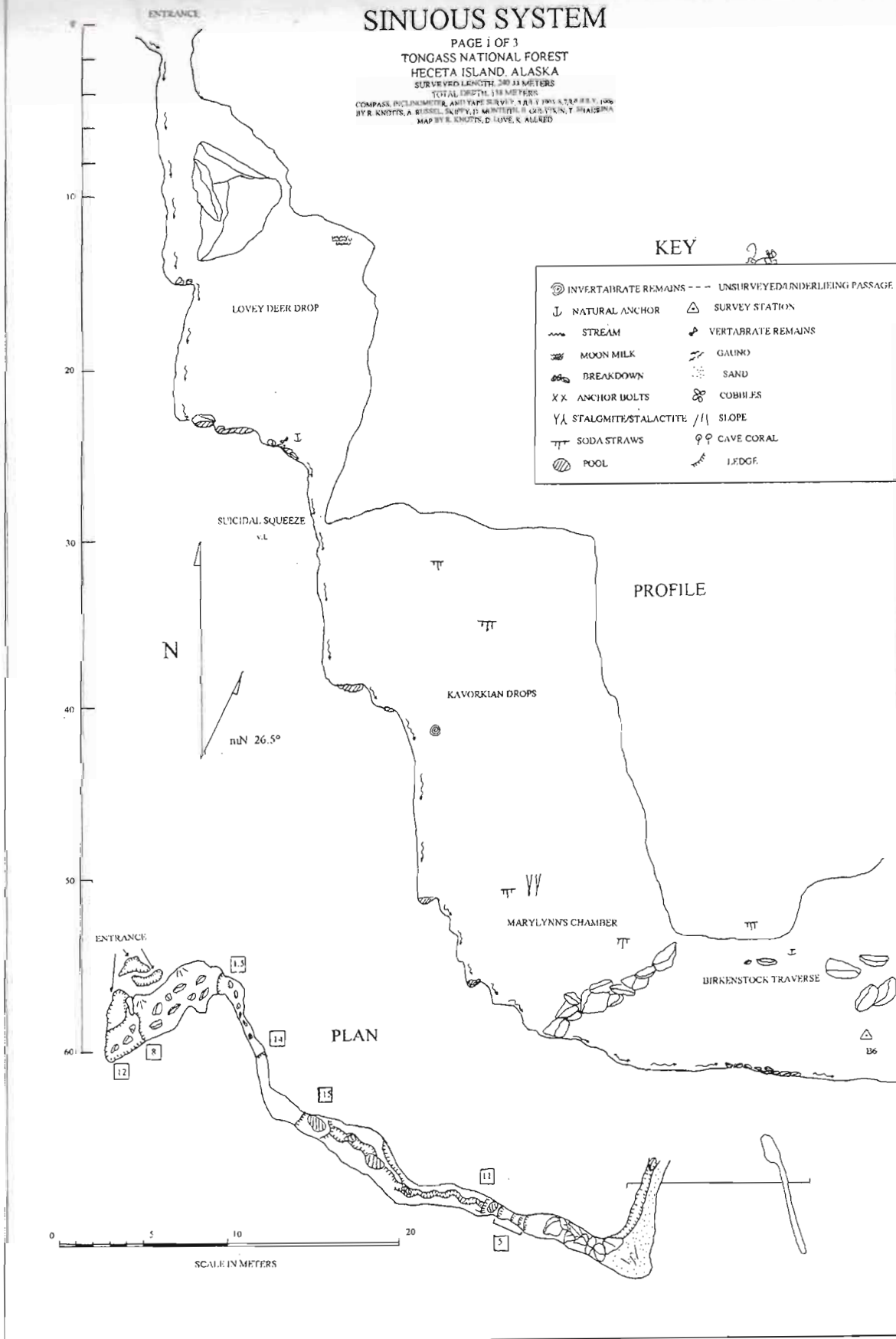
Unlike many of the deep caves on Bald Mountain, no ice was encountered in Siberian Sword. No biota or speleothems were noted during this long and arduous survey and rigging trip. There was not enough time to do an extensive biological survey.

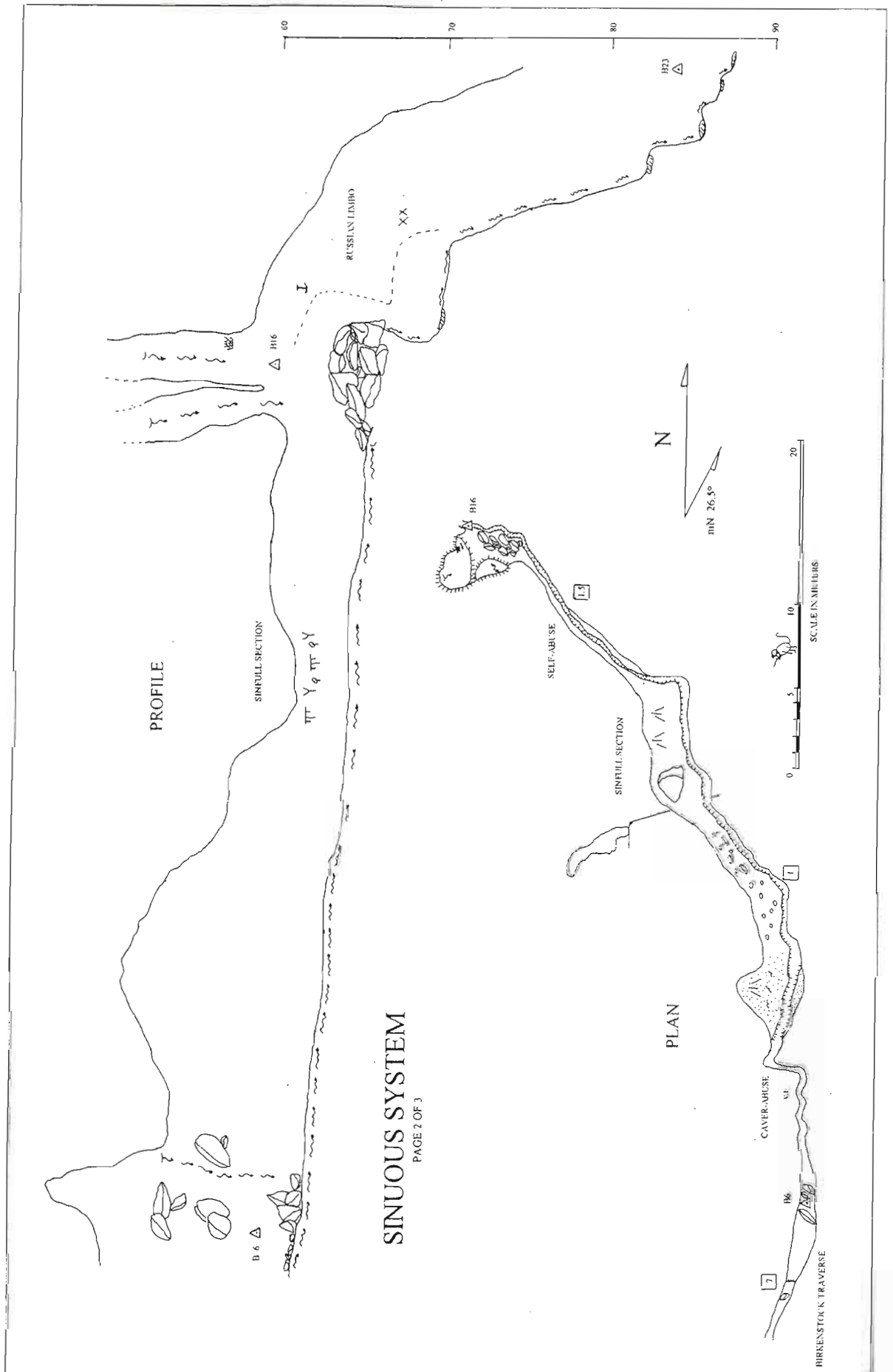
### MANAGEMENT RECOMMENDATIONS

This cave requires great vertical skills and a great amount of rope. A dryer season or more time to push alternative leads could push this cave to much greater depth. This cave offers great potential for dye tracing work because of its active stream. All the caves on Bald Mountain should be protected from development. Such protection should include the potential drains for these caves in the forested areas on the lower slopes of the mountains. Dye tracing may provide some intriguing clues about where the waters of Bald Mountain drain.

# SINUOUS SYSTEM

PAGE 1 OF 3  
 TONGASS NATIONAL FOREST  
 HECETA ISLAND, ALASKA  
 SURVEYED LENGTH 240.33 METERS  
 TOTAL DEPTH 138 METERS  
 COMPASS, PULSOMETER, AND TAPE SURVEY, JAN. 1 1965, STR. 88.5, 1006  
 BY R. KNIGHTS, A. RUSSEL, S. P. V. 13, M. W. T. 11, G. D. V. 11, T. 11, 11, 11  
 MAP BY R. KNIGHTS, D. LOVE, K. ALFRED



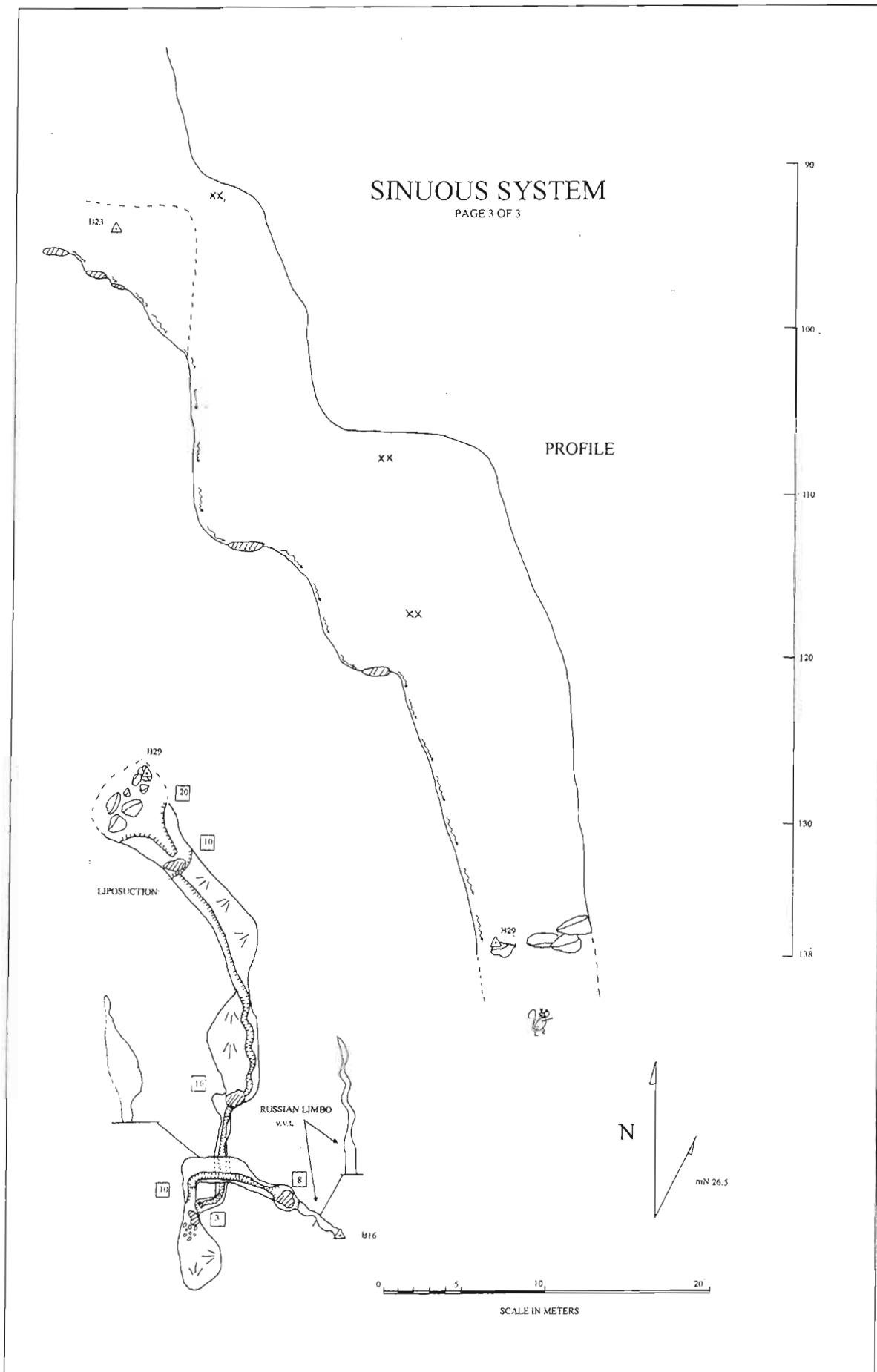


SINUOUS SYSTEM

PAGE 2 OF 3

# SINUOUS SYSTEM

PAGE 3 OF 3



41107 818 JAN 07/75



## GLACIER GROTTO MEMBERSHIP LIST

Please notify the Secretary of any errors in address or telephone numbers  
and changes when they occur

<u>Name</u>	<u>Address</u>	<u>Pd</u>	<u>NSS#</u>	<u>Home Tel.</u>	<u>Work Tel</u>
Allred, Carlene B	PO Box 376, Haines AK 99827	97	16389FE		
Allred, Ella	PO Box 376, Haines AK 99827	97			
Allred, Flint	PO Box 376, Haines AK 99827	97			
Allred, Forest	PO Box 376, Haines AK 99827	97			
Allred, Kevin	PO Box 376, Haines, AK 99827	97	16730FE		
Allred, Soren	PO Box 376, Haines AK 99827	97			
Baichtal, Bessie M	131 Lakeview Dr., Silver Lake WA 98645	97		(206)274-6971	
Baichtal, J.B.	131 Lakeview Dr., Silver Lake, WA 98645	97		(206)274-6971	
Baichtal, James F	PO Box 1222, Craig AK 99921	97	33277RE	(907)826-CAVE	(907)225-3101
Bowers, Wm. Harvey	305 S. Bartlett Cir, Wasilla AK 99654	97	12088RE	(907)376-2294	(907)373-2294
Branson, Peter	PO Box 2073, Wrangell AK 99929	97	36514RE	Message =	(907)874-3291
Burger, Raymond A	PO Box 672349, Chugiak AK 99567	97	30656RE	(907)688-3835	
Carlson, Kent R	1155 King St, Christiansburg VA 24073	98	30124RE	(703)382-3523	(703)231-4825
Clark, Robert C	338 Toledo Vader Rd, Toledo WA 98591-9710	97		(206)864-2055	
Eddy, Dave	PO Box 6217, Fort Hood TX 76544-6217	97N	11830RE	(817)699-6451	(817)287-9101
Esterson, Kris	PO Box 75125, Fairbanks AK 99775	98N	32255AS	(907)474-0369	
Fergusen, Dr. Jim	PO Box 20908, Juneau AK 99802	97	15023RE	(907)463-2690	(907)465-5365
Fifield, Cheryl	PO Box 1012, Craig, AK 99921	97			
Fifield, Terry	PO Box 1012, Craig, AK 99921	97			
Fouts, T.D.	PO Box 5671, Ketchikan AK 99901	97		(907)247-7557	
Fouts, Judy	PO Box 5671, Ketchikan AK 99901	97		(907)247-7557	
Fouts, Tom Jr.	PO Box 5671, Ketchikan AK 99901	97		(907)247-7557	
Hain, Scott	3873 Airport Way #420, Bellingham WA 98226	97			
Hall, Elisabeth S	7040 Gibbs Hill Cir, Anchorage AK 99504	97	16557FR	(907)333-2090	
Hall, James Allen	7040 Gibbs Hill Cir, Anchorage, AK 99504	97	29632FA	(907)333-2090	
Hall, Matthew Thomas	7040 Gibbs Hill Cir, Anchorage, AK 99504	97	22131FA	(907)333-2090	
Hall, Michael Ian	7040 Gibbs Hill Cir, Anchorage, AK 99504	97	24151FA	(907)333-2090	
Hall Richard Allen	7040 Gibbs Hill Cir, Anchorage AK 99504	97	16556RE	(907)333-2090	(907)257-1377
Halliday, Dr. William R	6530 Cornwall Ct, Nashville TN 37205	97N	812LHCF	(615)352-9204	(703)430-4826
Hallinan, Dr. Thomas J	1617 Wolverine Ln, Fairbanks AK 99709-6628	97	06329RL	(907)479-6064	(907)474-7454
Hallinan, Nancy C	1617 Wolverine Ln, Fairbanks AK 99709-6628	97	6367FL	(907)479-6064	
Hallinan, Peter	1617 Wolverine Ln, Fairbanks AK 99709-6628	97		(907)479-6064	
Heaton, Amy	216 N Willow St, Vermillion SD 57069	97		(605)624-9179	
Heaton, Christie	216 N Willow St, Vermillion SD 57069	97		(605)624-9179	
Heaton, Holly	216 N Willow St, Vermillion SD 57069	97		(605)624-9179	
Heaton, Julia	216 N Willow St, Vermillion SD 57069	97		(605)624-9179	
Heaton, Dr. Timothy H	USD 414 E Clark, Vermillion SD 57069-2390	97	15753RE	(605)624-9179	(605)677-6122
Herd, Paul C	22 Beach, Port Protection AK 99950	97		(907)276-0138	
Jansen, Barb	7814 Ramar Circle, Anchorage AK 99950	97			
Jansen, John F	7814 Ramar Circle, Anchorage AK 99950	97	4040RE	(907)344-4402	
Kemp, Molly	PO Box 571, Tenakee Springs AK 99841	97	38273FR	(907)736-2234	
Keeling, Ken	1770NW 17th St, Corvallis OR 97869-0038	97			
Klinger, Col. David M	PO Box 537, Leavenworth WA 98826	98	10583RE	(509)548-5480	(509)548-5480
Knotts, Rob R	PO Box 38, Prairie City OR 97869-0038	97	38660RE	(907)826-3551	(907)826-3551
Kotlarov	507 Cedar, Ketchikan AK 99901	97			
Lane, Doranne M	40 Hidden Brook Ln, Signal Mt. TN 37377-2063	98N	17389SU	(615)886-6219	
Lane, Kelsey M	40 Hidden Brook Ln, Signal Mt. TN 37377-2063	98N	35816	(615)886-6219	
Lane, Micha M	40 Hidden Brook Ln, Signal Mt. TN 37377-2063	98N	32392	(615)886-6219	
Lane, Wm. C "Buddy"	40 Hidden Brook Ln, Signal Mt. TN 37377-2063	98N	12054LF	(615)886-6219	(615)867-2846
LaPerriere, Connie	PO Box 9062, Ketchikan AK 99901-4062	98	37712FR	(907)225-4094	(907)225-4814

LaPerriere, Marcel	PO Box 9062, Ketchikan AK 99901-4062	98	36057RE	(907)225-4094	(907)225-4814
LaPerriere, Zach	PO Box 9062, Ketchikan AK 99901-4062	98		(907)225-4094	
Lewis, Steve	212 Observatory St, Sitka AK 99835	97	30022RE	(907)747-7471	(907)747-7471
Love, David	PO Box 210745, Auke Bay AK 99821	97	38145RE		(907)789-6603
Lunde, Eric	PO Box 8972, Ketchikan AK 99901-4972	97			
Morton, Bruce R, Jr.	24618 Wilma Circle, Eagle River AK 99577	97	3202RL	(907)694-9112	(907)694-9112
Murray, Alan J	57 Main St Suite. 209, Ketchikan, AK 99901	97	37330RL	(907)225-7453	(907)225-7453
Myron, Rachel	202 Observatory St, Sitka AK 99835	97		(907)747-7471	
Olmsted, Nick	PO Box 571, Tenakee Springs AK 99841	97	38272RE	(907)736-2234	
Olson, Dr. Wallace M	PO Box 210961, Auke Bay AK 99821-0961	97		(907)789-3311	(907)789-4420
Olson, Marie M	PO Box 210961, Auke Bay AK 99821-0961	97		(907)789-3311	
Pease, Maj. C.R.	POBox 10130, Prescott AZ 86304-0730	97N	4847FL	(602)778-3351	
Perrigo, Dalene T	1921 Congress Ci r #B, Anchorage AK 99507	97	39613RE	(907)344-3290	(907)522-1096
Perrigo, Lyle D	1921 Congress Ci r #B, Anchorage AK 99507	97	39514FR	(907)344-3290	(907)522-1096
Redelfs, John W	PO Box 7782, Ketchikan AK 99901	97			
Rockwell, Dr. Julius, Jr	2944 Emory St, Anchorage, AK 99508-4466	98	11308RF	(907)277-7150	(907)277-7150
Rockwell, Elizabeth A	2944 Emory St, Anchorage AK 99508-4466	98	15232FR	(907)277-7150	(907)277-7150
Russell, Amy	PO Box 19106, Thorne Bay AK 99919	98		(907)828-3426	(907)828-3304
Sandhofer, Paul F	PO Box 91333, Anchorage AK 99509	97	35938RE	(907)344-3259	
Sattler, Dr. Robert A.	PO Box 80466, Fairbanks AK 99708	97	27469RE	(907)479-9561	(907)474-7818
Sharp	507 Cedar, Ketchikan AK 99901	97			
Simon, Dillon	14 Bodmin Cresent, Brinnington Stockport, Eng.	97			
Smith, Dr. G. Warren	251 Matrby Ave., Slippery Rock PA	97	5601RL		
Smith, Pete	PO Box WWP, Ketchikan AK 99950-0280	97	33979RE	(907)846-5223	(907)846-5223
Sonnenberg, Gary	1377 Pond Reef Rd, Ketchikan AK 99901	98	33648RE	(907)247-1559	(907)225-3103
Stratman, Joseph	PO Box 1736, Petersburg Ak 99833	97		(907)772-4375	
Tierney, Patrick J.S.	PO Box 19484, Thorne Bay AK 99919	97	33898RE	(907)828-3992	(907)828-3304
Tierney, Ginny L	PO Box 19484, Thorne Bay AK 99919	97	33899FR	(907)828-3992	
USDA Forest Service	Federal Building, Ketchikan AK 99901	97			
Valentine, David .	11976 N. Tongass, Ketchikan AK 99901	98			
Van Note, Michael	PO Box 26, Haines AK 99827	97	14174RE		
Vann, Cynthia G	PO Box 10130, Prescott AZ 86304-0730	97N	14713FL	(602)778-3351	
Vis, William B	Langmore 35 S Main St #2S, Mullica Hill NJ 08062	98N	34340RE	(908)721-1850	
Wood, Dr. William R	66-10th Avenue #305, Fairbanks AK 99707	97			
Wood, Dorothy Jane	66-10th Avenue #305, Fairbanks AK 99707	97			
Wooley, Chris B	2073 Dimond Drive	97		(907)563-3202	

KEY: Pd = Year through which membership has been paid.

PdN = member owes primary allegiance to another Grotto.)

NSS # = NSS membership number; status with NSS is indicated by letters;  
i.e., no letters means NSS membership has lapsed.

SUMMARY: Total membership = 86; total NSS members = 49; NSS members with primary affiliation to Glacier Grotto = 33 as of December 31, 1997

Continued from page 3

concur with the Tongass Cave Project that no harvest should occur on karst within the Tongass until a number of goals (outlined above) are met.

Thanks again for the chance to intervene.

We hope that these comments and additional documentation are useful.

Sincerely,

Stephen W. Lewis

# RUSSIAN CANYON CAVE

Prince of Wales Island, AK • Preliminary Report #205

Cave #10-5-4-234

Tongass Cave Project • National Speleological Society

by Eron Gissberg  
July 22, 1996

## DESCRIPTION:

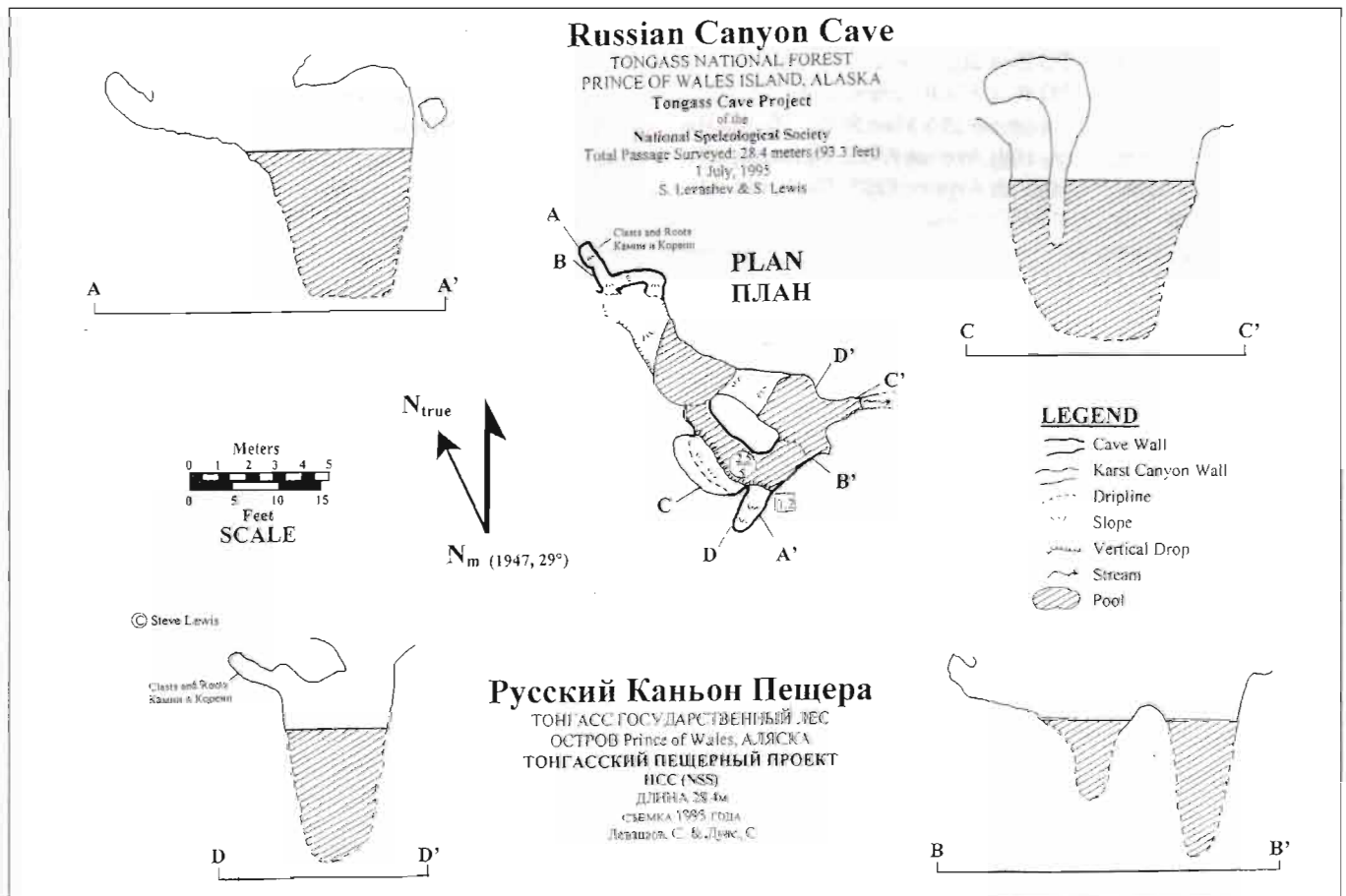
Russian Canyon Cave was discovered and surveyed by Steve Lewis and Sergeui Levachev on July 1, 1995. It is an active resurgence at the head of a karst canyon. The most obvious feature of the cave is its deep pool in a vadose-type canyon. There is no handline required to gain entry into the cave but one should use caution on the short down climb unless getting very wet is not a problem. The cave has two skylights and looking down them on a bright day the bottom of the pool can not be seen.

There are nearly 30 meters of passage surveyed with more possible leads below the water surface. At the time of the survey there had been very little precipitation for over a week. It is likely that the water level in the cave

could rise sufficiently during heavy rains to make a dry entry into the eastern end of the cave impossible.

## MANAGEMENT RECOMMENDATIONS

The large deep pool in Russian Canyon Cave is excellent habitat for aquatic invertebrates. The cave is part of a much larger hydrologic system. Its resurgence flows into a large karst canyon. Dye tracing should be done to determine the source of water in Russian Canyon. It is likely that much larger passage exists beneath the pool. The cave entrance is located in a very scenic, well developed karst. The old growth forest surrounding this cave should be protected in order that the biologic and hydrologic balance be maintained.





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# MISCELLANEOUS

## Glacier Grotto Financial Report as of 12/31/97

**Opening Balance** \$ 2163.72

### Income

Donation from the Society of American Foresters \$ 143.00

Dues \$ 633.00

T-Shirts \$ 150.00

Total \_\_\_\_\_  
\$ 926.00

### Expenses

Purchase T-shirts \$ 814.21

Postage \$ 29.18

Bank Service Charges \$ 10.69

Total \_\_\_\_\_  
\$ 853.08

**Ending Balance** \$2237.14

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### The Alaskan Caver

1921 Congress Circle, Apt. B  
Anchorage, AK 99507

Forwarding and Return Postage guaranteed  
Address Correction Requested



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1997  
LOVE, DAVID  
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AUK BAY AK 99821