

October 1997

## Alaskan Caver, Volume 17, No. 5, October 1997

Dalene T. Perrigo

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# The Alaskan Caver

Volume 17 Number 5

October 1998



# The Alaskan Caver

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Dalene T. Perrigo - Editor

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Cover Drawing: Two hauls were combined into one for the climb to Blowing in the Wind Cave. by Carlene Allred

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*The road system in Tongass National Forest continues to grow. This is one of the older roads on Prince of Wales Island.*

## CALENDAR

**February 9-13, 1998.....**Western Bat Working Group Workshop, Reno, NV. Charlene Vullo 208/736-2369 or FAX 208/736-2375.

**Aug. 3-7, 1998.....**NSS Convention, Sewanee, TN. Wm. Shrewsbury, PO Box 4444, Chattanooga, TN 37405-0444. 423/886-3296; nss98@caves.org.

**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.

## THE TONGASS CAVE PROJECT

*An Advocate for Karst Ecosystem Protection in Southeast Alaska*

by Steven W. Lewis, Tongass Cave Project and USDA, Forest Service, Thorne Bay RD

The Tongass Cave Project (TCP), an official project of the National Speleological Society established in 1991, engages in the discovery, exploration, survey, conservation, and study of the karst and caves of Southeast Alaska. As advocates for karst ecosystem protection on the Tongass National Forest, cavers with TCP have volunteered well over 40,000 hours on the Ketchikan Area during the past decade. Over 500 caves have been located throughout the Tongass and over 300 caves have now been surveyed and mapped.

Karst Standards and Guidelines have been developed and implemented on the Ketchikan Area of the Tongass National Forest. Are these Standards and Guidelines effective? To test this, TCP cavers examined Sawfly Salvage Sale timber harvest units on Heceta Island during 1997. They noted serious problems with implementation of the guidelines. As currently designed, this timber sale will have deleterious effects on the unique Heceta Island karst ecosystem.

I discuss the history of the Tongass Cave Project. I describe the Heceta Sawfly Sale and outline steps necessary for the Forest Service to establish effective karst ecosystem protection and to regain the trust of TCP cavers.

### Introduction

The Tongass Cave Project (TCP) is an official project of the National Speleological Society (NSS). Established in 1991, the goals of the TCP are to support and engage in the discovery, exploration, survey, conservation, and study of the karst and caves of Southeast Alaska.

Cavers have volunteered approximately 40,000 hours with the TCP (and before 1991 with the Glacier Grotto), part-

*Continued on page 2*

### PRESIDENT'S CORNER

In the last issue I said we would publish the recommended, changes to karst management that were about to be given to the Forest Service. Almost as soon as I said that, I received the report and immediately saw that it would take several issues of the Caver to get all of it published. All who wrote letters to the Forest Service, plus a number of others, have received their packets. The

*Continued on page 6*

icipating in the annual month-long expeditions as well as in many shorter expeditions since 1987. The US Forest Service has assisted many of these expeditions by providing logistic support under cooperative cost-share agreements. Over 500 caves have been located throughout the Tongass and over 300 caves have now been surveyed and mapped. Most importantly, with pressure from the TCP, Forest Service staff now consider caves and karst in management plans. Prior to 1988 caves and karst received no consideration.

A core group of Alaskan cavers has participated in these expeditions since the very beginning. Participants have also come from other parts of the United States, as well as Russia, Japan, England, Canada, Czechoslovakia, and New Zealand; some returning for several expeditions. TCP cavers have engaged in exchange trips with Russian, New Zealand, and Canadian cavers and other exchanges are in the works.

### **History of the Tongass Cave Project**

The foundation for the Tongass Cave Project was laid about 187 million years ago when the Alexander Terrane ended its journey from somewhere near present day Australia, colliding with the coast of North America (Aley et al. 1993). Although a few cavers had noted its potential, the caves and spectacular karst topography located within this terrane were virtually unexplored and unappreciated until 1987. This was the year Kevin and Carlene Allred first visited northern Prince of Wales Island. Alternating baby-sitting duties with caving, they discovered and began mapping several spectacular caves including "El Capitan" and "Starlight".

Kevin made contacts with the Thorne Bay Ranger District and by 1988 the staff offered a modicum of support for a month-long summer caving expedition. Through the Glacier Grotto of the NSS, Kevin initiated a cost-share agreement between cavers and the Ketchikan Area of the Tongass National Forest which, with modifications, has continued for 10 years. 1988 was also the year Congress enacted the Federal Cave Resources Protection Act (FCRPA). This signified a growing national interest in protection of caves and led Alaskan cavers to hope caves could be protected from some of the impacts of the intensive logging occurring on the soils often make for large trees (Aley et al. 1993, USDA, Forest Service 1997).

In 1989, Kevin Allred was the first to descend 598 foot El Capitan Pit, the deepest known limestone shaft in the United States. Survey in El Capitan Cave was pushed to the immense Alaska Room, extending the known length of the cave to nearly two miles. In addition, many other caves were discovered and mapped. It

was clear to cavers that the karst and caves of this area were spectacular, important, and threatened. Over the next few years, short expeditions to neighboring islands including Heceta, Dall, Kosciusko, Coronation, Baker, and Noyes confirmed karst was well developed in many parts of the Ketchikan Area, not just on northern Prince of Wales Island or on the Thorne Bay Ranger District.

During the annual expeditions, cavers continued to check for caves in proposed timber harvest units; frequently discovering them just days before fallers were scheduled to begin work. This was frustrating to all concerned; layout crews, sale administrators, and especially to cavers who had little opportunity to protect the resource. In 1991, three years after enactment of the FCRPA, the first buffer was placed around a cave entrance. This was a 100 foot no-cut zone around the entrance to "Captain Soup" a highly decorated and fragile cave. The unit around the buffer was soon harvested and within a year most of the trees in the buffer had blown down. Soil disturbance caused by roots being torn from the ground was probably even more damaging to the cave than careful clear-cutting would have been. This demonstrated the necessity for windfirm buffers.

The Tongass Cave Project was established in 1991, a year that finally saw cavers focus just on caving rather than on a combination of caving and harvest unit inventory. TCP and the Forest Service both realized that this change would encourage continued volunteer participation. Longtime Alaskan cavers formed the Karst Research Group, a firm which contracted with the Forest Service to inventory karst in the Central Prince of Wales (timber harvest) Project Area.

During the early 1990s, Kevin Allred told Dr. Tim Heaton, a paleontologist at the University of South Dakota, about bones he had discovered in El Capital and other caves. Tim secured funding to conduct systematic excavations and radiocarbon dating. He determined the bear bones dated to over 11,000 years BP and a marmot tooth dated to over 44,000 years BP. Black and brown bears lived in sympatry less than 10,000 years ago. Only black bears now occur on Prince of Wales Island. TCP cavers have continued to locate bone deposits. Paleontological and archaeological work by Tim Heaton and Dr. Jim Dixon, an archaeologist at the Denver Museum of Natural History is continuing (Dixon et al. 1997, Heaton 1995a, 1995b, 1996, and Heaton et al. 1996). Caves are the only sites in Southeast Alaska where bones of this antiquity are well preserved. The finds at these sites have important implications for theories of glacial advance, climate change and human migration.

Kent Carlson began studies of Tongass cavernicolous invertebrates in the early 1990s as well. Working in conjunction with TCP expeditions and with some financial



support from the Forest Service, he collected invertebrates from caves throughout the Ketchikan Area. He discovered a number of new species and range extensions (Carlson 1994, 1996, this volume) during three summers of fieldwork.

1993 was important for karst and cave protection in the Tongass. In February, the Ketchikan Area, in cooperation with the American Cave Conservation Association, the NSS, and TCP organized a Karst Management Symposium. They brought in outside experts to educate Forest Service managers, timber industry personnel, cavers, environmentalists, and the public on the basics of karst hydrology, biology, and management. These experts emphasized the importance of considering the biological productivity as well as the three-dimensional nature of karst in land management planning. Karstlands tend to support bigger trees and more salmon than do non-carbonate terrains in the Tongass (USDA, Forest Service 1997). Besides providing educational opportunities, the symposium also offered a forum for all participants to interact and discuss karst. The Forest Service decided to fund a Blue Ribbon Panel of karst experts to examine karst of the Ketchikan Area to determine its overall significance and to evaluate management strategies to better protect this resource.

The Blue Ribbon Panelists found the karst of the Ketchikan Area to be significant at both national and international scales (Aley et al. 1993). They suggested that karst resources would be found in other areas of the Tongass and concluded that karst was being degraded by timber harvest, by road location, operation, and construction, and by quarry construction. They noted that karst requires different management strategies than those appropriate for non-carbonate terrains. In the islands of the Tongass this means treating karst as three-dimensional islands within islands. In addition, their analysis showed karstlands to be critically important to fisheries resources.

Later in 1993, TCP appealed the Central Prince of Wales timber sale. The directors felt that it contained inadequate provisions for karst protection. Knowledge gained from the Karst Management Symposium and preliminary findings of the Blue Ribbon Panel led TCP to conclude recommendations made by the Karst Research Group in 1991 were based on inadequate information. Karst needed to be treated as a system, not as an amalgam of discrete features. The appeal was "friendly" and attempted to change minds rather than polarize positions. The Forest Service rejected this appeal. Nevertheless, the Thorne Bay Ranger District implemented most of the requests made in the appeal.

In 1993, TCP cost-share expeditions worked concurrently on northern Prince of Wales Island and far to the

south, on the Craig District's Dall Island. Major discoveries were made at both locales.

In addition, without Forest Service support, TCP expeditions visited the two other Administrative Areas in the Tongass National Forest. An expedition to Etolin Island in the Stikine Area revealed small but significant pockets of karst. The Forest Service has since provided funding for several other TCP expeditions to examine newly discovered areas of karst and caves in the Stikine Area. An expedition to Chicagof Island in the Chatham Area revealed the presence of very large and spectacular areas of karst and caves. Unfortunately, the Chatham Area has not provided support for further expeditions. In fact, Area management has hardly acknowledged that some of the most significant and spectacular karst and caves in the Tongass occur in the Chatham.

In 1994 the Ketchikan Area unilaterally committed to implementing Standards and Guidelines which became the basis for those adopted in TLMP. These guidelines outlined a means of assessing the vulnerability of the karst landscape. The Forest Geologist asserted that the process established in the guidelines was the minimum necessary to meet the requirements of the FCRPA. There have been problems with implementation of these guidelines and dissension within the TCP as to whether they are adequate, even when fully implemented. Nevertheless, they were an important step towards the protection of Tongass karstlands.

TCP cost-share expeditions explored Prince of Wales, Dall, and Heceta islands during the next two years. Major new cave systems were discovered on Heceta. Over 70 caves were discovered in less than six weeks during these expeditions. Many of these caves are over 300 feet deep and several exceed a mile in length. Dye traces funded by the Ketchikan Area, with TCP support, confirmed large areas of the island are hydrologically connected, sometimes unpredictably. In addition, TCP directors disillusioned with what they saw as "business as usual" with Forest Service timber harvest on karst led additional "independent" expeditions on northern Prince of Wales Island.

The 10th annual TCP cost-share expedition returned to Heceta Island in 1997. Once again more than 50 new caves were discovered, most of which were mapped. TCP caver and geologist, Kris Esterson undertook dye trace work with support from the NSS and Ozark Underground Laboratory. His traces confirmed large areas of hydrologic connectivity and provided important information about the ability of "dry" features to conduct water and materials rapidly into significant caves and the karst system (Esterson, 1997). Dye was transported from one such feature over 2.5 miles at a minimum rate of 1186 ft./day. Fluorescein from this sink was also de-

tected one-half mile away in Arabica Cave, one of the deepest and longest of the many caves on Heceta Island.

Increasing evidence suggests Heceta Island contains some of the most highly developed and integrated karst on the Tongass. Well over 50% of its karsted lands have been harvested. Nevertheless, the Forest Service recently sold the 15.2 million board foot Heceta Sawfly Salvage Sale (USDA, Forest Service 1996). In 1996, during initial planning for this sale, the Forest Geologist assured TCP cavers that all Karst Standards and Guidelines would be rigorously implemented. Although not sure any harvest at all should be occurring on Heceta karst, cavers arrived for the 1997 expedition in optimistic frames of mind. Karst Standards and Guidelines, as explained to cavers by the Forest Geologist, should have solved most of the serious problems cavers envisioned for the Heceta Sawfly Sale. Sadly, this was not to be.

Several small salvage units had been harvested on Heceta in 1997, one of which was the Triangle Salvage Sale. During the 1997 expedition, TCP cavers explored a cave near this recently harvested unit. This unit had been laid out several years ago, just after the Ketchikan Area implemented the Karst Standards and Guidelines. The original plan had been modified just prior to harvest, endangering caves outside the unit. A shovel yarder had been driven between several very large sinks, many of which contained caves. By the time timber had been removed, the edges of these sinks were damaged and in one case a log had been pulled out of a sink, destabilizing its steeply sloping sides.

TCP had also been asked to map several caves in or adjacent to Sawfly Salvage units. In the first unit cavers examined, they noted buffers were improperly laid out and were of insufficient width to be windfirm.

Optimism faded rapidly.

### **Karst Standards and Guidelines and the Heceta Sawfly Sale.**

Are the Karst Standards and Guidelines working on the Tongass National Forest? To test this, the cavers decided to examine more of the Sawfly Sale Units for compliance with Karst Standards and Guidelines.

Karst Standards and Guidelines require a four-step landscape assessment. First, karstlands are identified. Then, karst features and caves are inventoried. Third, the hydrology of the karst is delineated, and finally, karstlands are classified into one of three categories of vulnerability to disturbance. Throughout this process it is essential to view the karst as a system, not a collection of discrete surface features. It is also important to remember that most caves and caverns have no entrance

accessible to humans, but are still sensitive to disturbance. Surface features are clues to the existence of these entranceless caves. In large areas of contiguous karst it is essential to complete all four of these steps prior to initiating plans for timber harvest. This is the only way to ensure a truly systematic approach to the assessment.

There are three classes of vulnerability, high, medium and low. Under current standards and guidelines, low vulnerability karst is generally treated much as non-karst landscapes. Medium vulnerability karst requires some modification of harvest techniques to reduce disturbance, but timber harvest is permitted.

Timber harvest is not permitted on high vulnerability karst. Such karst is defined by the presence of any one of a number of features. Lands over caves are by definition, high vulnerability karstlands. All karst on slopes steeper than 72% is classified as high vulnerability. Any watershed draining into high vulnerability karst, even if the watershed is not on carbonate rock, is to be considered high vulnerability and receive the same protective measures. In addition, sinks and epikarst features greater than 8 feet in depth are defined as high vulnerability. Unfortunately wording from preliminary standards and guidelines was changed so they allow harvest with such features if there is no evidence of water movement.

Karst Standards and Guidelines require windfirm buffers of no less than 100 feet wide around high vulnerability karst. However, according to Thorne Bay Ranger District foresters (personal communication), the width of a buffer must be equal to two tree heights (over 300 feet for much of the Tongass) in order to be windfirm. No roads are to be built on high vulnerability karst unless there is "no alternative" method to reach less vulnerable area for harvest.

The Karst Standards and Guidelines emphasize that a systematic approach is essential to adequately protect karstlands. As a rule, features are not isolated, but are parts of a much bigger system. This is especially true for large, contiguous areas of carbonate bedrock such as occur under the Heceta Sawfly Sale.

Karst Standards and Guidelines as originally proposed were stronger than those adopted in the new Tongass Land Management Plan (USDA Forest Service 1997). In most instances, "shall" and "will" have been replaced with "should be" and "may be". There are many instances where these guidelines have been further weakened with conditional wording such as "where appropriate" and "to the extent feasible". While this may give managers greater flexibility, TCP feels that such language leaves too much room for subjective interpretation. This weakens the guidelines, almost to the point of nonexistence, in the hands of anyone lacking an understanding of karst and caves and the desire to protect the karst ecosystem.



Although a start had been made on all parts of the karst assessment, only two of the four steps had been completed on Heceta before the Forest Service began plans for the Sawfly Salvage Sale. Karstlands had been identified (virtually all the sale area is on karst) and a model had been developed to identify areas of higher vulnerability. However, only very preliminary inventory and hydrology work had been completed.

TCP cavers walked all the proposed harvest units and found only a handful, which met Karst Standards and Guidelines. In all cases, buffers around high vulnerability features were only 100 feet wide and, effectively less where measured from the center rather than edge of features. In no case did TCP observe buffers designed to meet the two-tree height definition of windfirm.

In many Sawfly Sale Units, high densities of "dry" epikarst features and sinks greater than 8-feet deep were not treated as high vulnerability karst. Esterson's dye traces underscore the importance of "dry" features (Esterson 1997). Surface waters will be uncommon except where karstlands abut non-carbonate terrain. Therefore, in large blocks of highly developed karst, almost all features will be dry. Evidence of surface flow will be rare in the interior of extensive karstlands such as those on Heceta. Wording in the Karst Standards and Guidelines needs to be changed to require that all features >8 feet deep be treated as high vulnerability karst unless proven otherwise by dye traces.

In several cases, harvest had been planned on slopes steeper than 72%. A number of units drain into high vulnerability features outside the unit with no evident protection for the watershed. All too often features were treated as discrete entities without adequate consideration for the system of which they are a part.

A road was planned and built through high vulnerability karst adjacent to unit 14 even though helicopter logging may have been a viable alternative. The economics of helicopter logging were not applied to this unit, but rather to the sale as a whole (Lewis 1997), a very poor method of determining real viability. More roads are currently being built through high vulnerability karst on Heceta, such as those in Unit 9.

The fact that the Forest Geologist did not meet with TCP cavers at all during the caving expedition exacerbated the entire suite of problems. This was true even though cavers informed him early in the expedition that they had noted serious problems they wished to discuss.

All cavers felt the great majority of the units did not meet Karst Standards and Guidelines, with many units requiring major modifications. This, combined with the lack of communication during the expedition, led cavers to lose confidence in the Forest Service's commitment to karst and cave protection. Are the Karst Standards and

Guidelines working? No, Not Yet.

## **Restoring Karst Ecosystem Protection and Rebuilding Trust**

There are a number of ways that the Forest Service can rebuild the trust it once had among cavers. Time must be taken, or made, to communicate honestly and openly with TCP and other cavers. Forest Service personnel must admit problems when they exist and not make promises that can't be kept. Cavers' contributions and concerns must be acknowledged and cavers should be kept in the decision making loop. Most importantly, the Forest Service must implement the original intent of the karst Standards and Guidelines. When there is any doubt, karst should be considered to be high vulnerability until proven otherwise. In most cases, this should maintain the unique natural processes and productivity of the karst landscape. It will require treating the landscape as a three-dimensional system and taking past mistakes and overall harvest levels into account in designing protective strategies.

The role of the cavers and the TCP, as well as Forest Service Karst Specialists, should remain that of advocates for the caves and karst. They should continue crediting the Forest Service for good management practices when deserved and continue effectively and vocally characterizing problems when necessary.

Since the end of the 1997 cost-share expedition, the Forest Service has received many letters from disappointed cavers. During the final weeks of September communication has improved and efforts are in place to reevaluate the Heceta Sawfly Sale. The Forest Geologist plans to spend several weeks on Heceta examining units in person, and plans are being made to bring cavers out to discuss the issues on the ground. Only time will tell if these plans and promises are meaningful. Unfortunately, as these discussions drag on, road construction continues. It will take serious implementation of the original intent of the Karst Standards and Guidelines, including immediate cessation of road construction through high vulnerability karst, and possible renegotiation of the Sawfly Sale contract, to begin to restore TCP's trust.

The goal for the TCP, all cavers and hopefully, for the Forest Service is cooperative stewardship of the karst and caves of the Tongass National Forest, ensuring that these systems and the treasures and secrets they hold are protected for generations to come.

## **Acknowledgments**

Enormous thanks are due to my fellow cavers and members of the Tongass Cave Project, without whose energy and support none of this work would have been



accomplished. I also thank the numerous persons in the Thorne Bay and Craig Ranger districts who have assisted in many ways to make the annual expeditions work. You know who you are. Thanks also to the USDA Forest Service for providing funding to support the caving expeditions and my participation at this symposium.

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### **Continued from President's Corner page 1**

rest will have to settle for an extremely brief summary, at least for now.

The information presented begins with an introductory letter by Thorne Bay District Ranger Steve Kimball. Mr. Kimball sums up the areas of concern and the actions he hopes will result in providing the necessary protection for the karst.

Tom Aley's 8-page report is a review of Heceta Island karst vulnerability assessment. It had two stated purposes: to provide a third party review and to recommend improvements. The report classified the nature of the disputes, listed the materials studied and field work conducted for the review, and gave the objectives of the US Forest Service (USFS) karst assessment. Then the report listed important mechanisms that adversely impact caves and karst, gave a summary of the findings from the review of materials and field work, and presented a list of 14 recommendations.

A 17-page report by Jim Baichtal and Dennis Landwehr is a "...unit by unit description of the soils, karst, and cave resource evaluations carried out on the harvest units within the boundary of the Heceta Sawfly Salvage Sale". Its purpose was to reassess the application of standards and guidelines to this sale. After describing catchment areas and the levels of karst vulnerability, each individual unit is listed, including descriptions, concerns, findings, and recommendations for each unit. The report concludes with a summary of the unit by unit recommendations and a list of observations that are intended to improve interaction between the caving community and the USFS, to prevent similar events from happening in the future, and to make the entire process of karst management efficient and effective.

Anybody who was not sent copies of these reports can contact me at (907)225-2500, or Fax (907)225-2508, and I will make sure you get a copy. All of us should examine these reports and respond to the USFS. As I have said before, this may be our best chance.

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# SUMMARY NOTES OF A TRIP TO HECETA ISLAND

by Steve Lewis

August 19, 1997

To Heceta Island on rainy gray day. Leave Thorne Bay at 08:30, arrive Camp Island Dock, Heceta Island at about 09:15. Two beavers carry Steve Kimball (TNB District Ranger), Steve Lewis (TNB Karst specialist/Ketchicave Expedition Leader), Simon Dillon (British Caver/Ketchicave 1996-97 participant), Kim Redmond (TNB Timber Sale administrator), Mike North (Sawfly Sale Layout coordinator), Dennis Landwehr (Ketchikan Area Soil Specialist), and James Baichtal (Ketchikan Area Geologist). Kimball discussed goals of the trip - "to get an overview of the problems as cavers see them today".

He then plans to have Baichtal walk and "repair" problems in October if the Forest Service believes there are any. He noted that the decision on this sale was made prior to the TLMP decision and prior to TLMP S&Gs being directed but that it still needed to meet the requirements of the Cave Protection Act. Baichtal noted that the Cave Protection Act provisions are only met by meeting Karst Standards and Guidelines.

## To Sawfly Unit 2:

Walk through unit to "Where Have All the Sawflies Gone?" Cave. Simon goes through the cave, calling up to others through skylights. Some parts had 100 foot buffer, however, the entire unit and Unit 3 above drain into this or other caves including "No Bufferin". Kimball and Landwehr as well as Baichtal come into the cave.

Baichtal leads and turns back before good moonmilk can be seen. Kimball appeared informed on karst and caves in the sense of appreciating the unique character and importance of these resources, but he is not yet up to speed on the details of cave and karst protection.

Simon relocates a high water insurgence point - major karst feature of bare rock, hole, and sound of water below. Baichtal claimed to have seen it and that it was supposed to have been buffered. It had the flag for the 100-foot buffer (from center of feature) for "No Bufferin Cave" next to it but no buffer of its own. My comment that buffers should be windfirm, (which is two tree lengths per Tom Ford), not just the 100 foot minimum appeared to have been discounted when Baichtal noted, in contrast, that there should be a 100 foot buffer around this insurgence point.

Mike North noted that "There will be features like this missed in every unit". He felt that it was not a significant (or obviously significant) feature, "not obvious to the untrained". [Baichtal has been saying for several

years now that Mike North is adequately trained.] Mike noted that "we are still on a learning curve." [Again, how long do we have to wait. This has been going for 3-4 years]. Simon and I noted the need for trained cavers to walk units and the entire area ahead of cruisers. Vulnerability mapping should be finished before units are even begun to be laid out.

Landwehr noted that we could "harvest completely in the dry channels and use partial suspension without major soil disturbance and without affecting the karst and caves". This seemed to show an extreme lack of understanding of karst vulnerability to Simon and me, but apparently not to Baichtal.

Baichtal commented that the Sawfly sale is "a big experiment" and admitted that we have no real idea of how selective cuts will be affected by windthrow. North noted that FSL has no funds for a formal study and that there is no formal method of monitoring nor a baseline description of windthrow or other factors in the sale. Neither Baichtal of the timber shop has any plans for more than informal monitoring of the area.

Simon and I noted that an 11 million boardfoot sale constituting two percent of the remaining land area and a significantly larger percent of remaining karst on Heceta (which is some of the best developed karst in the Tongass and the world) is a really lousy place to stage such an experiment, especially informally.

Even with the known presence of "a River Runs Through It" at the lower end of the unit there was not agreement that this whole unit and even perhaps Unit 3 (which also drains into this system) should be considered High Vulnerability (HV) karst in their entirety. Only Simon and I thought this way.

## Triangle Unit:

A small sale had just been harvested.

Kimball appeared quite surprised initially.

We discussed the history of the sale. Original plans had called for pulling wood up in six roads with partial suspension. Plans were changed to reduce impacts on regen several months ago (although later comments suggested that 10-15 foot wide roads should have no impact on regen after thinning to 15 feet).

Features had only been mapped within the confines of the planned harvest unit. New plans changed boundaries and ended up going over or between several very deep sinks with caves in the bottoms. These had not been mapped and thus only quick last minute plans were made to reduce impacts. Shovel yarding was used, with

Continued on page 8



the shovel yarder walking along and over edges of sinks.

In Simon's and my opinion this was at best a serious mistake. Baichtal should have been out there on the ground. Today, he claimed to feel that under the new TLMP rules such a site would require "dye traces, full survey of all caves, full inventory of the area and more". These rules were certainly in effect for the Ketchikan Area (although not signed for the entire Forest) a month ago when the plan was changed, and were in development even when the plan was proposed. Also, there is no evidence of such care during Sawfly preparation work that was done under the same guidelines as are in TLMP.

The shovel yarder walked adjacent to and over edges of two large sinks, near two others, and it pulled a log out and disturbed soils in another. All but Redmond agreed that this should not have been done. Baichtal said "they could have cut off the end and taken out most of the log". All three disturbed sinks are showing signs of collapse from impending troubles.

A huge root wad was shoveled onto the lip of the largest sink. When asked by Redmond if soil disturbance was OK, Landwehr noted that it was far more than he'd like to see but probably met soil standards and guides.

We briefly discussed the possibility of building roads in High Vulnerability (HV) karst. The suggestion was made by Kimball that the section allowing roads in HV karst might be interpreted to allow swing roads and yarding corridors as well. The "if no other route or option available" option of the wording in TLMP standards and guidelines is essentially being ignored in my opinion.

According to Mike North, helicopter logging was not an option because of the size and tangled nature of the blowdown material in this unit. Alternative routes including the original planned roads certainly were, however very viable options.

Kimball talked of wanting to stay on the side of caution during early TLMP and then continuing to evaluate and gain new information on what we feel we can do to meet the standards and guidelines. He appeared to be less than thrilled with this unit. However, Redmond noted that if faced with the same situation again, he'd "do it the same way again." He is the sale administrator for the Sawfly Sale.

#### **Unit 14 Road**

The road is now laid out with a 50 foot felling width and 16-foot driving surface (18 road bed at least). It will be all fill with no blasting or cutting until 100 feet from the edge of the HV karst. The felling line comes well within 100 of many features. It was originally laid out to go over a cave that Simon discovered - 1400075 Pit, a

20-foot deep mucky pit that collapsed under him.

Baichtal promised (and did receive confirmation later) to get engineers to move the right-of-way over 15 feet to avoid felling directly adjacent to the hole.

Simon and I made it clear that we felt that this area should not be roaded.

Baichtal explained how much time he and Zack Mondry had spent in 1996 thinking about the unit and road. He feels that laying rock over the area without cutting or blasting will do no damage.

We disagreed, noting the large amount of past disturbance in the vicinity and the extremely high vulnerability nature of the karst. The economics of helicopter logging were only considered for Unit 14 when combined with helicopter logging of almost of the whole sale, not just for the two units now planned for helicopter harvest. It was decided on the ground today that helicopter logging would be somewhat (undefined though) more expensive than a road and would not give future access to timber in the area (but, gleaned from discussions with Baichtal and others present, part of the rationale for allowing harvest in this area is that it's a partial cut. In addition, to the best of my knowledge there are no trees adjacent to this unit that are not on HV karst).

In addition Simon and I noted that Unit 14 should probably be considered HV karst because it is draining into a high vulnerability basin and because it overlies the HV karst system between the main resurgence, Arabica et al. and Sinuous with its probable (as of August 26 communication with Kris Esterson confirmed) positive dye trace. Baichtal agreed that drainages from non-carbonate areas into HV karst should be treated as HV karst or at least treated as normal buffered streams.

However, there was no consensus between Simon and me and the others on the idea that where HV karst areas are fed from moderate or LC karst that such moderate or LV karst should be treated as HV karst. The only point of agreement here was that, as with non-carbonate areas, active surface streams draining to HV karst should be buffered.

Simon and I feel that this is inadequate, that in high vulnerability karst surface streams are very rare and that karst system should be treated as a system, not as a series of discrete features. A high density of features, even if they are less than 8 feet in depth may, (and on Heceta should) require that the entire unit be deleted from the timber base as HV karst.

We did all agree that the depth of features should be measured to the lowest point or bedrock in the feature, not to the surface of the soil in the feature. Simon and I believe that such treatment would eliminate harvest in much of the terrain proposed for harvest on Heceta, while

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## LETTERS

Steven Kimball  
District Ranger  
United States Forest Service - Thorne Bay  
PO Box 19001  
Thorne Bay, AK 99919

Dear Stephen,

I apologize for not writing this letter sooner. After spending a month as a volunteer on the Ketchikave Heceta Island expedition I feel several issues must be confronted before any extraction activities occur on the island.

First, it is important for me to thank the US Forest Service for sponsoring the expedition. I am pleased that the Tongass Cave Project of the National Speleological Society has had a working relationship with the forest Service for over a decade. The infrastructure exists for cavers to supply the Forest Service with information vital to protecting karst and caves. However, from what I experienced this Summer, I am left frustrated, knowing that the Forest Service has put little of this information into practical use on Heceta Island.

As we both know, the Federal Cave Resources Protection Act (FCRPA) of 1988 gave karst and caves the recognition they deserve: that karst systems are extremely productive, complicated, and delicate. The Tongass Land Management Plan incorporates extensive guidelines to protect these systems, as do the new guidelines soon to be signed into law. What frustrates me is that despite this legislation, harvest practices on Heceta go on as if under pre-1980s legislation ignorant of karst. When many of the expeditions' cavers volunteered to do rough surveys of soon-to-be harvested units, we took time away from what our job on Heceta was, to survey cave systems. I hope that the data we compiled goes to good use within the Forest Service.

I will say a few things about the salvage units we surveyed. It is my understanding that the units are being harvested to end the hemlock sawfly problems on Heceta. I am not a forest pathogens scientist, yet, I know that clear-cutting dries the forest adjacent to a clear-cut, and that sawflies thrive in an artificially dry environment. Karst systems that have been clear-cut are especially vulnerable to desertification, as water and soils go subsurface. This too must be studied before harvest can continue, as the premise is perhaps faulty.

I walked through about 10 units, and all but one showed significant areas of highly vulnerable karst systems, many including caves. The person who laid out the Heceta sawflies salvage units must be ignorant of karst systems. A small amount of karst flagging was found in the units but not enough for me to justify saying that one percent of the features had been noted. I warn the Forest Service of two things: you are, advertently or not, encouraging the destruction of karst and cave systems; and further, the Forest Service is breaking the laws set forth in the FCRPA and TLMP. In breaking these laws the Forest Service opens themselves to legal action.

A sizable portion of Heceta, Prince of Wales, and other islands were harvested after the FCRPA of 1988. We as cavers and members of the public were told many years ago that this previous destruction was done in a time when no one knew better. We excused this as a mistake that would not happen again. The chance of more mistakes looked small when a regional geologist was hired and criteria for karst protection entered land management laws, including TLMP. Things looked bright until recently.

I have heard through other cavers in the time since the expedition that steps are beginning to assess the violations of the Heceta sawfly units. I have faith that another assessment will occur, yet, I still wonder if all steps will see completion. For example, guidelines say that karst with suspected hydrological importance will be dye-tested. Work by co-volunteer Kris Esterson, from my understanding, shows very few resurgences for such a large island. In Jim Baichtal's words, we cannot understand the surface features until we have a comprehensive understanding of the subsurface features. I have surveyed portions of caves several kilometers long in British Columbia where surface features were less developed and numerous than Heceta units yet the cave systems were among the most developed on the Northwest Coast.

I will be unpopular in saying this, but it is true: a good survey of a unit the average size of those on Heceta may take upwards of several days to more than a week, if we are to know what lies under the surface, even longer with dye-tracing. Having found several caves in those units with rushed surveys of just a few hours, I stand firm in saying that very careless surveys happened. The time spent on future surveys can very rightly be justified as insurance that laws

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## ANOTHER CRACK AT BLOWING IN THE WIND CAVE

by Kevin Allred

At the urging of Pete Smith, several of us looked forward to further exploration and survey in Blowing in the Wind Cave. This was to be our main trip of POWIE '97. Three years before a team had squeezed through a drafty passage and emerged on a balcony in the side of an immense canyon-like passage. They named it "Pit Stop". The canyon appeared to be segmented about half way up by at least two thin septa or fins. The cavers attempted to pass under the base of the first, some 80 feet below, but it was just a blank wall. The only way to proceed seemed to be a traverse across a wall to the top of the first septum. Pete had been "haunted" by the size of this passage and where it might lead. After a week helping Dr. Timothy Heaton and Dr. James Dixon at a paleontological and archaeological dig, David Love, Pete and I organized for a backpack up to the alpine karst of El Capitan. This was the first major non-helicopter caving trip up there, and we were excited to be independent of the Forest Service hassles for a change.

Our original plan was to make two hauls to a base camp in a perched muskeg 1/4 mile east of the cave. Paul Dzwonowski and I had come across it several years ago, and seen some running surface water. Like dummies, we let Pete talk us into trying this in one single load. Among other junk, we hauled 600 feet of rope and Pete's heavy cordless Hilti, plus loads of bolts. We had great hopes of a dry spell for the caving. Fat Chance - that Murphy guy must have been a genius. The going was ... how can I say it?...if we described our packs as monkeys, these ones were gorillas! We finally got to the large uvala at 1800 feet elevation, and craned our necks (against the mountains of junk on our backs) to look up at where we had wanted to camp. "Hey (wheeze) - this would be a good place to camp, right here! Then we won't have to carry all this stuff as far coming back!" After ditching most of the gear, we carried some caving gear up past the perched muskeg to the cave entrance before setting up camp and having supper. Well, at least the rain held off till the next day.

After entering the cave on day two, we stopped at the top of a drop series of about 100 feet. Here I had always had a suspicion that the horizontal dike-controlled passage we entered at the entrance might continue on the opposite wall above us. As we had rope handy, Pete managed to climb up there, and set up an anchor. Bingo! It went. A little ways in, the crawlway was partially filled from a fissure above. Scraping the way larger, we slid through. The passage got larger, then echoed ahead. YES! We came to a shaft estimated at 70 feet deep. A

continuation of our passage could be seen as an inaccessible hole in the opposite wall.

After derigging that lead to return another time, we set about hauling all 600 feet of rope to Pit Stop. I had never been in this section near Elbow Passage, but marveled at the amount of air sucking into the passage. Pretty directional popcorn showed this breeze was typical. We turned right into a tight, obscure crack. Getting everything through the tight fissures and Guano Pit was very time consuming and strenuous.

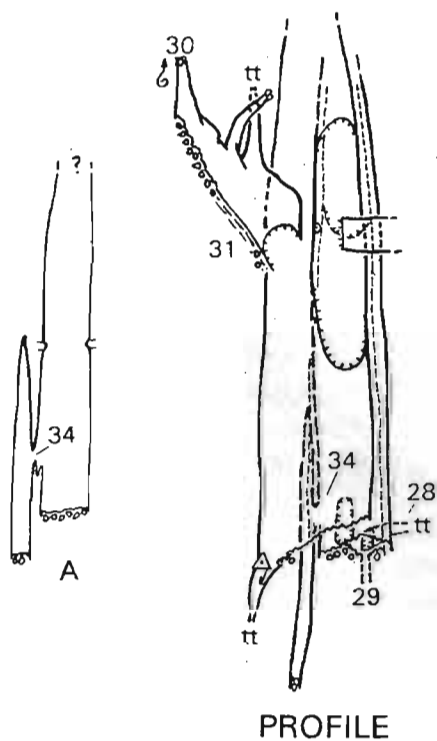
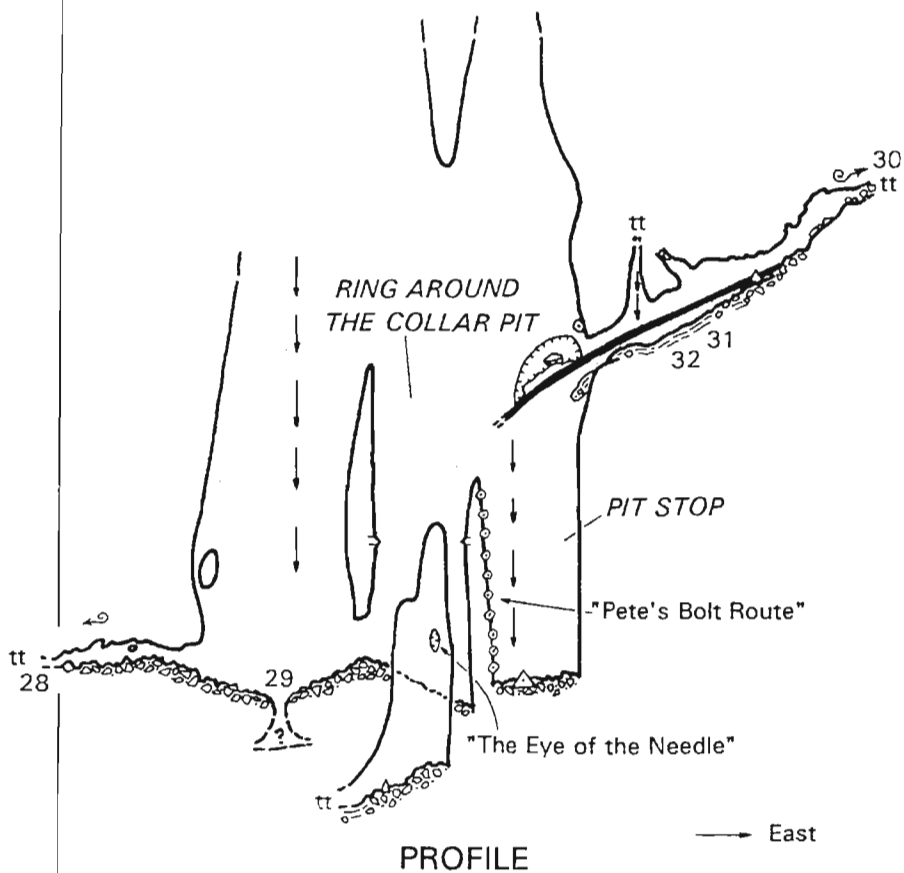
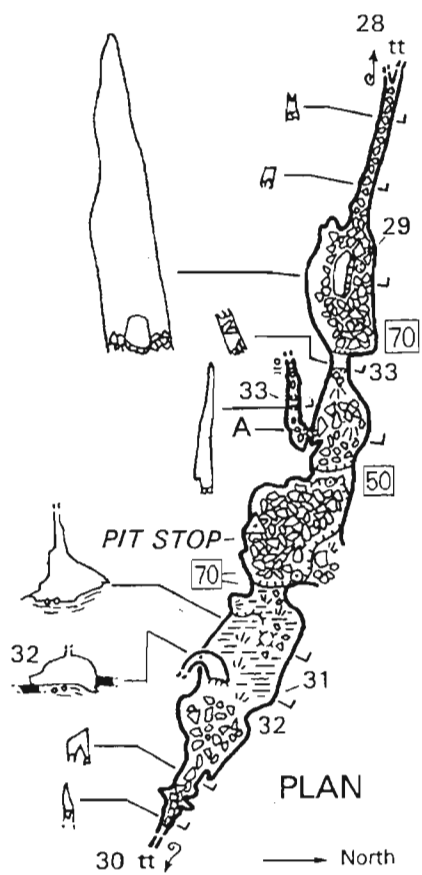
The Pit Stop was very impressive. We couldn't see how far up it went, but it looked tantalizing beyond the imposing fluted walls. A small stream poured off our balcony to where Pete was planning to traverse. The plan was that since I was familiar with solo surveying, I should lower myself around the corner and into what looked like going passage and the upstreamside of the big canyon. Then as I surveyed, they would do the traverse in the other direction. After a dozen or so shots, the passage pinched off, and I was able to join David, who was now belaying Pete. They had abandoned the wet traverse in favor of a direct assault up the 70-foot face of the septum from the floor 80 feet below us. David was getting chilled as we were wet, and the cave temperature in the mid 30s. As he was busy with the rope, I entertained myself by pouring gorp down his gullet. Finally, Pete barely had enough battery power to drill the last bolt hole about an inch deep, and precariously made the top. In no time, we were all over that battlement, and down to a rubble floor. The next septum was easy to bypass as there was a way under it. The canyon then soon pinched to a too tight constriction which we could not pass without a hammer. A hole (we called "Eye of the Needle") in the canyon wall led to a short, parallel pinched off fissure. So we were stopped cold, and I mean COLD.

It was late as we retreated, dragging all that heavy, mucky gear with us. We finally abandoned the extra stuff at the bottom of the 200-foot drop series. My one ascender was so muddy, it was sliding on the climbs. Of course, it was pouring rain when we got out in the middle of the night. Our tortures were just begun.

Paul Hadfield had hiked up with his dog, Ulu, to cave with us, and we set about eating a hardy meal of lentil and venison soup to restore our chilled bodies. I wish I had taken a foam pad.

The next rainy day, we were tent-bound, resting up. The day after that, it was still raining. The drops in the

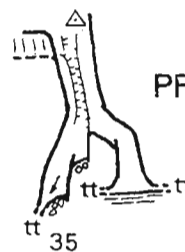
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PLAN



PROFILE



## 1997 ADDITIONS TO BLOWING IN THE WIND CAVE

Survey by D. Love, P. Smith and K. Allred

These map portions will fit onto the previously  
drawn map, showing the entire cave.

- 28. 7-inch crack too tight, need  
rock hammer to open up septum
- 29. hole in unstable breakdown,  
need hammer to enter
- 30. could go very tight with digging

- 31. drill holes in breakdown and mud
- 32. faulted zone
- 33. bridge
- 34. "The eye of the Needle"
- 35. 6-inch culvert-type drain

— dike or sill    ⊙ bolt

0 feet 50



## LYNN CANAL TALUS CAVE - A MAJOR CAVE DISCOVERY

by Kevin Allred

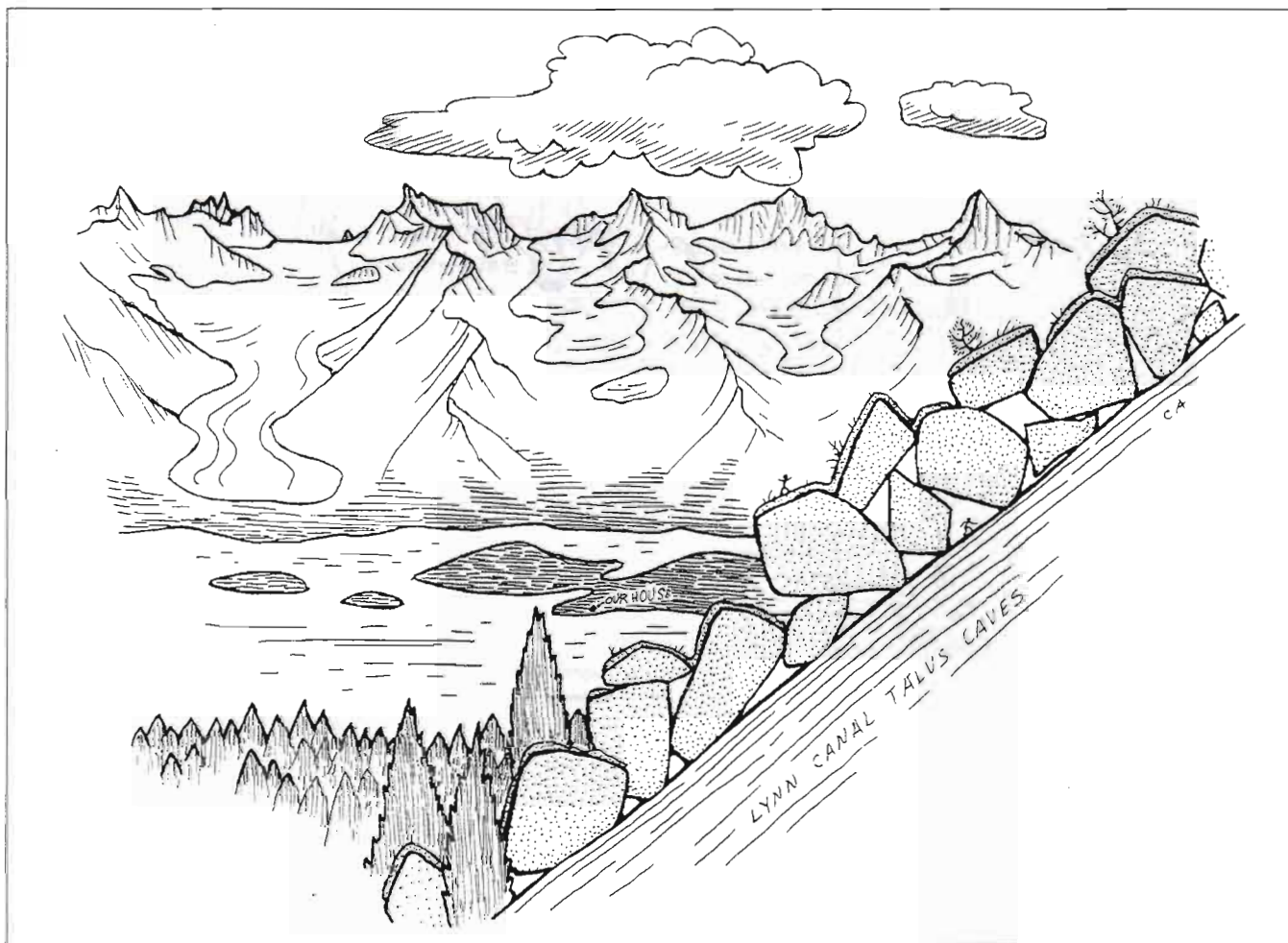
I'm kind of embarrassed. Here we are traipsing off to far away places like Prince of Wales Island and Hawaii, and a big cave has been visible from our house window for the last 16 years. And only three miles away at that!

I should explain how this could possibly happen in an attempt to redeem any semblance of respectability. Greener grass on the other side of the fence? Distraction? Blindness?

While mountain goat hunting last year, Soren and I rested on an alpine slope high above the Lynn Canal. I noted a huge talus slope on a nearby mountain side. Seeing it, I realized it for what it was: a potential talus cave to surpass any I've ever seen. We have found small ones farther north near Haines, but nothing to compare with this. It was hard to judge the size of the boulders, but many seemed to be the size of houses. A year of anticipation went by, and we were distracted by other projects, trips, and the rigors of life.

Finally, on Labor Day of 1997, the whole family piled in the skiff and headed directly across the fjord from our

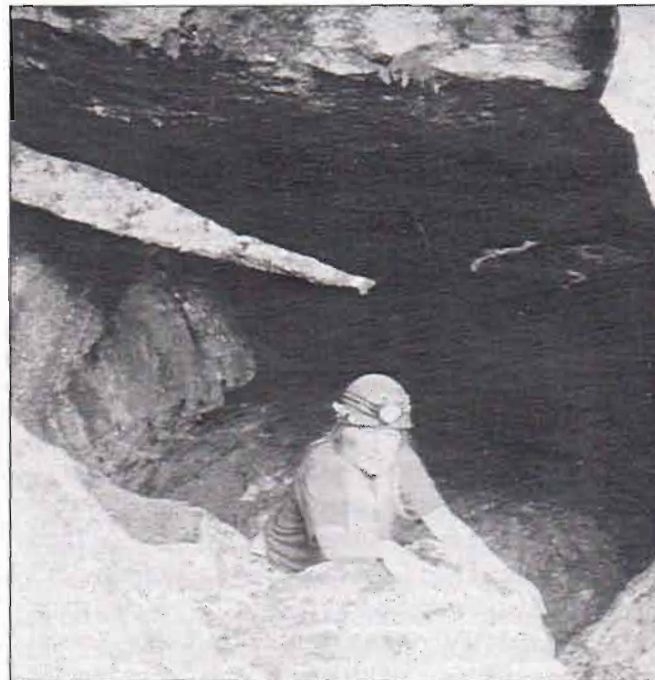
waterfront house. It was flat calm, and we tied the boat in the deep water of the cliffy beach hoping the ocean remained calm for the day like the forecast indicated. After a steep climb through conifers and brush, we began seeing huge monolithic, moss-covered diorite boulders... a good clue we were on the right track. The blueberries were incredibly thick, and seemed to offer some energy for the exhausted Forrest (2000 vertical feet without trails is a real challenge for a seven-year-old. When we arrived at the talus, we hit the jackpot. Many boulders were bigger than our house, and beneath them were labyrinths of passages. The extent of the talus is probably 1000 feet in diameter. While Ella scrambled her way up to a prominent boulder for a relaxing view, the rest of us pulled out our headlamps and flashlights and delved beneath the jumble. In most places, lights were not necessary, as daylight came in from nearby crevices. One pit we passed was about 30 feet deep with ice in the bottom. This is the first caving I have done with a .357 on my hip. Bear protection seemed a good idea after



some incidences this year on our side of the fjord.

Our inclination is to define a talus cave by the same criteria you would a lava tube: an overhang of about one meter or three feet is adequate to unify two passages. I probably saw about 3000 feet of passages in the small area we explored. And this was in two or three separate caves using the three foot overhang criteria. After an hour or two, we headed back down to the skiff. The gamble paid off and the sea was still calm.

It is likely that with a systematic survey and pushing crawls, most of the caves could be unified into one huge one. Judging from the extent, I estimate the total cave could be two to three miles long. This would make Lynn Canal Talus Cave the longest cave in the state with a vertical extent of a few hundred feet. I've personally seen nothing else like it anywhere. If anyone is up to a major survey project, this is going to be a real challenge. Access is only by water along with the steep climb. Frequent winds of the Lynn Canal can strand one for a week or more. But we do have a good base camp - our home!



*Carlene Allred in Lynn Canal Talus Caves in the fall of 1997. Photo: Kevin Allred*

## CAVE CO<sub>2</sub>

by Dale Chase B.C. Caver, Vol. 11, No. 2

An interesting, scary thing happened this spring re CO<sub>2</sub> in a dig in Pellucidar, while trying to bypass the sumps. When we went in, the draft was out the lower entrance, as the outside temperature was warmish. The crawl was a tube, once walking, now infilled with sand and silt to digging height. The draft was coming out of this tube when we started, just as one would expect.

We dug for an hour or so, trading point often, and the man on point said he felt poorly, so I took over. Two scrapes with the hoe and I was gasping, and realized that we were rebreathing our own breath. We scurried out to the entrance to the crawl. After a few minutes the head aches disappeared.

Scary stuff: I'd never experienced bad air in a cave before, and never heard of it on Vancouver Island. I'm aware that it's common in Texas and other warm, bat-shit infested places. I'm sort of surprised now to realize that I've never dug a crawl without a draft. No blow, no go!

Fortunately one of the lads had that most efficacious of draft detectors, a cigarette. We stuck it in the mud and the smoke went straight up till almost the end of the first cig (15 minutes), when the draft reversed ever so slightly

and started heading in. We set up another and the in-draft got stronger. I assumed the outside temperature had changed, and the entire cave had reversed airflow direction.

We debated about whether to continue the dig, but we were all too spooked. At the entrance the outside was still warm, and the draft still headed out. Clay got quite excited, as he has noticed, as I have, that oscillating air drafts, whatever the cause, are invariably associated with big-volume caves. I plan to get some airflow data from the crawl before we open it up. The period seemed unusually long, with the null period being many minutes. I didn't take any instruments, so there is no data yet. Our pet diver, Pat has gone through one perched sump and reported that he came into airfilled passage to a junction of the largest passages in the cave.

I'd enjoy hearing any thoughts or speculation on this from anyone.

Editor's Note: I do not find an address for Mr. Chase so recommend communication with Editor Clive Keen, Office of Communications, University of Northern British Columbia, 3333 University Way, Prince George, BC V2N 4Z9 Phone 604/960-5621 e-mail keen@unbc.edu



# The Devil's Own

by R.R. Knotts

If I had known, I would be the chronicler of these events, nay, even that they would be told, other than as legends around the campfire as in times past, greater effort might have been given to preserve their memories. What follows, remains indelible upon my mind.

Our journey began at the bequest of M'Lord Dawson. He took a fancy to exploring holes in the ground, narrow fissures in the cliffs near his castle and even several small pits into which commoners threw trash. He fashioned special equipment to assist with his undertakings.

And so it was that we descended into an abyss beneath his castle, a force 30 members strong. As M'Lord Dawson's valet I had little choice but to go along. All our recent forays were mere practice for this, the main event. M'Lord Dawson had known of this underground canyon since the days of his youth, and always fancied its depths might somehow lead to a foreign land. At the head of the column were 12 armed warriors, pikes and halberds held ready, followed by myself and M'Lord Dawson with his constant companion and lifelong friend, Ciril of Brinnington. Bringing up the rear were 15 hearty lads from the nearby village, their bulging packs filled with necessary supplies and trade-goods: should we find the route to those distant lands.

Our progress was so slow as to be painful at times: 30 men burdened heavy and carrying lamps could hardly frolic. And yet, the wonders which met us at every juncture stifled the pain. Towering columns of purest white dollops of stone piled one atop the other like a fancy cream desert. Great draperies of translucent spears fastened to the ceiling and dripping water seemed ready to fall at the slightest provocation. Shimmering pools of crystalline water bordered the path on either side, filled with eyeless white creatures and snow-covered stones. And the silence, the silence was deafening, no sound at all save that of our own design.

After three days travel we came to the junction of a great rolling river. M'Lord Dawson divided the force at this point, sending six of the soldiers and half of the porters upstream with Ciril, the rest heading downstream with us. We followed the river for three days, never deviating from its path, neither left, nor right, until it disappeared in a maelstrom of swirling water a half league across. It flowed straight into the bowels of the Earth.

A dry passage continued beyond, and we pressed forward into the unknown.

The cavern had become more stark by this point, and grumbles coursed through the porters of approaching the gates of Hell. Indeed, it did seem to be warmer at times, and the earlier natural decorations had all but disappeared. There remained a single tiny spear fastened to the ceiling here and there, perhaps a muddy column, but none of the glory we had first encountered.

Aiding in the porters' contentions were the obvious diminishing supplies: two, maybe three days remained, no more.

At last the passage ended, on the brink of a precipice that surely seemed to be the very edge of Hell itself. During the course of the past day's journey the walls had been steadily closing in upon us, until near the end three men could stand fingertip to fingertip and touch either wall. I felt certain we would return immediately at that point, retracing our steps to the entrance, and could scarce contain my joy. M'Lord Dawson had other plans.

He motioned one of the porters forward, and from a pack withdrew a large coil of rope. M'Lord Dawson turned to me, smiling, and I knew my fate was sealed. As the smallest member of the party it was obvious whom they intended would descend. Despite my protests to the contrary, three of the strongest lads held me down as the line was wrapped thrice around my waist and knotted in the back.

Never was so great a fear within as they lowered me over the edge, my body spinning slightly as I faced into the abyss. I clutched with two trembling hands a flickering torch as tears of dread coursed my face and the painful bite of line folded me in half. All around was total blackness, my puny flame the only circle of light. Above me the lights of my tormentors soon disappeared into the darkness as well. I was alone.

How long it took, or how far I descended I know not. I only know that it seemed an eternity before my feet finally touched the bottom. I hailed those top-side, yet, they seemed not to hear, and in fact, the rope continued to pile at my feet until, in one whooshing moment, the whole of it came spilling from above.

Oh, the terror of my situation was indescribable, as a total and complete surrender into madness consumed my very soul. I lay atop the abandoned rope sobbing, wailing to those above to lower another line and save me from this heinous fate. There was no answer, not even a flicker of sound, save the pleading echo of my own voice. (To be continued next issue)

## EXCHANGES

**American Caves.** Vol 10, No.1, Spring-Summer 1997. p.15. "Stalactite used to Study Past Climate" Using a previously untried combination of techniques, geologists from the University of California at Santa Cruz have used a stalagmite already broken off) to study the past climate of that region. By measuring minute amounts of protactinium, a by-product of the uranium breakdown, the scientists found the 10-inch stalagmite took 8,000 years to form and that it is likely that the area's climate was considerably wetter during the first 4,000 years of the formation's growth. As the oldest trees in the area are only 800 years old, the use of stalagmites will allow the study of a much longer period of time - up to 18,000 years back as older stalagmites are found and studied. (Source: Mud & Rope, Vol 2, No.1, January 1997, p.6.)

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**American Caves.** Vol. 10, No.1, Spring-Summer 1997. p.15. "Tennessee Cave Yields Civil War Signatures" In April of 1994, the names of Union soldiers were found recorded on the walls of Whiteside Cave in Marion County, Tennessee, making it the 15 cave in the Tennessee-Alabama Georgia area in which such historical markings are known to exist. The cave is near the site of a Civil War stockade built to protect soldiers assigned to guard a nearby railroad bridge. (Source: Speleoneews, Vol. 40, No 7, Summer 1996, pp.10-11)

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**California Caver.** Issue 206, Summer 1997, p.22-23. "Western Region News" by Carol Vesely and Lynn Fielding. Jeff Cheraz recently began a cave documentation project in the Mineral King area. While ridge-walking in Mineral King last fall, Jeff found an intriguing hole with notable airflow. In July, Jeff returned to his discovery accompanied by Brad hacker. The pair surveyed over 1,000 feet of mostly walking passage in Cascade Cave. Jeff Cheraz and Art Fortini discovered a new cave while ridge-walking in the San Gabriel Mountains. They named the cave Cardio Cave since hiking to the cave provides a cardiovascular workout in itself. Jeff and Art surveyed 57.9 feet of cave passage in their new discovery.

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**B.C. Caver.** Vol 11, No 1. Jan-March 1997. p.25. "Are You the Youngest?" A colleague has just forwarded the theory that cavers are usually youngest children. The argument is that "normal" people don't go caving, but the youngest child might, because doing bizarre things is: 1) the only way of getting noticed by one's parents or

2) the only way of getting respect from one's siblings. It would have been nice to have refuted this theory, but unfortunately, I'm a youngest child. Any comments, please, to keen@unbc.edu.

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**The CIG NEWSLETTER,** Vol. 41, No.5. May 1997. p.65. "Caving Fatality" There was a fatality at New River Cave (Giles County, VA) on March 8. I do not know all the details at this time, but here is what I do know. A group of five individuals, identified only as residents of Roanoke, VA, one female and four males, entered the property late in the afternoon. One or more had hand-held flashlights. No one had safety equipment of any kind. While several were inside the cave entrance rooms, a 30-year-old male slipped and fell while climbing on rocks outside the cave entrance. His injuries were severe and he apparently succumbed within minutes. His companions carried the body down to the road where they met area rescue squad personnel. Rescue personnel and a sheriff's department investigator reported alcohol use by victim and companions. Cave rescue was not called. None in the party had permission to be on the posted property. The female was the sister of the victim.  
Tim Kilby (Cavers Digest)

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**Cascade Caver.** Vol. 36, No 7, August 1997. "User Fees are Here!" by Scott Davis. Parking permits are required at major heavy use trailheads in National Forests. The cost is \$3 for a day or \$25 for a calendar year. This is separate from Sno-Park permits which are still required in the winter time. Motorcycles are currently exempt for these parking fees. Permits can be purchased at any Forest Service office or REI or the Snoqualmie pass Visitor Center. Permits are good at all Washington State Forest Service trailhead parking lots and also covers northern Oregon in a cooperative overlap. Volunteers can receive a free day pass. If you volunteer for more than two days, a season pass can be obtained. WA Trails Assoc. Hotline (206)-517-7032.

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**CAVE MANAGEMENT IN AUSTRALIA** For 20 years, the Cave Divers Association of Australia has operated as a duly constituted and self regulated body. The CDAA certification card is recognised by government departments and most private land owners as the only card by which permission will be given to dive. For details write to: PO Box 290, North Adelaide, SA 5006.



cave would have waterfalls. We put on our damp clothes, then hiked up to the cave. It was truly disgusting to open up a leaky garbage bag, then hurry and put on my soaking wet, undersuit before dealing with a mucky, soaking wet, pile of coveralls, then muddy vertical gear. Dave had the same problem with his garbage bag. Pete had washed his gear down at the camp, so he was just wet, period.

Pete and I went ahead of the others, and we barely managed to force ourselves to survey a couple of shots down a dead stream passage before starting to shuttle up the ropes and drill. Dave and Paul came and helped get everything pulled to the top of the 200-foot pit series. We'd had enough, and slogged back to camp to stuff our sodden gear into expended mountainous packs.

These types of trips teach us valuable lessons of life. First lesson: We are nuts. Hummmm, when I can think of any more, I'll pass them on.

Continued from Letters page 9

are complied with and resources are protected. Considering that the Forest Service already errored once on the Heceta Sawfly surveys (not to mention many of acres already harvested), a second survey should have any error on the safe side. In the long run you will find this time is worth it. I have heard the complaint that too much time surveying unit makes the operation too costly. To this I respond that if a harvest unit cannot show a profit while harvested in a correct manner, then the unit should be eliminated from the timber base.

My final concern addresses the future of timber harvest on karst. For this question I would like a direct answer: had members of the Ketchikave expedition not done rough surveys of those units, what would have been the fate of those karst systems? In my opinion the Forest Service owes a large thank you to each member of the expedition for giving a second chance to avoid breaking the law. Finally, I would like to know what plans are underway to avoid the possibility of such mistakes in the future. Please keep me on your letter's list.

In conclusion, my encounter with the on-going ignorance of karst systems on Heceta cannot be as forgiving as my first. I will not accept mistakes made after the agency knows better, ...(shortened to conserve space)

I am forwarding this letter to several other Forest Service people. As I do not know the individual(s) responsible for laying-out the Heceta Sawfly Salvage Units, I ask that a copy of my letter reach then too.

I thank you for your time. Zach LaPerriere

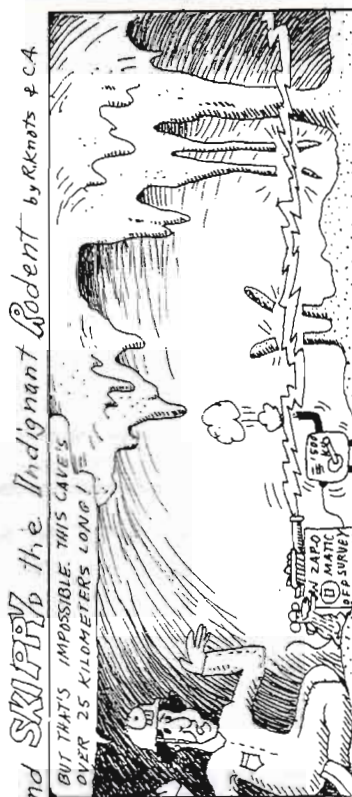
Continued from Summary page 8

Baichtal and others were silent on the issue.

We all agreed that we need clarification of the extent of buffering required around slopes greater than 72 percent and we need to know how extensive such a steep percent and we need to know how extensive such a steep slope needs to be before it is considered to be HV karst.

However, no numbers were discussed at that time.

Simon and I were quite disappointed at the outcome of the meeting. We both feel that current policies on karst are still focusing on where we want to log and then figuring out how to best protect the karst while still getting the logs out. It is our opinion that we should focus first and foremost on classifying vulnerability of the karst as a system, not as features, deleting all high vulnerability karst from the timber base, and then treat moderate vulnerability karst very carefully (at approximately the level we seem to be protecting HV karst).



GAVIN KARSTNER and SKIPPY the Indignant Rodent by R. Knott & C.A.







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## MISCELLANEOUS

### Duties of the Glacier Grotto officers and nominations for 1998 officers are as follows:

The **President** shall preside at meetings of the Grotto and appoint such committees as he or she deems appropriate. The President also shall appoint elected officers in the event of incumbent's resignation or incapacitation.

Nomination for President..... Alan Murray

The **Vice Presidents** for Northern Alaska, Southcentral Alaska, and Southeast Alaska shall govern each Area as a sub-grotto, holding meetings, appointing local committee chairs and conducting local business. Each Vice President will be the Grotto contact person for the Area designated. All written correspondence with outside organizations should be copied to the President.

Nominations for Vice Presidents:

Southeast.....Dave Valentine

Southcentral.....Jay Rockwell

Northern.....

The **Secretary** shall have custody of the records of the Grotto and be in charge of receiving and responding to all Grotto correspondence. The Secretary shall also perform those other duties that are generally performed by secretaries of like organizations and that may be assigned by the President or the Executive Council.

Nomination for Secretary.....Connie LaPerriere

The **Treasurer** shall collect the dues, send out notices of delinquency of dues, have custody of all funds belonging to the Grotto and shall keep the necessary financial records. The Grotto's financial records shall be audited annually by a member or person qualified other than the incumbent Treasurer.

Nomination for Treasurer.....Connie LaPerriere

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#### Scholarship Available

The Cave Conservancy Foundation will be awarding its second annual \$15,000 Graduate Fellowship in Karst Studies in 1998. Any study of caves and karst in any field, including but not limited to archaeology, biology, engineering, geography, geology, and social sciences will be considered. The research can involve any cave and karst areas, including those outside the United States. Applicants must be full-time graduate students at a US college or university. Applicants must include a letter

of intent, a thesis proposal, graduate transcripts, and two letters of recommendation, one being from the thesis advisor. Mail applications before June 1, 1998 to Cave Conservancy Foundation, Attn.: Graduate Fellowship Program, 13131 Overhill Lake Lane, Glen Allen, VA 23059. The award will be announced by July 15, 1998. For more information contact Dr. David C. Culver, at Department of Biology, American University, 4400 Massachusetts Ave. NW, Washington, DC 20016-8007 or via e-mail at [dculver@american.edu](mailto:dculver@american.edu).

#### The Alaskan Caver

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