

the news

the journal of Grand Canyon River Guides, Inc.

volume 7 number 1

winter 1993/1994

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Coming Events

Most Grand Canyon boaters know of Buzz Holmstrom's 1937 solo journey down the Green and Colorado Rivers. Many of you may have read of his life and death in David Lavender's River Runners of the Grand Canyon. If not, you should, as we won't repeat most of the better known facts you'll find there. What we'd like to present are two unique perspectives of a man who may have been both the greatest natural boatman to ever dip an oar on the Colorado, and the humblest.

Vince Welch travelled through his own, and Buzz's, native Northwest in search of Buzz. Brad Dimock went through Buzz's voluminous journal of his solo trip and pulled out some of the more revealing and descriptive passages. The stories that follow will give you new insight into the legend and the man that is Buzz.

Looking For Buzz

Vince Welch

From the beginning of my time on the river, there has been only one true Canyon hero for me. I did not know then that the figure of Buzz Holmstrom would come to carry the weight of my own dreams and wishes about life on, as well as off, the river. That he would come to represent for me what is best and right about the Grand Canyon. And that later on I would always use the Canyon and his journey as markers by which to navigate through the often maddening thing we call modern life. I did not truly appreciate the value of just knowing that there is a place like the Canyon. Nor did I appreciate its power to challenge and inspire the likes of a Holmstrom. Until I left.

(continued on page 24)

Down the Colorado

Buzz Holmstrom

In 1937 Buzz Holmstrom took a vacation from his job at a Coquille, Oregon gas station to go on a boat trip. He crafted his boat by hand from lumber milled from a deadfall Port Orford Cedar tree he found. He loaded it on an old trailer, drove alone to Green River, Wyoming, and began his seven week trip.

He kept a journal along the way. His entries portray, more than any latter day historian's interpretation ever could, a phenomenally sensitive, perceptive and talented young man. When you consider that his previous big water experience was virtually nil, that the art of rowing boats through whitewater was far from advanced, and that most boaters who went before him were a bit boastful of their prowess and protective of their terrain, I think you will find Holmstrom even more remarkable than you might have imagined.

I'll leave the rest to Buzz.

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the news

...is published more or less quarterly by and for Grand Canyon River Guides.

Grand Canyon River Guides
is a non-profit organization dedicated to
Protecting the Grand Canyon
Setting the highest standards for the river profession
Providing the best possible river experience

Guide Membership is open to anyone who has worked in the river industry.

General Membership is open to everyone.

Membership dues:

\$20 per year

\$100 for 6 years

\$195 for life

\$277 Benefactor

Please save us trouble and renew before you're due.

General Meetings are held each Spring and Fall.
Board of Directors Meetings are held the first and third Mondays of each month. All interested members are urged to attend. Call for details.

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We need articles, poetry, stories drawings, photos, opinions, suggestions, gripes, and more.

Written submissions should be 1500 words or less and, if at all possible, be sent on a computer disk. PC or MAC format; ASCII files are best but we can translate most programs.

Deadlines for submissions are the 1st of January, April, July and October.

GRAND CANYON RIVER GUIDES

P. O. Box 1934

Flagstaff Arizona 86002

phone or fax (602) 773-1075

Balance

I have nothing to wear on my feet but an old pair of boots in which I cannot climb the mountains and which are my only reliance for portages. On the boat and much of the time in camp I go bare-foot but I have a pair of moccasins to slip on when the rocks are bad or the sand is too hot. I have given away my clothing until I am reduced to the same condition of those who lost by the shipwreck of our boats. I cannot see a man of the party more destitute than I am. Thank God the trip is nearly ended for it is no place for a man in my circumstances but it will let me out of the Army, and for that I would almost agree to explore the river Styx...

Our camp... is filthy with dust and alive with insects. If this is a specimen of Arrazona a very little of it will do for me. The men are uneasy and discontented and anxious to move on. If the Major does not do something soon I fear the consequences, but he is contented and seems to think that biscuit made of sour and musty flour and a few dried apples is ample to sustain a laboring man. If he can only study geology he will be happy without food or shelter but the rest of us are not afflicted with it to an alarming extent.

Thus wrote George Bradley at the mouth of the Little Colorado River in August of 1869. There is no mention of the sublime beauty of the Canyon. Bradley's was more a feeling of growing desperation in the most hostile of surroundings. The magical Canyon experience was lost in the race for survival.

It truly was the trip of a lifetime. From the comfortable bus ride to the river to the exhilaration of the helicopter ride out, it was all we expected and much more. The food was unbelievable! Who would have guessed we would be gorging (no pun intended) ourselves on chicken cordon bleu in the wilderness! The sleeping arrangements, what with the thick pads and individual tents, were most comforting. And your guides deserve an extra commendation for their skill and courteousness. Their humor kept us entertained from dawn till dusk.

Again, it was the trip of a lifetime. A hearty thanks from our whole family.

Edna Winston, August 1993

No mention of the Canyon experience from Mrs. Winston either. Where did she go, anyhow?

Perhaps in our attempts to lessen the hardships of Powell's day we have thrown the baby out with the bathwater. In our well meaning endeavor to cushion the wilderness we have begun to bring the very things with us that we went on the river to escape. We have begun to insulate people so thoroughly from the experience that they no longer know where they are.

Last spring I watched two young ladies during the course of a trip. Each night they would spend close to an hour setting up their tents and arranging the sleeping gear inside it. Then they would crawl inside and remain there until hors d'hourves were served. You cannot see Grand Canyon from inside a tent. It wasn't raining. I'm not kidding.

An extreme case, I admit, but it was all company gear, that we supplied them with, that had become their Canyon experience. We as an industry seem to be in the position of either supplying or recommending ever more high tech gear to our clients. Why? Because it's there, it's all the rage and we don't want to seem behind the times. Have you looked at a Recreational Equipment catalog lately? Everything is designer line. The BMW-and-Perrier crowd has taken over the outdoor experience.

The question is whether we, so called purveyors of "the best possible river experience," want to buy into this mentality. This humble boatman's opinion is, hell no! We don't! "The best possible insulation from the river experience" is not a valid reason to be in Grand Canyon.

Now I'm not saying that we should go back to wet tattered blankets and moldy flour. I'm just looking for a balance between the extremes, comfort without loss of contact, feeding without fattening, facilitating the Canyon experience rather than competing with it. Consider a few questions.

Does it make for a better trip if everyone sets up an individual tent? Did the old plan of having a big group tarp actually make for a more meaningful, if less comfortable, experience on the rare night that it actually rains?

Should the crew spend three hours cooking a gourmet feast or one hour cooking good food and two hours hiking somewhere with the folks?

Should passengers' prime concern be dealing with all the material comfort items that they or we have brought along? Should they spend the rest of their waking hours expecting to be entertained? Or should they be encouraged to spend more time exploring, savoring and pondering?

Should we hold people's hands full time whether they want it or not? Or should we encourage them to push themselves a bit, discover more of themselves, and have guides there to help if they really need or want it?

Should we set up that abominable potty tent every night or should we encourage people to savor one of the great joys of life, taking a dump in the great outdoors?

Most of these questions don't have a black and

white answer. Many of them are not up to us but are dictated by company policy. But the bottom line is that the character of a trip is determined by the way we present it, and company policy doesn't change unless we push for it.

Let's put Grand Canyon back, first and foremost, in the Grand Canyon river trip.

Brad Dimock



Oral History Update

Oops. Now we've done it. Accidentally went and got a grant to continue the oral history project. Many thanks to Mrs. Jane Ivancovich, who started the Southwestern Foundation for Education and Historical Preservation. And to Dr. Jessica Harrison of Tucson, a veteran dory passenger, who along with her cohorts on the Foundation's board, has given us the funding to, as our proposal put it:

"1. Tape record, transcribe and archive (at NAU's Cline Library) interviews with 60 participants.

Talk in depth with boatmen and women, their passengers, various outfitters, and the rangers who've tried to regulate them all. Pay attention to stories of the wilder adventures and mishaps, but also examine aspects of a broad evolution. How did river running as we know it start out? Where did it go? What is the significance of Glen Canyon Dam? What happened in the mid-sixties with the Sierra Club and the fight to stop more dams in the Canyon? What happened during the big flood of 1983? And the Environmental Impact Statement of 1994? When it comes to management, where do we go from here?

2. Publish the results. First in installments via the GCRG newsletter. Later in book form of some kind."

That's what we asked for and it worked. Rather better than we had hoped for.

Now that we have our generous grant, we're looking for input on how to make the best use of it. That's where we need help from YOU.

What are the wildest, most incredible stories we need to record? Who should we talk to at all? Who should we talk to first?

Please let us know by sending comments to The Oral History Project, care of GCRG

Lew Steiger

See Ya!

Boy Howdy, don't things change?! Time was when outfitters needed their guides. Back then, in the Neoprene Age, guides just about defined what was happening on the river. They did the dirty work and got the job done, pretty much like normal.

Nowdays its different. Outfitter advertising, lobbying efforts and political clout say much to define the industry. River running has grown into a bigtime business—and Grand Canyon has become the destination river. Guides are standing ten deep to work the Colorado.

With demand like that, who needs the old boys? And if they're not needed, like if a company is tired of them, how to dump 'em?

A commonly popular method uses violations in company policy. Some examples: One drink and you are outta here; one wild night and pack your bags, dude; one ghetto blaster and...gone. The caveat: You May Be Fired For ANY Reason. Doesn't that just rankle real bad?

You bet it does. Not that a firing is, or, isn't needed once in a while. Fair is fair, and works both ways. But when somebody—anybody—gets fired on a pretense, especially if they've been around for a while, like 15 or 20 years, it says something about the industry and how guides get treated in the long haul.

There's more to life than money. I know a fella who was asked to sign a contract stating he wouldn't be eligible for a bonus; he was further required to swear company loyalty in the same document. Am I given to understand this behavior is becoming a common practice in an industry defined by the unique and individual nature of it's very guides? Specific contracts for everyone?? Horseshit. He didn't get the dough anyway. Is that such a huge surprise?

Some river companies just about demand admiration from their workers. Its not an entirely unreasonable request. It's been a long, tough haul for many of them. But river companies should admire their guides just as much, and for the same reason. Guides work for



companies and, generally, do their damndest to please customers and employers alike. Call it respect: Everybody's out there with the same goals and interests and trying to get along while working toward a common end. That's what a job is all about.

Until somebody gets canned on a misdemeanor—or has a piece of paper shoved in their face that will get 'em canned on a misdemeanor. If they sign it. At that point it's guide versus company. By then its obvious there's funny stuff in the air. Not necessarily the mesmeric sort; this more the sleight-of-hand variety. At that point Company Policy has grown legs and can walk around all by its ghostly self. You never know where it'll pop up next.

That is some place we don't want to be.

What counts is that we're in it together. Grand Canyon isn't such a huge place after all. Its easy to get wrapped up in a 'company perspective' or a 'guide mentality thing' or some other oddball 'deal' and forget what's really important to everybody. As a community, we don't want to grow apart. What we want—need—is to grow together. Are we in it for Grand Canyon, or The Company? Is that what guiding has come to? If so, I'm gonna go out back and throw up.

Boy Howdy! I hope not. "The quality river experience" is all the rage these days. To working guides, this is not a discussion devoted entirely to improving camp chow. Company ethics play heavily in the experience "equation" for visitors and guides alike. When guides get duped—for whatever lousy reason—its the same as feeding a good customer tripe: hard to chew, impossible to choke down. Like any customer, the guide wants to know why he, or she, must eat the stuff. A responsible trip leader would, in the very least, offer a rational, sincere explanation.

Shane Murphy

Thanks Again, Ed

Ed Norton, who many of you know, has moved on from his long time position as president of Grand Canyon Trust to pursue other interests. We want to thank him for the billions of hours he spent tromping the halls of Washington struggling and arguing for Grand Canyon. Without his tireless work, many issues like the Grand Canyon Protection Act, The Glen Canyon EIS and the Navajo Power Station clean-up might have stalled out long before their fruition.

Thanks, Ed. I'm sure we'll be seeing more of you.

A Coronary Bypass

Only thirty years ago the Colorado was as young and athletic as any river in the world. Flows varied from a trickle of 1,000 cfs in the winter to raging floods of over 100,000 cfs in the spring. She carried an average of half a million tons of sediment each day. In other words she not only exercised regularly, she frequently ran marathons. We all revel in the thought of running the old river. Today she lies sedate with many of her resources; beaches, fish, aquatic communities, struggling for survival. At the conclusion of this EIS we may find that she needs *more* than careful attention, that she needs more positive rejuvenation. In that case we should look at a couple of structural solutions.

The alternatives of the nearly completed Environmental Impact Statement focus on operational measures to help our patient. Rightly so. The notions of building another dam above Lees Ferry or sending barges down to pump sand up onto selected beaches addressed the symptoms, not the cause. We wanted to learn the extent of her injury and do all we could to comfort her in hopes that she will get back on her feet. Perhaps enough sediment can be stored by dampening releases from the dam to rebuild beaches. Perhaps lowering flows in the summer will warm the waters and help the Humpback Chub prosper.

But what if the medical bills soar and the patient fails to repond? What if the beaches don't build and low, steady flows breed mosquitos and send boats on the rocks? And the warm, clear backwaters turn out to be more to the liking of exotic predators than juvenile chub. And the power bills rise as peaking power is reduced. And we spend more and more on a search for finer and finer ways to help the system.

Then I think we should consider a couple of other solutions, solutions that we have catagorically rejected until now. We should step back from the Canyon and consider ways to restore the blood and circulation to the Colorado before it reaches the Lees Ferry. We can consider giving the Colorado River a coronary bypass.

Warm, muddy water was the lifeblood of the Colorado. While we cannot (and may not want to) restore the predam floods, we can partially restore the warm, muddy waters. We should seriously consider structural means of warming the river and adding sediment. The first may be accomplished by building multiple intake structures on the upstream side of the Dam. These would allow warmer water to be drawn off the upper levels of the lake during periods critical to native fish. Warmer water may even benefit the

trout fishery above Lees Ferry as it has below Flaming Gorge Dam in Wyoming.

The second could be a sediment slurry line to transport Colorado River mud from the base of Cataract Canyon to the head of Grand Canyon. Technically such a pipeline is challenging but not outlandish. A similar slurry line now carries coal from Black Mesa across northern Arizona to a power plant in Nevada, a distance 50% greater. The pipe need not be blasted into the solid rock surrounding Lake Powell, but could be floated underwater down the center of the reservoir along the existing navigation bouys. Sediment transported directly from Cataract would be free of the dangerous buildups of uranium and heavy metals in the bottom of the lake. In order to preserve the Lees Ferry fishery the sediment could be brought to the Colorado at the mouth of the Paria River. Operated seasonally such a pipeline may add enough sediment to rejuvenate the natural processes in the Canyon.

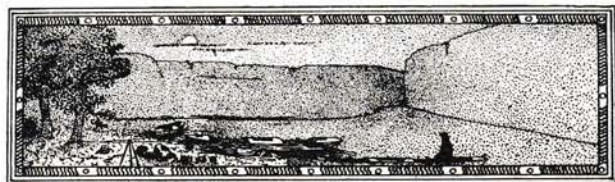
Blasphamy you say. The engineers have done enough damage! It's true that each of these will cost money to build and operate. But these costs should be weighed against the alternative costs of maintaining a close and intensive vigil over our patient. It may be that these are solutions are not needed and that's fine. But they should be considered as we search for long-term solutions to the effects of Glen Canyon Dam on the Colorado River through Grand Canyon.

Tom Moody

Quote

We are inclined to forget that sight is in some ways the most superficial of our senses. Immediately after I came out of the Canyon I flew low over the whole of my route. It was an interesting experience. But that was all. Sight was the only sense I could use. And the difference between flying over the Grand Canyon and living in it is like the difference between, on one hand, seeing a beautiful woman in a bikini and, on the other, making deeply satisfying love to her, with all her warmth and smoothness and fragrance and murmurings and movement.

Colin Fletcher



SES and the Super

Thanks so much for the piles of letters you've sent to Washington on the Superintendent issue here at Grand Canyon. We've heard that we're already generating a fair amount of heat back there. Let's turn it up.

For those of you who haven't heard, the position of Superintendent at Grand Canyon is vacant again, for the third time in five years. This is due, in a large part, to a program called the Senior Executive Service (SES); a high level, highly paid corps of professional managers who are moved from one government position to the next. It's a two edged sword—on the one hand, we get very high level people in the Superintendent's office, but on the other hand, they don't stay long enough to accomplish much of anything.

Here is what's happening at South Rim. After Superintendent Chandler left, Assistant Superintendent Gary Cummins (a great guy) took over the position as *Acting Superintendent*, until a new Super was chosen. We had all hoped for a prompt search and replacement, but that does not seem to be happening.

In late January, Gary Cummins went back to being Assistant Superintendent and a new Acting Superintendent, Boyd Evison, was brought in to hold down the fort.

Rumors come down to us from on high that perhaps it will be a political appointee, someone to fill a quota... or perhaps the position will be announced for people to apply for. No urgency on the government's part to get Grand Canyon functioning

again has been detected. Designation of the position as officially an SES position, however, was announced in last week's *High Country News*. It's discouraging.

On a somewhat lower level, the Park's position of Chief of Resource Management, vacant since George Nusehanger left last summer, has been filled temporarily by an SES trainee, Mike Strump, who will be there for six weeks. No one is scheduled to replace him, and resources, as well as the park in general, continue to drift. It's very, very discouraging.

The team of good people at the Park deserves better. So do we. And the country. And most especially, the Canyon. If you haven't written yet, please do so. Demand professionalism and continuity at the Grand Canyon. Demand some respect. And send us a copy of your letters.



Dang

We just heard that Jim Traub has been transferred from River Patrol to Rim Patrol. Too bad. He was really doing a good job of working with the community and the river. Thanks for your efforts, Jim.

A Christmas Gift

You've probably all seen Jimmy Hall and gang down there hiking on their Fred Cropp Charters. They've become an institution. Well, Fred Cropp and Amy White now run Environmental Experiences, Inc., a small non-profit organization. Last month they awarded Grand Canyon River Guides a grant just for doing what we do.

Shucks. We're flattered, honored, and glad to be doing good work. Thanks very much to Fred, Amy and Environmental Experiences for their support. We'll see you on the river!

Write to:

Roger Kennedy, Director
National Park Service
1100 Ohio Drive S.W.
Washington, DC 20242

Bruce Babbitt
Secretary of the Interior
1849 C Street, N.W.
Washington, DC 20240

Tell them to:

- Stop using Grand Canyon as a training ground, even if that means removing the Grand Canyon Superintendency from the Senior Executive Service.
- Base the selection on *merit and ability*, not quotas, favors or political correctness.
- Select a new Superintendent with:
 - ◇ a desire to stay and see processes through
 - ◇ the ability to deal with many outside interest groups
 - ◇ experience in coping with larger-than-park issues
 - ◇ a strong resource-oriented background

How Do They Do It?

Our journal, *the news*, over our six year life span, has gone from a two-page photo copied sheet to the ridiculously out of hand journal you're looking at now. This is the story of how it happens.



the IBM, the Mac, and their servants

The contents of each issue is written and drawn by volunteers from all realms: science, government, passengers, boatmen and the Board. The compilation of each issue begins in our little office, where much of the input arrives on computer disks or by modem. It is fed in to the big MacIntosh (thanks yet again to the Grand Canyon Conservation Fund) and formatted into a PageMaker document. This has gotten easier over the years as the technology gets fancier, but Brad's eyes still get round and blurry before it's finished. The Board does its best to proofread and edit it, although we never seem to get to press without some pretty good bloopers. (dates seem to be our nemesis lately)

The IBM computer, with help from Jeri, keeps track of our expanding membership and produces the mailing labels. Current circulation is 2000.



Joan and Brad critique the negs

Once all the text is edited, it goes on to a 31/2" disk and goes up the hill to Northland Graphics, where Lulu (who printed our color Georgie picture) and her crew including Joan (who designed our logo) and Paul (who is leaving just after we got him trained) scan our graphics and photos into their mega-MacIntosh. These are then manipulated on a computer screen into *the news*, and large, high resolution, press-ready, two-page negatives are produced. The amazing thing here is that there is never a life-size paste-up of the journal- no "hard copy."

Next, the negatives go down the hill to Aspen Printing where Greg,

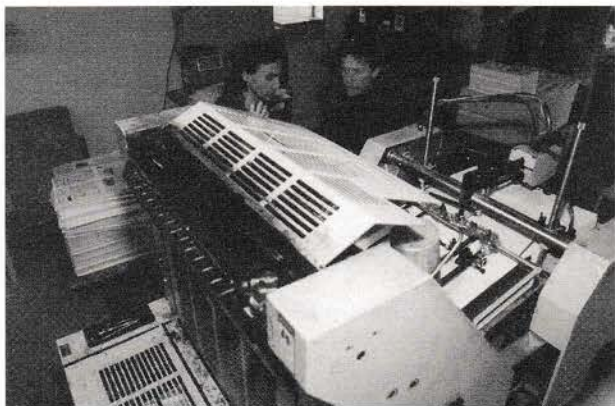
Lowell and Jeff, all boaters themselves, create the press plates in two colors. They print *the news* on their big Czechoslovakian press, then fold, staple and crop it.

Lastly it goes out to

Lou and Emmy at Peaks View Bulk Mailing where their handicapped crew labels and bundles it for mailing.

From the time it leaves our office until

it's in the mail can be as short as four days if nothing goes awry. (Last issue something went awry and most of you got it well after some of the meeting dates announced within had passed. C'st la vie) We do try.



Lowell tells Brad why the front page will be upside-down



the Peaks View crew send it off to you

Site Restoration and Revegetation

As the popularity of the Colorado River grew in the sixties and seventies, an abundance of "impromptu" trails developed as river runners frequented previously unvisited sites. More often than not, the trails selected consisted of the most obvious routes but not necessarily the best locations. As a result, many of these trails experienced significant erosion, and often extensive multiple trailing developed. Beginning in 1978, the Park Service initiated a restoration program aimed at relocating some of the most troublesome trail sections and eliminating multiple trailing. That program, with the help of the Grand Canyon River Guides and Grand Canyon outfitters, continues today.

The 1989 Colorado River Management Plan presents guidelines concerning multiple trailing and campsite impacts. It emphasizes the need to establish single trails to attraction sites, and localize the impacts of social trailing, particularly within the old high water and desert vegetation zones. Camping activities should be confined to the more resilient, resistant sand beaches. The Plan also establishes a tiered approach to impact resolution, beginning with minimal efforts consisting of simply blocking off multiple trails with deadfall, to actual trail relocation or emplacement of waterbars, or, if all else fails, closure of the site.

Guidelines for revegetation, campsite stabilization, and trail maintenance standards should conform with Park Service policies regarding proposed wilderness.¹ Such areas should be "protected and managed so as to preserve its natural condition... with the imprint of man's work substantially unnoticeable."² Not only should the impacts of recreational activities be "substantially unnoticeable", but so should the restoration efforts that mitigate such impacts. Park managers are required to utilize the "minimum tool", minimum level regulation, and minimum level of manipulation to manage the area in a natural condition. It should be emphasized that this minimum effort must be sufficient to actually work.

Ideally, any restoration work should result in immediate improvement by eliminating visual and resource impacts with no evident signs of manipulation. Rehabilitation of multiple trailing through careful restoration techniques including the breaking up of compacted soil, careful placement of brush, and liberal application of leaf and other organic

mulch can often accomplish this goal. Larger areas, such as the hiker's camp at Tanner or the river camp at Lava-Chuar, require the short-term visual impacts of techniques involving commercially available jute mat. If the revegetation attempt is successful, and in a desert environment this may require several years minimum, the visual intrusion will be short-term and the restoration permanent.

Trail work presents additional challenges. Most of the backcountry trails were constructed fifty to one hundred years ago to accommodate mining and tourism. As a result, routes were generally selected to minimize the grade and subsequent maintenance problems. Often, rock retaining walls, waterbars, and other erosion control features were installed to maintain the trail. The unintentional result of constructed and maintained trails was the reduction of additional impacts on surrounding vegetation, archaeological sites, and other resources.

Many of the trails developed along the river to attraction sites were not as well planned. These problem sections are the focus of the current restoration program. A number of deteriorating trails were only recently relocated to reduce grade and erosion problems. These areas include Nankoweap, Saddle Canyon, Deer Creek, Stone Creek, Royal Arch, the Beamer Trail, and the Lava-Carbon Creek trail. Sometimes the original trail was retained, with the problem sections stabilized as described above. Sometimes the level of resource damage, particularly to archaeological features, was considered excessive and the site was closed. Examples of closure include the "Anasazi Bridge" and Furnace Flats archaeological complex.

At any rate, the involvement of Grand Canyon River Guides presents a great opportunity for the folks who run the river to become involved with not only the actual restoration work, but with the evaluation and planning process. Finding the best solution is often challenging, sometimes frustrating, but it's better than working for a living.

Kim Crumbo

¹ The 1980 Wilderness Recommendation excludes the North and South Rim developed areas, Tuweep, the lake below Separation, and Cross Canyon Corridor (Kaibab and Bright Angel Trails) from Wilderness consideration.

² Wilderness Act. 1964. Public Law 88-577. 78 Stat. 890. Section 2(c)

**For information on
the next Trails Trip,
or to sign up, contact:**

Laurie Lee Staveley
Canyon Explorations
P.O. Box 310
Flagstaff, AZ 86002
(602) 774-4559
OR
Bill Gloeckler
Arizona River Runners
N. Columbine Blvd.
Flagstaff, AZ 86004
(602) 527-0269

Upcoming Trails Trip

Kim is going to be doing another Resource Management trip this spring, again sponsored by Grand Canyon outfitters, the National Park Service and GCRG. It will be an 18-day trip, putting in February 23, 1994 (9-day upper, 10-day lower, exchange at Phantom on March 3, take out at Diamond March 12th). He needs 12 boatmen, including a cook.

Boatmen will receive \$100 PER HALF as "reimbursement for transportation costs". The cook will receive an additional fee for the pre-trip nightmares.

Here's your chance to give something back to the Canyon, have a lot of fun and have the Canyon to yourselves. The trip also presents a unique opportunity to have some say in the decision making process about resource management. Sign up! (see box, opposite)

Last Fall's Trails Trip

Here's what the trails trip was all about... Long hours and low pay, but you'll be hungry, and in danger.....

No, just kidding, we weren't ever hungry.

The trip that left Lees Ferry was large and fluffy. 9 boats, 16 people, and quite a few willow and mesquite trees. Before it was over, we would be down to 11 people and no trees.

The boats, gear, food cost, and subsistence pay for the cook, were donated by the outfitters. In addition to the logistical support from the outfitters, Kim Crumbo, Bill Gloeckler, Laurie Lee Staveley, Garrett Schniewind, Drifter Smith, and the warehouse staffs of AzRA, Can Ex, and ARR, made this trip happen. They worked out logistics, planned the menu, and pulled the trip together.

We stopped at Badger to do a trash pick-up, worked at South, laid over at Nankoweap to plant trees at Little Nankoweap and do trail work. Today I'm sitting watching it snow, but six weeks ago I was enjoying the sunshine, the Canyon, Macy's coffee, and the river at Espejo. We stayed at Espejo for three nights, so the crew could work on the trail between Tanner and the Beamer Cabin.

The crew revegetated multiple trailing at Elves. We camped at 120 Mile, revegetating some of the trailing between the camps, and the next day the trail crew performed a complete camp-rebuilding effort at Galloway. We spent three glorious days at the mouth of Tapeats to work on that trail. At Poncho's, we planted the rest of the trees, and then we blazed to Whitmore, where we laid over again. The trail crew

did extensive work on the Whitmore Trail to determine the amount of time and manpower needed to bring the trail up to stock standards. In all, the crew conducted maintenance on 38,700 linear feet of existing trail, applied revegetation techniques to 1,900 linear feet of multiple trailing, and blocked off 6,000 linear feet of multiple trailing.

There were 30 mile days on the oars, and water that was almost exclusively low. We had beautiful, exhilarating runs in rapids, Horn Creek at the petrifying stage, Upset at yahoo level, the right run at Hance, high-enough-to-be-fearsome at Lava. The trip involved a great deal of hard work. Because of the small number of people, we all had to do more of the camp chores, on top of the trail work. But I have never done a trip with people who complained so little, if at all. We laughed around the campfire, and thanks to Paul, Don, and Bill, had live music virtually every night. The food, if I do say so myself, was pretty damned good. The weather was perfect, warm and sunny. Halloween at Cremation was hysterical; we decorated camp, got dressed up, ate blue corn- black bean tamales, and had ourselves a small celebration under a full moon.

But the best part was how it felt. Giving something back, taking some amount of responsibility for ameliorating the degradation caused, inevitably, by human activity in the Canyon. That incredible feeling you get when you're exhausted from working your tail off just because it's the right thing to do.

It was quiet..... very few other trips, no motors; it was the most amazing feeling. On the bottom half of the trip, most of us were on boats by ourselves, and so we rowed downstream without any distraction, except what we created ourselves. On a boat, alone, in the Grand Canyon.

It was sad.....we lost crew at Tanner and at Whitmore because of family emergencies.

It was tiring.....from Tapeats to 165 Mile on low water. 18 days (plus packing and load-out) with no days off. Rowing all day. Moving huge rocks, huge logs, and large amounts of dirt. Not real glamorous; trail work. As the cook, I stayed behind while the others did trail work; cleaning, cooking, and nursing tomatoes. I wasn't there on the trails, but it was obvious at the end of each day that the crew was tired but gratified, and hungry.

This trip had a tremendous impact on my head. It wasn't your normal Grand Canyon river trip. I talked politics with Kim Crumbo, rowed rapids with Dave Desrosiers, discussed archeology with Helen Fairley, and worked with new people from other companies. It was the best trip I've ever done. Sorry guys, I know I promised not to tell, but they made me.

Nancy Nelson

Old Shady

Of all the members of John Wesley Powell's expeditions through the Grand Canyon, only his younger brother Walter seems to have acquired a nickname. "Old Shady" Powell was given to singing a song by that name, which he delivered in "a fine bass voice" in the now inundated Music Temple. In reading accounts of Powell's voyages, it is apparent that it was common in those days for even the roughest of men to have memorized a repertoire of song and poetry. This was the entertainment for the crew in the days before boatmen started carrying a Walkman in their ammo can.

Walter Powell is a mysterious figure on that first trip. A Civil War veteran like most of the others, he spent time in Confederate prisoner of war camps. John Wesley Powell seems to have invited his brother on the expedition to help him shake the demons of what we would now call Post Traumatic Stress Syndrome. The other men seem to have shunned Walter, perhaps out of fear. He is said to have pulled a gun on Billy Hawkins and Bill Dunn in an incident at the mouth of the Dirty Devil.

In trying to track down the words and music to the

song *Old Shady*, I had expected to find a romantic, sentimental number like most of the others sang on the trip. It was a surprise to find that it was a fiery Civil War era song about the freeing of the slaves. "Old Shady" turns out to be a freed slave, taunting his former master about the coming of Abraham Lincoln's army. The references to "Mas' Jeff" and "Mis'r Stephens" must surely refer to Jefferson Davis and Alexander Stephens, the President and Vice President of the Confederacy. Old Shady's wife and child had apparently already escaped to Canada via the Underground Railroad.

It was quite a thrill to discover that Walter's favorite song was an in-your-face Civil War victory song, from a freed slave's perspective. Seven of the ten members of the first Powell expedition had fought in the Civil War, so this song must have had a very special personal meaning for them.

The melody appears here exactly as it was published in an old collection of popular songs. I have added guitar chords for accompaniment.

Dan Hunting

OLD SHADY

B.R. Hanby



1. Oh! yah! yah! darkies, laugh wid me, For de White folks say Old Sha-dy's free; So
2. Oh, Mas' got scared and so did his la - dy. Dis chile breaks for old Uncle Aby;
3. Good-bye, Mas' Jeff, good-bye Mis'r Stephens, 'Scuse dis niggah for tak-in his leav-ens;
4. Good-bye, hard work wid never any pay, Ise a gwine up North where de good folk say Dat
5. Oh, I've got a wife and I've got a baby, Lib-in up yonder in Lower Can-a-dy;



don't you see dat de ju - bi - lee is a-coming, coming, Hail! might-y day.
O-pen de gates out, here's old Shady a-coming, coming, Hail! might-y day.
'Spect pretty soon you'll hear Un-cle A-bram's coming, coming, Hail! might-y day.
white wheat bread and a dol-lar a day am coming, coming, Hail! might-y day.
Won't dey laugh when dey see old Sha-dy a coming, coming, Hail! might-y day.



Den a-way, a-way, I can't wait any-y longer, Hoo-ray, hoo-ray, I'm going home.

First Aid

Has it been three years already? If it's time to deal with your First Aid certification, start making your plans now.

American Red Cross has their new course, *Emergency Response*, on line this year. As you're probably aware, this new upgraded course replaces the old *Advanced First Aid*, and you will have to take the entire course to renew this time. ARC plans to have a refresher course on line by the time you'll need it.

Patty Ellwanger will be offering two *Emergency Response* courses at Hatchland on March 25-27 and April 1-3. The price will be under \$100.

Patty will also be offering Instructor training in February if you'd like to become one. It's important that we have plenty of current instructors in the community. *Your* company needs one. Call her now at (602) 355-2241 if you're interested.

GCRG is helping sponsor two Wilderness courses this spring as well; the Whitewater Advanced First Aid and

Wilderness First Responder. Send your deposits (WAFA \$50, WFR \$100) to GCRG to sign up.

Patty Wins

Patty Ellwanger finally, after working with the Coconino Department of Health, got soap dispensers in the Lees Ferry bathrooms. Good Job! Patty is one of the unsung heroes of the river biz, keeping many of us trained in First Aid for almost fifteen years, fighting for good causes, and keeping the Hatch folks in line. Well, trying to keep the Hatch folks in line.

Thanks, Patty, from all of us.

FIRST AID SCHEDULE

Dates	Course	Location	Contact	Price
3/25-27	Red Cross	Hatch Warehouse	Patty Ellwanger	<\$100
4/29-5/1	Red Cross	Hatch Warehouse	Patty Ellwanger	<\$100
3/28-4/1	WAFA	Lee's Ferry	GCRG	\$180
4/2-4/9	WFR	Lee's Ferry	GCRG	\$280

Who's Around the Bend?

Grand Canyon National Park's River Permits Office has developed a commercial launch calendar which indicates trip exchanges and the length of trip between exchange points. Guides may find it useful to be able to figure out which other companies ahead have a planned exchange of passengers at Phantom or Whitmore. Deadhead trips to Phantom and trips with a planned run-out without passengers are also indicated. This may be useful information since there would not be any competition for camps with these trips without passengers.

A key explaining codes is present on each calendar. The number of days planned to reach an exchange point is indicated prior to the code for the exchange location. For example on June 19, 1994, OARS has the code: "5P9D". This indicates OARS will arrive at Phantom on the 5th day for a passenger exchange. The passengers on the lower end will be on the river 9 days between Phantom and Diamond Creek. The overall trip length for OARS is 13 days because the day of the exchange is represented twice.

Things get a bit more complicated when looking at WRAD (ARA-Wilderness River Adventures) on June 19. The code for their trip is "<3P5W>L". This indicates a deadhead to Phantom arriving on the 3rd

day. The passengers picked up at Phantom arrive at Whitmore on the 5th day for their flight out. The guides will run-out their boats to Lake Mead without passengers.

The Lees Ferry Rangers will post a copy of the calendar with the additional information for private trips. We obtain information about their itineraries shortly before their trip; therefore we cannot incorporate them in this calendar.

These 1994 calendars have been distributed to all outfitters for their review. After all, this information will not be useful to anyone unless it is correct. You may obtain a copy from your outfitter or contact the River Permits Office, (602) 638-7843. It will be to your advantage to obtain a copy closer to the season that will incorporate corrections from the outfitters.

KEY:

P=Phantom
W=Whitmore Pad
LP=Lava Pad
D=Diamond
L=Lake Mead
<=DeadHead
>=RunOut

JUNE 19, 1994

COMPANY	#PAX.	CODE
ARIZ	30	6W2L
CANY	40	7L
		(2 trips) 3P5L
HATC	29	7W>L
OARS	16	5P9D
WRAD	30	<3P5W>L

Sue Cherry

GCRG Fall Meeting

The good thing about all that snow was that it kept the riff-raff out. Only a hundred or so of the hard core made it up to Pack Creek Ranch in Moab where Jane and Ken Sleight hosted our Fall Meeting.

We chose Moab for two reasons: First, to try to better connect with some of the northern Grand Canyon boaters who feel Flagstaff is too far south. Second, to act as sourdough starter for a sister organization centered around the upper basin tributary rivers.

On Thursday a small group of us toured the River Running Museum in Green River with Roy Webb. He told us a lot about the boats up there and we watched a few old videos of trips in the 1930's to 1950's. We adjourned to Ray's Tavern for a hearty dinner.

On Friday we set up our bigtop tent at Pack Creek, where Dennis Silva and Sarah Martin fired up a fine soup kitchen for the weekend. Then it started snowing.

In the evenings we watched a few more old films and, around the fire, we heard some great tales of yore, all perfectly true, from Ken Sleight, Cliff Rayle, Bob Quist, Marv Jensen (remember him?) and a few others. Great stuff.

Saturday morning we held our general GCRG meeting, covered current developments and discussed some of the touchy ones like air traffic, the Grand Canyon Superintendency and, of course, poop disposal. We wrapped our part of the program up around noon, and after lunch launched into the Great Unknown of the alleged new group. We started with about a dozen of GCRG's old hands in the center of the room, giving advice, warnings, encouragement and ideas to a room full of interested folks. Although initially the northern folk seemed a bit timid, afraid to speak up too loudly lest they get put in charge, one by one voices and personalities began to emerge.

Mid afternoon someone suggested it was time for the GCRG folks to move to the back of the room and see what happened. We did, and were amazed and delighted. Tentatively at first, then with more and more momentum, a group developed and leaders emerged. There was denial at first, of course, "I'm not leadership material", "I don't have the qualifications", "I don't have the time", "No one knows who I am"... (Familiar ground for us!) But their momentum got the best of them and at 3:07 (or was it 3:08?) they made it over the hump and went ballistic. There was no turning back.

We broke for dinner. They didn't.

At their first official meeting on Sunday morning we watched from the sidelines as responsibility was

delegated and accepted; issues were discussed and dispatched in a fraction of the time it took us when we started. Suzette DeCoster-WEISheit bravely agreed to be the first president and others signed up for other posts soon after. They chose the name *Colorado Plateau River Guides* and, for starters, based their organization around many of the same principals and by-laws that GCRG has evolved over the years.

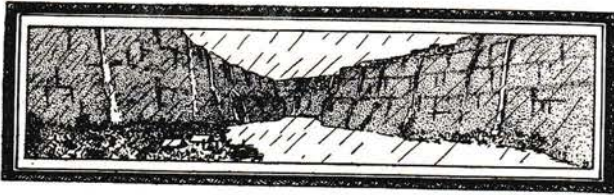
For us at GCRG it was exciting, rewarding and even a little emotional. Something was born there with a potential and a direction of which we can only guess.

We encourage all of you with upper basin interests to join their organization (see application on opposite page), to give them input and energy and be a part of the team. Now, at their beginning, is when they need your energy the most. Get after it.

Colorado Plateau River Guides

At the Grand Canyon River Guides fall meeting at Pack Creek, GCRG members were joined by guides and enthusiasts from the Upper Colorado River Basin. With support from GCRG, a sister organization, Colorado Plateau River Guides (CPRG) was formed. CPRG is an association of river guides who are serving the needs of the people who work and enjoy the rivers of the Colorado Plateau.

We would like to thank GCRG for its assistance in organizing and establishing our mission. We also want to thank you for setting a reliable example for us to follow. Education is our emphasis. We are currently working with agencies and institutes of the Colorado Plateau on several educational programs. Our seasonal newsletter, *The Confluence* will be a collection of educational articles on river history, science, and issues, as well as updates on available seminars and classes. *The Confluence* includes information for professional guides, recreational rafters, outfitters, agencies, and corporations. Through a joint effort we hope to protect the rivers that we enjoy. Our annual membership dues of \$20 will in turn be used to create a medium for communication and will fund such items as *The Confluence*. CPRG has two types of membership: Guide Membership and General Membership. Our Guide Membership is for anyone who works, or has worked professionally, in the river touring industry and our General Membership is for anyone who is interested in protecting the rivers of the Colorado Plateau. Thanks again for your support, GCRG. If you have any questions please feel free to write us: CPRG, P.O. Box 344, Moab, Utah 84532.



The Hualapai Tribe

We all know they charge us to take-out at Diamond Creek. But what else is there to the Hualapai Tribe? For one thing Hualapai tribal lands bound 107 miles on the south side of the Colorado River from just above National Canyon (mile 165) to near Emery Falls (mile 272.5). The entire Hualapai reservation encompasses almost one million acres. Hot dry desert near the river to tall Ponderosa pine forest provide habitats for the healthiest bighorn sheep and elk herds in the West. The Hualapai culture has called the Canyon their home for thousands of years and still consider it sacred. And, after many years of being the quiet Hualapai, their voice is being heard.

In Washington D.C., Salt Lake City and Phoenix, the federal and state management agencies know the Hualapai Tribe. The tribe is managing and researching its own resources and taking an active role in the current Glen Canyon Dam Environmental Impact Statement.

Ongoing projects along the river corridor include fishery and riparian vegetation studies from Diamond Creek to Pearce Ferry which the tribe has contracted to private consultants. The Hualapai Wildlife Management Department, under the direction of Clay Bravo, oversees these projects as well as performing their own cultural and recreation studies. The Department has also built two small ponds stocked with sportfish to encourage angling on tribal lands.

With the increasing commercial use of the Lower Gorge by Grand Canyon outfitters and Hualapai River Runners below Diamond Creek, we all need to be even more aware of Hualapai natural, cultural and recreational resources. Camping beaches are rare and as we do in the upper Canyon we must communicate and be courteous. We should encourage Hualapai boatmen to join GCRG and begin to develop a working relationship with them.

This is the first in a series of articles on the Hualapai Tribe. Future articles will focus on specific issues unique to the Hualapai Tribal lands in the Grand Canyon.

Bill Leibfried

Quotes

Once a journey is designed, equipped and put in process, a new factor enters and takes over. A trip, a safari, an expedition, is an entity, different from all other journeys. It has personality, temperament, individuality, uniqueness. A journey is a person in itself, no two are alike. And all plans, safeguards, policing and coercion are fruitless. We find after years of struggle that we do not take a trip; a trip takes us. Tour masters, schedules, reservations, brass-bound and inevitable, dash themselves to wreckage on the personality of the trip. Only when this is recognized can the blown-in-the-glass bum relax and go along with it. Only then do the frustrations fall away. In this a journey is like a marriage; the certain way to be wrong is to think you control it. I feel better now, having said this although only those who have experienced it will understand it.

John Steinbeck

A clear, hot afternoon, reeking with desert sunshine, thirteen men, a bear cub, and a dog afloat on the world's most dangerous river; a dream come true; my long planned expedition was underway at last.

Clyde Eddy

Colorado Plateau River Guides

P. O. Box 344 Moab, UT 84532

(801) 259- 8077

Name _____

Address _____

Phone _____

Guide Member \$20 annual dues enclosed

Outfitter/ Freelance _____

Rivers you run _____

Years experience _____

General Member \$20 annual dues enclosed

Been on a trip? Where? _____

With whom? _____

Comments, Interests _____

Draft Glen Canyon EIS: Documents and Meetings:

The Glen Canyon draft EIS will be distributed in early January. The public input period extends to April 11, 1994. Two types of meetings will be held as part of the public process. Both are designed to be one-way: In the first we listen to them, in the second they listen to us. It's important that you attend both and utilize each effectively. Our thanks to Kate O'Hare of the Colorado Studies Office for getting us an advance notice of the meetings so that we could get them in this issue.

Public Information Sessions: Bring your questions to these meetings. Save your comments. It will be our job to listen and learn here. From 5 - 6:30PM representatives from the different areas of research will be available to answer our questions and various booths and displays will be there to help you assimilate the complex information.. From 6:30 - 7:30PM will be a formal presentation of the draft EIS. And from 7:30 - 9PM there will be time for more individual questions.

- February 11 - SALT LAKE CITY - 5-9PM
Airport Hilton
5151 Wiley Post Way
Salt Lake City, UT 84116
- February 16 - PHOENIX - 5-9PM
YWCA
9440 No. 25th Ave.
Phoenix, AZ
- February 17 - FLAGSTAFF - 5-9PM
Little America
2515 E. Butler Ave.
Flagstaff, AZ 86004

Public Hearings: Now is the time for comments; leave your questions at home. It's their turn to listen to us. Comments can be given orally or in written form.

- March 7 - LOS ANGELES: 7 - 9:30PM
Burbank Airport Hilton
2500 Hollywood Way
Burbank, CA 91505
- March 9 - SAN FRANCISCO: 7 - 9:30PM
Fort Mason Conference Center, Room: A-1
Golden Gate National Recreation Area
Entrance : Marina Blvd. and Buchanan St.
San Francisco, CA 94123
- March 14 - PHOENIX: 7 - 9:30PM
YWCA
9440 No. 25th Ave.
Phoenix, AZ

- March 15 - FLAGSTAFF - 7 - 9:30PM
Little America
2515 E. butler Ave.
Flagstaff, AZ 86004
- March 17 - SALT LAKE CITY: 7 - 9:30PM
Airport Hilton
5151 Wiley Post Way
Salt Lake City, UT 84116
- March 21 - DENVER: 7 - 9:30PM
Marriott Denver West
1717 Denver West-Marriott Blvd.
Golden, CO 80401
- March 24 - WASHINGTON, DC: 2 - 4:30PM
Capiton Hill
Dirksen SDOB, Rm 562
Corner of 1st St. & Constitution Ave, NE
- March 24 - WASHINGTON, DC: 7 - 9:30PM
Stouffer Concourse (Crystal City)
2399 Jefferson Davis Hwy
Arlington, VA 22202

Between now and April 11 it is the responsibility of each and every one of us to give informed input to the EIS process. This requires learning as much as we can about the many facets of the EIS.

GCRG will be putting together a special issue on the EIS which will include a concise condensation of the Draft EIS, along with perspectives from a wide variety of constituencies to help give you a balanced view of the process and its ramifications. Expect to receive it in about a month.

Attend a Public Information session if you possibly can. Ask a lot of questions.

In addition, you can obtain a copy of the Draft EIS (Complete EIS-680 pages, or Summary-65 pages) by writing:

Colorado River Studies Office
U. S. Bureau of Reclamation
P. O. Box 11568
Salt Lake City, UT 84147
(801) 524-5479

Once you've digested all the information you can get, it is crucial that you give your input to the process either at a public hearing or by submitting a written statement.

The changes that the EIS will bring to Grand Canyon are unprecedented, and we all played a large part in instigating and directing this process. Now it's our turn again, to make sure the EIS document presents a valid, balanced and sane process for the future of Grand Canyon.

Phantom Phone Bandits

I remember the phone call well, because I always feel like an idiot talking to answering machines. Rather than talking to my children from Phantom Ranch as I had hoped, I stood in the blazing heat listening to my daughter's recorded voice. Disappointed, I babbled inanely for a few seconds and hung up.

A month later I received my phone bill. Included was a charge from a company named "Zero Plus" for my little message. It was listed as a 3-minute call, and the charge was \$8.95.

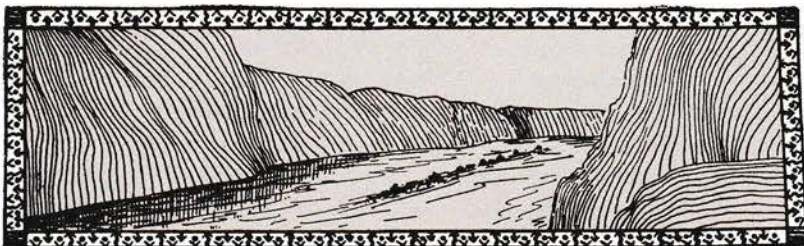
Assuming there must be some mistake, I called Zero Plus and spoke with a man who seemed used to fielding such complaints. He smugly told me that the minimum charge was 3 minutes, that \$8.95 was the Sunday rate, and that I was lucky I hadn't called on a week day, when the minimum charge was \$12.95. When I suggested that the rates seemed excessive, he said his company was duly licenced by the FCC to charge that much. And that was that.

Wondering how Zero Plus was collecting the fees for a call I made with my AT&T card, I started researching. According to Jim Davis, who is in charge of telecommunications for Fred Harvey Company, the Phantom Ranch pay phones were taken over by the Zero Plus gremlins for a month or two last fall. (I have spoken with others who ended up with similar charges on their phone bills.) Since the National Parks only have contracts with Sprint and AT&T, this takeover was not entirely legal.

When companies such as MCI and Sprint take over a pay phone, they offer reasonable rates; companies such as Zero Plus do not. According to the AT&T representative I spoke with, they seek out pay phones in popular tourist locations, "such as Grand Canyon and Disneyworld", take over the phone service from AT&T, and by the time anyone finds out about it and switches the service back, they've made off with a couple of months worth of exhorbitant rates.

For now, according to Jim Davis, the Phantom Ranch phones have been reverted to AT&T, but if you make a call and hear "Thank you for using Zero Plus...", hang up and run.

Jeri Ledbetter



Meet Marlene

Hi! My name is Marlene Gaither, and I am a Senior Environmental Health Specialist at the Coconino County Health Department. In conjunction with the Park Service at the Grand Canyon, we have begun implementation of a comprehensive program of inspection and permitting of food warehouses used by commercial Colorado River running operations. In addition to routine inspection and permitting of food warehouses, we may provide training for both warehouse employees and river guides, and on-site review of operations on the river. Most of the food warehouses have already been inspected and are going through the permitting process. The inspections consist of a walk-through during which any violations of the County food code are noted, followed by a review with the warehouse operator and the development of a correction schedule. Overall, the food warehouses inspected thus far were well-run, and only minor changes have been necessary.

River guides interested in receiving the Gamma Globulin series for Hepatitis "B" may contact Sonya Moore at the Coconino Health Department by calling (602) 779-5164 and asking for Sonya. The Hepatitis "B" series consists of 3 shots on the first day, another shot 30 days later, and the final shot 5 months later. The County charges \$150 per person, which is considerably less than the \$300 - \$450 charged by private physicians.

That's all for now; here's to a healthy, prosperous, and exciting new year.

Important Health Department Meeting

On January 25 at 1:00 P.M., Marlene will host a meeting at the Coconino County Health Department, on Fort Valley Road in Flagstaff, to discuss the warehouse program, sanitation issues on the river, alternatives to the SCAT waste water disposal machine, and any other related issues.

Anyone interested in attending may contact the Environmental Health Office at (602) 779-5164 Ext 12 to reserve a seat.

We urge boatmen to attend and give their input during this formative period for future policy. We can, and will, come up with a game plan that's good for everyone. Be there!

Air Traffic

*What happens
to old river rafters
to old boatmen
to old guides*

*What becomes of
these story tellers
these legends
and their prides*

*What do they do after
that last tale
that last ale
or last smile*

*In the river
they will linger
they will wander
they don't die*

*In each hole
they wait to help us
to guide us
for a smooth ride*

*Under each rock
they stand ready
with strong arms
to push our boats aside*

*Like the rivers they live in
they're untamed
laughing happy
and flowing wild.*

Jafer Stevens

Jafar, 15, just made his first Grand Canyon trip with his father Scotty, an OARS boatman.



In the last issue I mentioned that the NPS should soon release their long awaited report on the air traffic issue. (That's the one they were supposed to write and submit to Congress by 1990 about the effectiveness of the new rules imposed by the 1987 National Park Overflights Act.)

Well, I guess what they were talking about was simply a PROGRESS report on how the FINAL report was coming along, which wasn't expected to be finished until well into 1994. However, at a Congressional hearing on November 16th, Bruce Vento, a Congressman from Minnesota, was outspokenly displeased at the tardiness of the report. Responding to his pressure, the Park Service was forced to "move things up a few months," according to Mike Ebersole of Grand Canyon National Park.

Plans for the progress report have been scrapped, the final report has been placed on a front burner, and NPS personnel have been re-aligned to expedite its completion. Primary authors will be Mike Ebersole and Linda Mazzu, also of Grand Canyon National Park. The new projected date for release of the report is late March, 1994.

According to Ebersole, they don't yet have a "preferred alternative", but by March they must come up with one. The report will include their interpretation of the acoustical and sociological research results, and conclude with a recommendation as to what should be done.

Some input for the report will be generated from an Oversight Group Workshop, a "2-day brainstorming", tentatively scheduled for early March to which GCRG will be invited. Other participants should include representatives from the NPS, the air tour industry, the FAA, environmental organizations, and the Native American Tribes. That meeting was previously scheduled for last fall, but was postponed due to yet another report that is overdue, the

Executive Summary of the acoustic and sociological studies.

Once the Congressional report is complete, Ebersole predicts it will become a "political football." "No telling how much it will be changed." He expects that the FAA will come out with a Special Federal Aviation Regulation by 1995 at the earliest.

Meanwhile, Secretary of Interior Bruce Babbitt has created a joint working group between the Department of Transportation and the Department of the Interior to explore ways of limiting or reducing aircraft noise at Grand Canyon and other national parks.

Congressman Vento continues to shake things up. In a December 23rd letter to Federico Pena, Secretary of Transportation, he urged the joint working committee to take action against the proposed expansion of helicopter facilities at Grand Canyon National Park Airport. He charged that the expansion was "...in apparent violation of the National Environmental Policy Act and the FAA's own environmental guidelines. The resulting increase in helicopter tours over the Grand Canyon National Park will increase aircraft noise and will undermine the ability of both the FAA and NPS to achieve the goal of the National Parks Overflights Act of 1987."

He suggested that the joint working group "...suspend any further construction of new helicopter facilities..." as well as "...establish an enforceable limit on the number of helicopter operations..." until the reports are completed and new regulations have been implemented.

Vento is preparing to submit legislation to Congress that would affect flights over all national parks. Meanwhile, the air tour industry is beginning to organize in preparation for the inevitable battles.

Jeri Ledbetter

GCRG Spring Meeting

It's March 25 at Marble Canyon. We hope you can make it, as we'll be plotting the future course of GCRG. If you like the way we're running things, great. If you don't, we need to know what, how and why not. If you've got an issue you want to bang around, let us know.

We'll be nominating folks for president, vice-president and three board members. GCRG is searching for willing candidates. It's a lot of work, but you'll get a tremendous education and know you're doing something worthwhile. If you'd like to see a change in leadership styles, run for office!

GTS Seminar

GTS 1994 is going to happen. Due to popular demand, the outfitters, the NPS and the GCRG are presenting another installment of "What you always wanted to know about river-running in the Grand Canyon but were afraid to ask."

Thanks to Jane Foster we are welcome back at Marble Canyon March 26th-28th for the Guide Training Seminar. Don't miss it.

This has been an early warning announcement. A detailed account of what is happening will be out in early March.

GTS River Trip

So here it is you guys.... eight nights to Phantom ranch, March 29 to April 6. Think of it!!! Such an opportunity for education, for creating camaraderie and community spirit, to revel in the rites of spring in the canyon, and for just general fun times! Days spent listening to fascinating lectures on a variety of natural and human history subjects. Swap stories around the campfire. Meet the people that go with those faces that you've only seen in passing. There'll be an incredible wealth of knowledge. This is for crusty old-timers and new comers alike. Don't think that you have nothing to learn, or to offer. You've heard the stories.... now be in them.

Make canyon history! A phenomenal trip waiting to happen! Contact your company, if you've got one, and get them to sponsor you. If you don't have one, then get on the waiting list. There will be a resource trip that continues from Phantom to Diamond Creek with room for a few people. Contact Martha Clark at (602) 556-9258 for more valuable info.

Further Education Questionnaire Results

"No tests and no stinking badges... but yeah, I'd like to attend some workshops on the Grand Canyon." This comment summarizes the feelings of many who responded to the Further Education questionnaire.

We received 130 responses from members. An overwhelming majority of guides favor GCRG getting involved in further education by coordinating efforts with Canyonlands and Grand Canyon Field Institutes, rather than setting up an independent GCRG program. Likewise, most people indicated great enthusiasm for the Guides Training Seminar and the GCRG Newsletter, and felt these should take priority over joint endeavors with the Field Institutes.

Here is the tally from a few key questions:

- Interested in workshops pertaining to Grand Canyon? (75 yes, 15 no)
- Testing ? (16 yes, 73 no)
- College credit? (20 yes, 77 no)
- Correspondence courses? (61 yes, 27 no)
- Advanced guide certification? (8 yes, 69 no)
- Run courses through Canyonlands or Grand Canyon Field Institutes? (58 yes, 10 no)

Where are we going from here?

We'll work to keep the GTS a first class event with informative speakers, and, via the newsletter, we'll keep you posted on classes offered by Canyonlands and Grand Canyon Field Institutes and local community colleges. As of yet, no one has their schedules out for '94. If you are aware of any pertinent courses being offered, please let us know.

In addition, we're talking about searching universities and libraries with hopes of developing a comprehensive list of books and videos relating to Grand Canyon. Eventually GCRG would provide information on accessing these materials (inter-library loan, etc...) to interested GCRG members.

John Toner



True Confessions of a Debris Flow Scientist

by Ted Melis

Last January I led a mid-winter research trip with some volunteer-for-science, die-hard, friends of mine. I study debris flows, their effects on the river, and relations between debris fans and the canyon's beaches. This trip was designed to characterize debris fan geometries in order to better predict where deposition and erosion will occur during future "habitat-building" floods. My research interests are generally aimed at studying large floods, especially those occurring in arid and semi-arid places like Grand Canyon.

On the way to the put-in someone sleeping in the back of the van suddenly muttered, 'satellite map of the Pacific Ocean.... storm's heading-inland in a day or two...', then quickly rolled over and was silent. The last thing any of us wanted to hear on the way to a January 3rd put-in was talk of winter storms. After all, hadn't denial and fireside evocations to the High-Pressure God always worked to ensure clear skies before? Well, almost always.

I recalled early lessons on winter weather; cut-off lows were *bad*, high-pressure domes were *good*. True enough, if you're trying to maximize field work during short January days.

However, if new debris flows are what you seek, then just the opposite is hoped for. These opposing views had long caused me confusion. Of course, I always hope for good weather on river trips, right? Wrong! Secretly, I always hope for terrible weather; not just cold, upstream blowing wind and snow, but the kind with plenty of hard driving rain. Why? Because I want to see a Grand Canyon debris flow for myself, of course. Obviously, this attitude makes me unpopular on river trips, so I normally keep such desires to myself.

The trip got off to a great start; nothing but blue skies at first. Then on the second day, the clouds moved-in; I remembered our snoring Nostradamus. By the time we left Buck Farm, it was snowing, but our spirits didn't waiver an inch, not even during the blizzard that followed us all the way down to 50-Mile Canyon.

"Well, what's a January trip without a little snow", I said to my friends, as I threw on another layer.

Then the rain began.

"Hey, at least it warmed-up", someone said in a muffled voice from beneath a crumpled army surplus poncho.

"These storms hardly ever last more than a couple days, it's not like we're in Alaska," I said confidently, attempting to reassure the greenhorns.

In truth, I had never seen more ominous-looking skies in my life. The rain kept up all day and all night, then again all the next day and night; and again the following day, etc., etc., etc.....well, you get the picture I guess. It didn't rain hard, just steady, but I suspected that it might turn into one of THOSE kinds of winter trips that I have hoped for all my life; my heart gladdened. By the time all of our scientific equipment, tents, sleeping bags, papers, maps, AND rain gear were thoroughly soaked, I was secretly getting quite excited. The prospect of a nice, new debris flow to study warmed the cockles of my heart.

"This storm might have some real potential," I said to the group, reminiscing back to the early days of December 1966.

Outwardly, I lamented our predicament, telling of the many near-perfect-weather winter trips that I had been blessed with in years past.

"Guess the odds finally caught up with me," I said apologetically, as I hunkered down under our beach umbrella at lunch.

Everyone assured me they were having the time of their lives, in spite of the monotony of the twenty-second debris fan survey, the forty-third pebble count, and the record wet weather. After the fourth (or was it the fifth?) consecutive front passed over us, I detected a few complaints beginning to waft through camp. A day or two of rain slows down the surveying a little, but it's usually only a minor inconvenience. However, prolonged, wet weather like we were having affects the typical debris flow researcher in a very different way. After a while, such a person becomes wide-eyed... mesmerized by each rain drop, hoping for another, then another, and another... then madly another... and so on until every pourover and rivulet in sight becomes engorged with DEBRIS FLOWS!!! Unfortunately, I let my secret, fluvial fetish slip out one morning during breakfast; the trip was never the same after that.

As I chewed my soggy pancakes, another rock let loose from the Redwall cliff downstream. During prolonged, steady, winter rains, rockfall apparently becomes as common as blowing sand during dinner in June. I'd kept track of the crashes and thuds since the rain began, and tallied thirty good rockfalls in as many hours. This was great stuff for a young hydrologist with a catastrophic bent.

"So this is how all that luscious colluvium forms," I thought to myself wringing-out my half-eaten hotcake between bites. I was convinced that the trip could only get better.

Colluvium is one of the main sources of sediment for Grand Canyon debris flows; it's all that loose, unconsolidated dirt and rock that blankets the Hermit Shale and accumulates at the base of all those magnificent cliffs. It had been raining for a while now, and the stuff was really piling up. I wondered how often this kind of storm occurred on average. By now, I had stopped sleeping at night, choosing instead to lie awake and count rockfalls rather than chance drowning in my miserable, leaking tent.

After swallowing another bite of rain-swollen Krusteze, I said in a fit of unrestrained desire, "I hope it really lets loose today, if it's gonna rain, man then, let it rain big!"

"You want it to keep raining?" Mau and Lisa said simultaneously, looking up from their cold cereal in astonishment.

"Are you deranged from sleep deprivation? Everything you own is soaked", they quickly reminded me.

I knew it wouldn't go over well as the words left my lips.

"I'm not crazy, I just want to see a debris flows in action... ya know, to get a better feel for the process," I said proudly.

They both looked at me dumbstruck. Lisa stared in utter disbelief.

I thought you wanted good weather on this trip so we could get lots of work done during these four-hour long winter days?" she shot back, annoyed with my foolhardy lack of reason.

"Well, things are different now, you see, I figure we've had five straight days of rain with average intensities of 25 to 60 mm per day, punctuated by occasional hourly intensities of 15 to 25 mm. The rate of rockfall suggests a potential for slope failures; Hortonian overland flow is dominating the landscape, increasing the possibility of erosive 'firehose effects' resulting from high antecedent soil-moisture. Why, a debris flow could occur in this part of the canyon anytime, that is, if it would just rain a little harder right now," I blurted out, not even trying to suppress my enthusiasm for catastrophe.

"What we need now is a thunderstorm.", Jim dryly interjected.

There was a moment of silence, then another small rockfall. I grinned.

"What day are we taking-out again?", Mau asked, as the kitchen tarp emptied its reservoir onto the table where Jano and Mia were preparing our sack lunches.

Perhaps my friend was hoping for an early reprieve from his long-awaited working vacation, I'm not sure. I answered that we'd return to Flagstaff on the 17th, provided the Diamond Creek road still existed. Otherwise, we would spend another day on the river and take out at the lake. Mau walked away looking

dejectedly at his tent still draining over a tamarisk tree in the light drizzle.

Later that morning, as Mia and I measured rocks on the 60-Mile Creek fan under a partially-crumpled umbrella, we heard the unmistakable crack of another chunk of Redwall Limestone liberated from the wall by gravity.

"Damn, that was a big one.", I said, trying to focus through the steady rain on the next probable impact point. The volkswagen-size clasts bounded down the slope, catapulted off a Muav ledge on another Newtonian trajectory and ker-splashed straight into the river.

"Whoops AHaa!!! This is great!" I shouted gleefully. Mia agreed with a yell, as we jumped up and down. Apparently, she too had all the makings of true catastrophist. After composing ourselves, we went back to the sampling task at hand...

"238-Redwall, twice; 560-Supai, four times; 385-Coconino, once, 28-Unknown...", I droned on catatonically; we only had a couple hundred more to do now. I wondered out loud why anyone faced with the choice of embracing gradualism or catastrophism as a driving force in Earth studies would ever choose the former; we shrugged our shoulders and returned to our measurements.

"Ted," Mia said, "all the numbers on the data form are smearing; I can't keep this thing dry anymore."

I looked at what was left of the sheet and its blurred pencil etchings and decided that we had better retreat until the rain let up a little (secretly, I hoped for another 5 to 10 mm per hour by lunch time).

It looked like the rain might end for a while down around Dubie, in fact, it actually stopped for nearly a whole day. I tried a new tactic to get things going again. Instead of heading for the obvious camp at Poncho's Kitchen that evening, I decided we'd be better-off camping a foot above the river's flood stage at the Race Track camp. The group grumbled at my decision, but I knew what I was doing, alright. The powers-that-be can't resist the temptation of drenching such brazen mortals. Sure enough, that night it started raining again, and even harder than before. As we passed the dry sands of Poncho's the next morning, I knew I'd pretty much lost all credibility with my crew.

"Well, at least it's raining again," I said to myself, "but there's still no sign of a debris flow, not even a little one, Damn!"

A phone call to my boss from Phantom Ranch two days before revealed that central Arizona was about to wash away. All hell was breaking loose, hydrologically-speaking, south of the Mogollon Rim. The Verde River had reached its highest stage in probably 1,000 years. We had left the ranch brimming with expecta-

tions of calamity, but now the reality was settling in. It just wasn't going to debris flow, and there wasn't a thing I could do about it.

"If only these storms would move a little further north," I said to Mia.

For all I knew, by now there had been dozens of debris flows down south. I was starting to feel a little frustrated, disappointed, and even edgy. I snapped at my crew, "Get another point up there! Hey, you missed that thalweg shot!" I needed to calm down and get a grip before I came unglued by all this constant, drizzly weather.

"What would happen if things kept up like this forever?" I pondered, scratching my head as we surveyed the Fishtail Creek debris fan under a blanket of fog.

"Nothing but gentle rains triggering rockfalls, that piled-up immense mounds of colluvium without a single debris flow to move the stuff on out to the river." I contemplated the scenario sullenly. What a grey and gradualistic world it would be, I didn't even like thinking about it.

"Why, I could lose my job if this lousy weather persisted," I concluded.

My boss and I had discussed the formation of colluvium and its relation to debris flows, rapids and the river during many river trips; pretty heady stuff for a couple of dirt geologists.

"What would the river have been like in the absence of summer, monsoon thunderstorms?" we had wondered time and time again.

Now thunderstorms, they can practically guarantee debris flows if they occur in the right place at the right time. Most debris flows since 1940 have been triggered by localized thunderstorms, but only a few of those were really very significant before Glen Canyon Dam was built. The really big winter storms, and the dissipating tropical cyclones are best for causing the large debris flows, but those storms don't get far enough north very often.

Suppose for just a moment, that the Canyon's climate was dominated by higher precipitation, but it occurred only as steady winter rainfall. Without intense, summer storms and cyclones, you could run out of rapids as the river slowly wore away all the large boulders; without debris flows it's nearly impossible to get those really big ones into the river. Grand Canyon would probably become quite a different place under such climatic conditions; forests of ferns, moss covered boulders, grassy-green slopes covering-up all the rocks. Yuk! I'll take aridity any day.

I'm not exactly sure when our summer monsoon circulation began in northern Arizona, but according to some experts, it probably started sometime after the

end of the last ice age. That's about ten to twelve thousand river seasons ago; certainly a lot of river trips, but geologically speaking, not all that long ago. I spend a lot of time thinking about how different climates have shaped the canyon and its river, and how things might change there again in the future. It gives me something to do while lying awake at night in my tent, counting rockfalls, listening to the winter rain, and waiting for the next big debris flow.

Speaking of Debris Flows...

Thunderstorms on August 20th and 22nd resulted in a few noteworthy changes to the river. Most notable was a debris flow in Tanner Canyon at mile 68 on the 22nd. The Tanner Canyon debris flow was about the largest we've seen since the Monument Creek debris flow in 1984, and caused substantial changes to the rapid there. If you haven't run Tanner Rapid since August, then keep your eyes open on your next trip; it's really changed. Also changed are the stage-discharge relations of the upper pool above the rapid.

The debris flow apparently initiated in the first tributary of Tanner Creek upstream of the river. According to an eyewitness, Sue Rhodes, the debris flow occurred shortly after cessation of a severe thunderstorm that built quickly and dropped several inches of rain and sleet along the base of Comanche Point. The storm lasted less than sixty minutes! The intense rainfall mobilized unconsolidated colluvium several hundred meters above the river, and from the looks of what's left, the place must have really been shaking; I'm talking about big boulders moving in ways that still never fail to amaze me. The initiation setting along the base of Comanche Point is classic for Grand Canyon debris flows. Check it out next time you get a chance.

The initial debris flow pulse of the Tanner debris flow, termed the "bouldery snout," was quite large, but probably lasted only a matter of seconds; long enough, though, to dam the main channel of the creek temporarily. The boulder dam then re-mobilized and carried at least two dozen large boulders down to the river resulting in a new debris fan, and a rapid's transformation. The debris flow was followed by a prolonged flash-flood of muddy water that was about one-quarter as large, but lasted from two to three hours. This watery flood eroded about 800 cubic meters of the new fan's sediment, which was transported into the river. The new debris fan contains about 10,000 cubic meters

of boulders, sand and mud, and has constricted the river channel by at least 30 meters. It will be interesting to see how much of this material is washed away during the proposed experimental flood scheduled for 1995. I estimate that the new fan should be completely inundated by the 45,000 cfs flow.

In addition, there was also a debris flow at Cardenas Creek on the same day, though it had almost no effect on the river channel. The Cardenas debris flow didn't transport nearly as many large boulders as the Tanner Canyon debris flow, and was composed mostly of finer sediment derived from the Dox Formation. On August 20th, debris flows also occurred in at least two small tributaries downstream of Havasu Creek. At mile 158, a debris flow buried the First Chance camp under three to four meters of debris, rendering it virtually unusable by river parties. Upstream of Havasu, the Last Chance camp was also buried under numerous boulders. Lastly, there was a debris flow on the same day at mile 160 on the right side of the river. This debris flow deposited many large boulders on the existing debris fan and in the river, creating yet another, small, new rapid. The debris flows of the 20th were also triggered by thunderstorms which lasted several hours and affected the river corridor from Havasu Creek down to Fern Glen; notice all the new talus that was produced by this storm next time you're floating that stretch. The USGS gage at Havasu Creek was also destroyed during the storm by rock fragments that exploded from a very large boulder after it landed in the creek bed; I'm not sure, but I think that it may have come all the way down from the Esplanade Formation. This rockfall must have gotten the attention of whoever might have been hiking the creek that day! Were any of you there? I would love to hear about it.

The debris flows of August followed a continuing trend in terms of their impacts to river resources. This trend consists mainly of progressive elimination of sand bars through burial and (or) erosion when debris flow sediments are deposited at the river. Relatively small debris flows also continue to deposit large boulders in the river channel, increasing the severity of existing rapids, and creating new ones. Without the large annual flows that occurred before the dam, we should expect more of the same as tributaries continue doing their jobs in forming Grand Canyon. The proposed experimental flood of 1995 will give us a chance to evaluate how some of the tight spots, like 24-Mile, Tanner, Fossil, Specter and Bedrock Rapids, might be opened-up by occasional, prescribed flows exceeding present interim releases.

One last word. To date I know of no serious injuries or fatalities attributed to debris flows in Grand Canyon. In my opinion, this is mainly due to the

infrequency of debris flows there, and the keen judgement of professional guides who know the ways of flash-floods from experience. Never underestimate the potential of the side canyons when camping on or near debris fans. Remember that a debris flow is as likely to occur in the middle of the night as in the day, and may be triggered by as little as one hour of intense rain. In many cases, the very steep tributaries mean very little travel time once a debris flow is initiated. That means precious few seconds for you and your clients to get out of the way of a fast-moving boulder train. The potential energy of 5,000 feet of rock contained within drainages often less than one square kilometer in size, means little advance warning for river parties to evacuate a threatened camp. Remember, it only takes one debris flow to ruin a great trip.

Ted Melis

View From the Rim

After having monitored the use and reliability of the SCAT machine at Meadview for some time now, it has become evident that it may not be the perfect solution to human waste management on the Colorado River. It is not always in operating order and is not compatible with all systems. As one of the premiere environmental protection agencies, we felt that it was appropriate that the Park Service should be in the forefront of promoting safe and adequate waste management in view of potential state, federal and local regulations governing transport and disposal of human waste.

Grand Canyon National Park management recently met to re-evaluate our pending requirements in this area. We are still considering some type of dump station in the Diamond Creek area, but are postponing the construction of a SCAT machine. We have contacted the Arizona Department of Environmental Quality (ADEQ) to inquire about existing or pending restrictions regarding transport of human waste across state highways. We have been informed that commercial river rafting companies are exempt from regulations, and the ADEQ has no problems as long as the commercial companies utilize established and licensed dump facilities as they have done in the past. We are concurring with their opinion.

We are also postponing our deadline for requiring use of the SCAT machine while we evaluate the one at Meadview and explore alternatives.

Dan Davis
Canyon District Ranger

Yeah, but How?

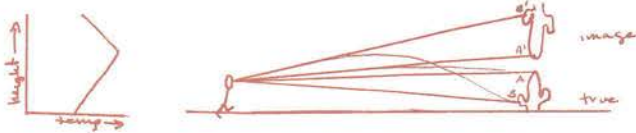
A brief foray into atmospheric optics, by Cynta deNarvaez

Part II

(To be read in conjunction with the principles laid out in the last issue.)

Mirages: Quite often during the heat of the day, it is possible to witness the appearance of water on roadways and in desert regions. This puddle of water doesn't exist. No matter how far you walk, you never reach it. Objects that occur above the apparition become reflected in the substance. This is a mirage.

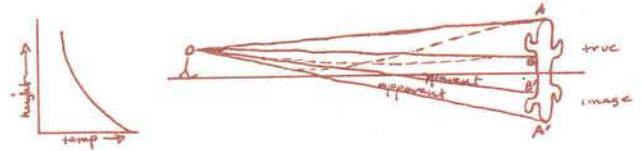
There are two different types of mirages: superior and inferior. Both are affected by temperature rather than atmospheric or gravitational pressure. Inferior mirages happen in desert regions where the surface of the Earth is extremely hot. This heat expands the light waves closest to the ground and stretches them, if you will, making an inconsistent temperature/pressure zone. This creates an often inverted, distorted image. The light, as it carries the reflected image of an object to us, is bent by the expanded, hot air near the ground.



As you can see from the figure above, we get two images: the real one we expect (saguaro right-side up), and an apparent one (saguaro upside down). We mistakenly see this apparent saguaro as reflected in a pool of water (we see both A and A¹ plus B and B¹). This however, is not reflection, but refraction. The same layers of pressure we employed to describe the distorted image of the sun can be used here, yet with a twist; there is a special pocket of air here where the hottest, most expanded layer is closest to the ground with successively colder layers above. Each layer, of course, has its own refractive index, so the image can be reflected entirely or partially depending on the amount of heat emanating from the ground. In our experience we only witness reflection in mirrors or water, so we project/misinterpret a water surface reflecting the image. We don't see the curved portion of A¹ or B¹, we see in straight lines, hence the upside down image. This is just another optical illusion

depending on heat and pressure. Occasionally, the image can be presented right side up in the reflecting portion of the mirage.

You figure it out.



Superior mirages happen less frequently. As inferior mirages are named because they invert and lower an image that is agreeably on the Earth's surface and in our range of vision, superior mirages invert and raise images from above and below the horizon. This happens when there is a temperature inversion between warm air and a colder surface. Since we know that light traveling through warm pockets bends (refracts) toward colder air, we can conceptualize objects below a watery or above an earthly horizon being distorted and displaced above their true location. Sailors often used this phenomena to search for ships on their way in to port; they called it "looming". When both superior and inferior mirages are visible over water we see images that are excessively exaggerated vertically. It stretches the objects and makes them look like towers and castles. These are known as "Fata Morgana", after King Arthur's sorceress sister, Morgan, who was an infamous builder of castles.

The Green Flash: It exists. Jules Verne called it the Green Ray. Admiral Byrd saw the Green Flash for a record 35 minutes on his expedition to the South Pole, during the end of a polar night when the sun moved along the horizon for an extended period of time. The Green Flash is a split second of green light visible during the last speck of the sun at sunset. Although most often seen over water, it can be visible over a distant horizon when from a high mountain top. It is necessary for the light to travel through great distances of atmosphere. Telescopes and binoculars can help view them, but then you must wait until the sun's rays have decreased in intensity—this way you won't be blinded. The sun, however, needs to be bright all the way to the horizon—no clouds can be in the way. Red suns seem to obscure the effect so there cannot be any dust, smoke or pollution in the air.

There are several explanations for the Green Flash,

yet all seem to say the same thing. The green rim of the sun is produced when the atmosphere is selectively cutting out the rays of the setting sun. This allows the yellow light waves of the sun to predominate. Then, according to Robert Greenler, atmospheric refraction allows the blue color to linger as the sun sets. (He suggests we stare at a white light bulb, then look away and see the image. Blue rims the top edge of the light image and red the bottom.) The added amount of dispersion available from a low horizon (as in a great expanse of water or a mountain top) and the apparent blue top edge of the sun, coupled with yellow light waves of a setting light source, could combine to explain this effect. This flash happens in a second and is easiest to see when the last dot of light disappears behind the horizon.

St Elmo's Fire: In one of Captain Ahab's most dramatic moments, an electrical current strikes the top of the masts of the Pequod and flows down them. This is St. Elmo's Fire. It is an electrical charge created just before a lightning strike, when the electrified field-strength of a mountaintop, of a masthead on a ship at sea, in grass on a golf course, even in someone's hair, grows and precipitates a sizzling sound. It is called a corona current and is made up of small sparks that seem to glow at night. Sailors thought it was their patron saint, Elmo. We should know it means trouble.

Lightning and thunder: Lightning is formed by electrical charges within cumulonimbus clouds. No one truly understands lightning, or its cohort, thunder, but I will attempt to explain the current theory (Ah, hahahaha). Inside large storm clouds, positive and negative charges separate and accumulate in their respective domains: positive-top, negative-bottom.

Graupel, a small, amorphous snow pellet, has no charge and is too small to be dropped out of the sky as rain. As it is carried by air currents to the upper part of the cumulonimbus cloud to accumulate more water (weight), it becomes positively charged. Yet as soon as it gains enough weight it drops through the cloud and to the negative region. This meeting of charges precipitates lightning within the cloud as the negative charge reacts to the positive.

The charge soon creates an "electrical field" between the Earth and the cloud. The strength of this field escalates and as an electrical threshold is passed, there is a cloud-to-ground lightning reaction. This is not an immediate event. It proceeds by 50 meter increments. The charge moves like a ladder, piece by piece, until the ground is reached. We can't really witness the ladder. We can feel (during the day) or see (at night) St Elmo's fire. Yet only the "return stroke" of lightning is visible to us. This is when the

positive charge of the Earth has surged up to meet the ladder, short circuits it and begins to drain the negative charges from deep within the cloud. This return stroke averages 20,000 amperes of electricity and can reach 100,000 amperes. (Our homes carry an electrical strength of 30 amperes.)

Lightning is rarely a single stroke; quite often it is a multi-stroke event with up to 40 flashes, yet three or four strokes is the norm. Cloud-to-cloud flashes occur when the ladder is extended horizontally.

When the air around these electric channels expands, we hear thunder. With incredible speed, the electricity flowing through the channel can be heated to 30,000 degrees Kelvin in microseconds. This can increase the pressure along the channel 10 to 100 times. A "shock wave" is created which eventually becomes a sound wave. This occurs so fast that it affects every point along the channel simultaneously, so that we cannot isolate the sound as coming from the top or the bottom of the channel. Thunder happens whenever there is a lightning event, even with heat lightning; you just can't hear the sound because of the distance.

It is a common fallacy that we can tell the distance of lightning by counting one second for every mile. If the speed of sound is around 700 miles per hour, and we divide this by 3600 to give us seconds, we see that one second of time is worth one fifth of a mile. Therefore five seconds of time equals one mile.

Every few hours, as I researched and wrote this article, I had to step outside and see again. I felt elated after I recognized things I had read about and could see them properly myself for the first time. I hope this happens for you too.

Cynta de Narvaez



Quote

Leaders are best when people scarcely know they exist, not so good when people obey and acclaim them, worst when people despise them. Fail to honor people, they fail to honor you. But of leaders who talk little, when their work is done, their task fulfilled, the people will all say, "We did this ourselves."

Lao Tzu

(continued from page 1)

Over the years I toyed with the other Canyon figures and usually found them wanting in some respect. Major Powell was too "scientific", too much the authoritarian for my spirit. Stanton obviously loved the place, but was always trying to make a buck. Dellenbaugh, a gentleman and writer of books, a wee bit too self-conscious. I liked Galloway, maybe for the same reasons I came to admire Holmstrom. But I couldn't find out much about him. Marston and others—perhaps too proprietary about their place in the Canyon. Loper's character and achievements were too vague somehow. I couldn't get a handle on him. And of course, sheer ignorance eliminated numerous other possibilities. Somehow, none of these satisfied my evolving conception of what a hero should or could be. Always, I came back around to Buzz.

It is only now, years later, that I understand why I went looking for him and what I found along the way.

What made Holmstrom my hero were his idealistic, almost naive motives for making the journey through the Canyon. The honest means he used to achieve his goal revealed a certain strength of character. The unique nature of his solo river journey speaks for itself. Consider the genuine humbleness of the man as seen through his diary—towards his craft, the Canyon itself and afterwards, his reflections on what he had done. And then there was the sad mystery of his suicide in May, 1946 near the Grande Ronde River in eastern Oregon. On his death certificate, under "usual occupation" it reads "Expert Boatman." In the 1970's, knowing nothing of Buzz Holmstrom and even less of rivers, I would begin my apprenticeship as a river guide. Here on the Grande Ronde, a shallow, fast moving river I would first learn to read the water. A coincidence, I guess. Even his half-hearted attempts to capitalize on his adventure somehow endeared him to me. Was Buzz the real thing, I wondered? Could this Oregon boatman and part-time gas station attendant stand the scrutiny of my modern sensibility? After all, I had grown up in the '60's with the corrosive notion that everyone could be famous for fifteen minutes. We had antiheroes for breakfast, lunch and dinner. Yet here I was, ready and willing to believe in an old-fashioned, too-good-to-be-true hero.

At the start, I went looking for Buzz in the usual places—books and articles. Relatively cheap, easy access, no interruptions and reliable, to a point. The facts and dates and details accumulated quickly. They are easily available to anyone willing to take the time. Buzz's journal and the 1938 Saturday Evening Post article by Robert Ormand Case temporarily satisfied my amateur's hunger to know more. I began to query my river running friends. Eventually some of these

neophyte historians steered me in the direction of the "old timers," who passed me around with much care. One source that proved rich in advice and inspiration was Pat Riley. He, along with Martin Litton, was responsible for putting the first dories in the Canyon. Since I lived in Portland, he suggested that I visit the Oregon Historical Society. There I might find something about Buzz. So one rain soaked morning I dragged myself out of a warm bed and trudged downtown. With the help of an elderly historical society assistant, it didn't take long to retrieve a short stack of newspaper accounts of Buzz's journey and suicide. While I looked through these, the assistant disappeared. A few moments later he returned with a film canister, asking if I wanted to see an old movie about river running. Why not? He led me to a small cubicle. There I watched a rickety ten-minute "film" that Amos Burg had made of Holmstrom's second journey through the Canyon. At the time I remember feeling like I had made a great discovery.

But the real discovery was to come later, almost by chance and almost missed. During one of our late night, catch-up conversations Brad Dimock suggested I call Joan Nevills Staveley. She knew lots of folks, Brad said, and if she could help she would. It was here that my search for Buzz would take an unexpected detour that left the books, artifacts and museums behind. For Joan would lead me to a source that would offer a point of view that I did not even realize I was looking for. And it was literally in my own backyard.

"Had I contacted any of Buzz's brothers yet?" she asked.

"Buzz's brothers?" I replied, "He had brothers?"

Rolf Holmstrom was fifteen years old when his brother ran the first solo trip down the Green and Colorado Rivers in 1937. He would have been a young man, about twenty-four, when Buzz took his life near the Grande Ronde in 1946. When I spoke with him in his Vancouver, Washington home in December 1986, Rolf was a solid looking sixty-four year old man with fond memories of his older brother. To this day I remember distinct things about Rolf: the leathery thickness of his neck and the immense size of his hands and wrists. The clear, pale blue eyes set above a firm jaw. He spoke in a deliberate, measured manner that Saturday afternoon. And it was not difficult for me to imagine that I was sitting there with Buzz.

We sat in his den in front of a roaring fire and drank cup after cup of coffee that winter afternoon. Mostly I listened (and recorded). Rolf's own life story quickly became intertwined with the memories of his brother and the famous journey. His actual knowledge of Buzz's first trip was limited. People were proud of

what Buzz had done, said Rolf, but no one made a big fuss. The only "river fact" I learned had to do with the whereabouts of Buzz's boat. And this was only partly true. A rumor had been circulating among amateur historians that the craft was in someone's garage up in Oregon. In my heart I entertained secret dreams of finding it. But Rolf remembered that after the 1937 trip, Buzz brought the wooden boat to his mother's home. It was placed on stilts in the backyard where it remained for a number of years. After Buzz's suicide the boat became too stark a reminder of her son. Francis Holmstrom gave it to a friend of the family, Billy Stewart. Billy was a fisherman as well as a postman and so the boat would have been put to good use. Where was the boat now? Rolf wasn't sure, but he guessed it probably got left somewhere on a muddy bank along the Coquille River, or maybe behind a barn, a victim of southern Oregon weather.

And what to make of the suicide? Perhaps it was an "accident" as one river historian speculated. A newspaper article from the Oregonian (May, 1946) suggests that Buzz was despondent over the failure of his boat to navigate some of the rapids of the Grande Ronde. I found that hard to believe. Rolf said that he had seen Buzz just two weeks before the incident. Buzz was "happy, upbeat, full of it..." Then Rolf paused, as if he were searching back through time for an explanation. "A lot of World War II vets went through this kind of thing after coming back. For a lot of farm boys, that war was the most exciting thing that ever happened to them." Rolf had been in the service himself and I wondered if he was speaking from his own experience. "The family grieved for a while," he said "but eventually we took up living again."

But mostly Rolf reminisced about the small events and the personalities that make up the bulk of any family story. Did I know that people "just took to Buzz?" That when Buzz worked at the gas station, folks would come in for gas and end up hanging around for hours to chat with him? I was reminded of the story of the headman on Kiriwinia Island in the South Pacific during World War II, who wanted to adopt Buzz as his "white man son." Rolf also spoke of a loving father, who died when Rolf was four. And how Buzz worked the farm and took Rolf under his wing in the years to come. Did I know that though Buzz was not an "active believer", he was very much a Christian? I thought I understood what Rolf was trying to get at. Buzz: the natural athlete, the outstanding student, his younger brother's hero. Often after telling one of these anecdotes, Rolf would apologize. He hoped I didn't think he was "bragging" too much about his family.

There was that unique Holmstrom blend of quiet pride and deep humility.

It was dark when I left Rolf's home. The heat of the fire and the hours of talk had left both of us tired. We exchanged addresses and telephone numbers. He also gave me the address of his other brother, Carl, who still lived in Coquille. As I drove home, I remember thinking that I hadn't really discovered anything new about Buzz. I would visit Carl in the spring. Perhaps he would have more of what I was after. Years later I would realize that I had simply failed to fully appreciate what Rolf was sharing with me that afternoon. My hero was becoming a man.

Coming from Bandon on the south Oregon coast, the 42S road parallels the Coquille River much of the way into the town of Coquille itself. That morning the road sides were fresh with spring bloom—bright yellow of the gorse, pale pink of the wild rhododendrons, rich purple of the lupines. The river itself rollicked along, flush with a week's worth of rain, towards the Pacific. If there was any boating to be done, this would have been the time. But I was here to visit with eighty year old Carl Holmstrom, Buzz's older brother by two years.

Through letters and over the phone, we had arranged to meet in Coquille. He had said he would be in front of the Standard station on Main Street about 11:00 a.m. Not knowing exactly where it was, I made my first pass through town and of course missed it. I turned around and drove back. Mr. Holmstrom was there waiting for me. He was physically smaller than his younger brother Rolf, but carried the same solidness in his frame. He wore the clothes of a woodsman, a logger-flannel shirt, suspenders, Carhart double kneed trousers with the cuffs cut high (what we in grade school had called "flood pants") and sturdy well-worn boots. I stopped the car and got out. "Mr. Holmstrom?" I asked. He smiled and reached out to shake my hand. Again those Holmstrom hands, as if they were chiseled out of blocks of wood. Boatmen's hands, I thought to myself. "Glad to meet you" he said. "We can go to my place to talk if you'd like."

As Carl directed us through the side streets of Coquille to his home, he warned me that he lived "bachelor style" and hoped that I wouldn't mind. He explained that things were comfortable and as tidy as they needed to be. I wouldn't mind at all I assured him. Soon we arrived in front of a hobbit like house, pleasantly ramshackle, whose front yard looked like a miniature lumber mill. It was littered with logging tools and equipment, much of it rusty





Carl Holmstrom

and resting in peace. Wood chips served as a front lawn. Small piles of firewood waited for stacking. The air was seasoned with the odor of saws and oil and freshly cut wood. Carl escorted me inside, shooed the cats away and offered coffee and the most comfortable of the hard backed chairs. We began to talk.

Carl had lived in Coquille since 1935. He had finished eighth grade and immediately gone into the woods. His first job had been as a "whistle punk." Now they used walkie-talkies, he guessed. (Probably cellular phones, I think as I write this article.) Except for his time in the service (at sea), he had spent his life in the woods. Fifteen years ago he had retired from the mills. Much, much later I would realize that his memories and anecdotes were sharper than Rolf's. But of course! He was closer in age to and had shared more common experiences with Buzz. Carl told of building crude boats with Buzz on the family farm. The middle fork of the Coquille ran along

their property. They would launch their craft (usually in late spring), ride for a mile or so and then hike the distance back home, somehow carrying the boat with them. They did this over and over again, he said. I asked him about the boat Buzz had taken down the Grand Canyon. Yes, it was given to a fellow named Billy Stewart. But Mrs. Holmstrom had made Billy Stewart promise that if for some reason he no longer wanted the boat, he had to burn it. Mrs. Holmstrom didn't want it passed around. It occurred to me that she might have dimly grasped the significance of what Buzz had done. This was her effort to preserve the memory. Carl was certain that the boat had been destroyed.

When I asked about Buzz's suicide, Carl just shook his head. Where Rolf had been accepting about the interpretations of the incident, Carl was suspicious. He mentioned a dispute with the cook of the surveying crew and how the folks "out there" in eastern Oregon made their own laws in those days. He said his sister felt the same way. He did not speak of religion. The afternoon shadows of the ponderosa pines fell on the house. It had grown chilly inside and Carl lit a fire in his ancient wood stove.

Carl told me many stories that afternoon. About his cats, World War Two, how the lumber mills had changed since the 1930's. About his life on a farm in a river valley in southern Oregon. He felt that Buzz's greatest achievement was the work he had done on the farm as a school boy after their father had died. As

with Rolf, Buzz's Canyon journey slipped into the background of Carl's narrative. The wood stove crackled and the sun set early behind the green-black west ridge (despite the season). I found myself missing Carl's words, but listening to his voice. After awhile we sat quietly, suspended across time. Then Carl said he had something for me. This is it, I thought. A piece of the historical rock. Something of Buzz's. He slipped out of the room. Moments later he returned, carrying a circular piece of stone, two inches thick. Carl handed it to me. It felt like sandstone. Buzz had brought this back from one of his trips, Carl said. Would I like it? It was a core sample six inches in diameter, probably from a dam survey, certainly from before World War II. Streaked with purple. Tapeats Sandstone? My geological memory failed me. Yes, of course, I answered. It would be a privilege. Carl carefully wrapped the gift in newspaper and then slid it into a brown paper bag. At the time I remember feeling like the kid at Christmas who knows he should be pleased with what he has received, but can't quite manage the feeling.

It was getting late. On the way out of town we stopped at the cemetery. Carl had offered to show us the plots where his mother and brother were buried. "There's not much to see," he said. But he seemed genuinely pleased that we had come and that he could show us. After an afternoon of talking, we didn't say much. There was a particular scent to the late afternoon air—the mingling of smells from the nearby river, the farms and the surrounding forest. I took some pictures. Finally we did say our good-byes and I offered to drive Carl back to his place. "No, I'd just as soon walk," he said. "I usually ride my bike about ten miles a day, even though half the gears don't work. I missed out today. Thanks just the same."

I have a son now. He likes stories. Some I read and others I make up. Jake was born on May 18, 1989—the anniversary of the eruption (rebirth?) of Mt. St. Helen's as well as the death of Buzz Holmstrom. I have made these things part of my story, some of my markers on the river of time, a way to remember. They will be a part of Jake's story one day. Perhaps we select these things unconsciously and arrange them in some order that makes sense only to us. Then we begin to pass them on to those around us. When Jake asks about heroes, I will tell him about Buzz, of course. When he goes looking for heroes, I'll point towards the Grand Canyon for starters. If I am really lucky and he is still listening, I will tell him about Buzz's brothers, Rolf and Carl, and the stories they shared with me. I'll hand him the core sample also and hope he understands that heroes are made up of more than their deeds.

Down the Colorado

The Diary of Buzz Holmstrom

(abridged)

Green River, Wyoming
October 4, 1937

Rained out last night. Got up at 3:30 to keep my bed from getting wet. I could see long jagged streaks of blue lightning off over the mountains to the southwest, then it would be about fifteen seconds before I heard the thunder.

My boat is tied up about two hundred yards above the island where the Kolbs kept theirs. The view of Castle Rock behind the town is almost identical with the picture in their book...

The boat looks very good, but leaks some. I hope a day or two of soaking will cure that. The seat is a little too high and the oars should be eight feet instead of seven and a half. Loper has four of the very finest ash oars that were given him by Julius Stone, who was out to Salt Lake two weeks ago. It seems as if all the boatmen around this country are down at Vernal. Loper sure gave me a lot of dope on the different men who have made or attempted trips here.

According to Green River folks, the big obstacle in my way is the boom a mile below here. I don't know but what I shall have to give up the trip if it is as bad as they say...

October 5

My greatest worry is the early October blizzard which everyone says is due here now. At present I am engaged in thawing out my shoes so I can get my feet into them. The water froze solid overnight.

I hit the river again at 8:10. It is nice and warm now, the country is beautiful, with lots of little parks and islands covered with cottonwood and willow...

October 6

.... dark.... I am camped in a dry creek bed a few miles above Perry's Fork. The last few miles of river were awful: about a hundred yards wide and full of sand bars that run in all directions, like a puzzle. I go down one side and find myself trapped. Then must either row back or drag the boat over. It has been pleasant all day. Perhaps the early October blizzard will hold off long enuf for me to get out of the country.

I find myself feeling nervous and worried a little,



Buzz Holmstrom
Photo by Bill Belknap

but I guess that is because it takes so long to get to the rapids. I think I will be okay as soon as I get to them...

October 7

8:30 The grain of the rocks is sloping up now. I am getting near the mountains. I never saw more beautiful surroundings; sloping rolling hills on the left, cliffs on the right, brush all along the banks all colors of the rainbow, mostly red and yellow, with distant blue mountains in the west, the further range standing behind the nearer, and white with snow. No wonder the first travellers thought they had found an easy way...

6:00 Flaming Gorge, Horseshoe and Kingfisher Canyon are indescribably beautiful even at this late season, and just full of birds, whose songs are echoed by the cliffs. Here in Red Canyon the walls are high but not so unfriendly looking... but the rude awakening is not far off now. The cliffs are full of crevices with pine trees in them. I kept my feet dry all day...

October 8

6:00 PM I surely have done some funny maneuvering today. The first two miles took two hours because of rocks and shallow water. I walk along the banks further than I go in the boat. I made Skull Creek at 1:00. It has good gravel rapids till Horseshoe, where was a mile of the most miserable rowing I ever put in: wide, shallow, and rocky and the sun was squarely in my eyes, so I couldn't see downstream at all, and just zigzagged back and forth.

At four I reached Ashley Falls. I took two time exposures, probably no good tho. I ran them without any trouble, tho it was close quarters...

October 9

At 2:30 I came to Red Creek rapid. It is a dirty son of a gun to put it mild—steep, long and rocky. At its head is a steep drop with water shooting into the right cliff, a channel there, but no room to use the right oar for the cliff. Anyhow, something had to be done, as the rapids divide into three parts. I might have tried to run it if close to home and everything favorable, but here there is too much to lose by a

smashing, so I portaged the boat over a beaver dam down a little side channel, then ran down a way with the oars, then slid over the rocks into another shallow channel and ran down to the foot light. It did not take over twenty minutes, but then the trouble began. It was over a quarter of a mile from the duffel at the head to the boat at the foot. I made it all in three loads, but I am sure a donkey's ears would have burned with shame watching me. I got away from that place, altho it was dark by the time I got the stuff in the boat, as there is just a long windy rock bar to camp on there. I hated to break down and portage, as I have not done so before, but what I am trying to do is see how far I can get rather than how many I can run. If there are many more long portages, about half my stuff is going overboard.

Well, tomorrow is the day that Dodge's outfit is supposed to start from Lee's Ferry...

October 10

6:00 Brown's Park. Prettiest place I ever saw. Park is right. I have come many miles thro it and have not seen a living soul. There are several ranches in the upper end, but they are deserted. There was one place, tho, where I know someone was living. Every fifty feet or so there is dirt from beaver slides, and the ducks and geese are thick. I was looking downstream at some geese, and happened to glance thro an opening in the willows on the left, there was a deer. I got out the camera and shot him as he disappeared in the willows, and I was cursing my luck at not getting a good picture, and winding up the next film, when two more followed him across the opening. But I still could not get the camera ready in time.

There are high mountains all around the valley, sort of protecting it, it seems, and I feel kind of guilty going thro here myself. The river meanders awfully, with very large groves of cottonwood trees along its banks, and terribly tricky sand-bars in the channel. On one bank, almost all the way, is a very thick growth of willow; just short; five to eight feet tall, but no trees. The beaver make paths thro this and cut shoots off and take them down to their houses to eat. They seem to have high water houses and low water ones. There are many cattle and sheep around the valley, but some fields of grass nearly a mile across, ankle deep and thick, that is not grazed at all. I took quite a few pictures, but know they can't do the place justice. The mountains surrounding the valley rise higher and higher and bluer and bluer into the distance. There are also birds of every description here.

I expect to pay dearly for this peaceful cruise thro the park, tho, when I hit the next canyon, which is Lodore.

There is a little sliver of a moon tonight, but the air is so clear it causes things to throw a good shadow.

It was 110 in the sun today. I am well sunburned.

The man who said "Time flies" must have been on a boating expedition six and a half days already....

October 11

Evening... The water is so muddy here you can't see the bottom of the cup...

October 12

Evening. This portaging duffel is real work. It sure makes me warm, also tired, but it will do me good, I know. The water doesn't seem cold at all. I feel that I have done pretty well on the river, but tomorrow will tell the story, for the Green at least, for a mile below here is Hell's Half Mile. It will certainly have to be a portage of everything except maybe the boat, over a steep hillside, too, I think. It is the most difficult going in Green River. Today was my poorest day, only about forty-two miles but I will be lucky to make twelve tomorrow. It was warm and clear all day, with no wind. I can see traces of a camp all over the bar here. Some of the traces are pretty old, I think.

The moon is now lighting up the top of the canyon walls.... pretty.... I am going to bed now; it is late for me to be up. (7:30)

October 13

11:30 I left Triplet at 8:15. It was only about a half mile to Hell's Half Mile, which is well named. I unloaded at the head. The first drop was the worst, and it was bad. I struck bottom and hung up on a rock under the fall. The boat swung around the wrong way. I pulled over to the right as best I could, anyhow, and the stern struck, but not very hard. She swung round and made it OK. Finally washed Green River sand off the rear deck. The middle rapid is awfully rocky, but I went thro it without touching one. Then in the lower end, where it is swift again, with a couple of rocks. An oarlock pulled out of its socket at a critical time, and while I was putting it back the boat drifted upon the piled-up water on a rock, but slid off and by that time I had the oar back in place and made it OK. I worked the boat back up the left channel fifty yards and made it much easier. The boat has started leaking, and I am worried sick for fear I have smashed a plank. (Later, on examination, I find that the paint has merely got knocked off a screw hole that has no screw in it.)...

Evening. Camped just above Jones Hole Creek, I think. There is a long bar on the left of the river. A dead cow and horse are on the lower end of the bar, but as I say it is long, and they shouldn't mind my company...

October 15

12:00 I am right in the middle of the storm with thunder and lightning, huddled under a rock with water streaming down all around. It can't keep me dry above the hips, tho. I wouldn't have missed this for anything. There are creeks falling over the cliffs all around, and right across the river is almost a landslide: a big stream bringing down rocks by the ton, the river is turning dark red, almost black. Maybe this will give me a little more water to go on, anyhow. Only two more miles of this canyon.

I can't see the tops of the cliffs near mevery impressive.... I think I am in a safe place from slides; anyway I hope so. A rapid is right under me, and I can't hear myself think. It has only been raining twenty minutes. This rock doesn't soak up water at all...

Evening. So far this trip I have looked all the rapids over carefully, and it is lucky I have, as the channels thro most of them are mighty complicated. All the canyons so far have dealt very kindly with me, and the weather man did too until last night and today...

October 18

Evening. At 3:30 I got stuck on a sandbar, took off my shoes and pulled the boat thro. A lot of the way the river is four to five hundred feet wide. The wind came up again. I got into straight waves a foot and a half high. Simply awful to try to do anything. Can scarcely buck it, and when sideways I go along with one oar backing water and rowing with all my might on the other. I couldn't find a good camping spot, and it got so dark I stopped here. It is flat, soft mud, seventy-five feet out of water. There is a narrow fringe of cottonwoods and brush and then desert and sage-brush...

I think I am on the Uintah reservation now, and no wonder. No white man would want this country...

October 20

7:45 This morning I actually saw two red skies at once. In the east the sun made a big red sky, and in the west the moon, which really shines bright here. I read the writing in this notebook by it last night. It was shining up on a cloud when the sun rose, and while not really red it was sort of pink. I will be sorry to see the moon go. It is like a friend to me now, waiting all lit up bright when the sun goes down, and staying till the sun comes back again...

October 22

The moon was so bright last night that it actually hurt the eyes to look at it. It is absolutely clear this morning, no frost, either. It is probably raining at

Coquille now, and everyone running around snuffling with colds and so on, while here am I in better shape than I have ever been, I am sure, except that, due to the long spells of rowing I have put in the last few days, it is much more comfortable to stand up than to sit down. I am going to try to get some kind of cushion at Green River...

October 23

6:30 A.M. Green River town seems to be a mile from the river, and is the most miserable dilapidated one-horse town I ever saw. However, I guess I can get everything I need here...

October 25

9:00 A.M. Ready to leave camp just below Green River. Getting late start. Arranged load all over. Fixed ropes, blocks, etc. One oar has a cracked blade, and one of the spares which I thought the best is so badly warped I can scarcely use it. I could not get any around Green River, tho I hate to start thro the cataract with only two good oars...

My tennis shoes are going very haywire, but I could get none in Green River. I ordered some sent to Lees Ferry, and also oars, but as I don't know just who to send them to I may not get them...

October 25

9:00... I met a man just above here, who says there are 1900 feet of water in this river, and about 3000 in the Colorado, making 5000 on Cataract. That is more than I expected, but I think it will help...

6:00 P.M. I did not work very hard today, and am not as tired as I should be. Tomorrow I am going to use the old oars. I'm tired of wearing out my arms and twisting the skin off my palms trying to use the warped ones. Captain Yokey says it is all right to start thro with them, as I am pretty sure to find some in the drift. He had one he had found in a drift he wanted to sell me for 25¢, that I would not trust to go across the river in a still place with...

October 26

It is a swell night, warm and clear. There was not much wind today. I am cooking prunes this evening. This A.M. I tied the warped oar to the hatch so it is sprung the opposite way, and will leave it till I hit Cataract and see if that helps any.

I'm sure glad to eat the last of that old Jensen cheese. Makes my mouth burn like I was a fire-eater...

October 27

I had a fine breakfast: coffee, toast, cracked wheat mush and prunes. Last night there was a splashing around, groaning, jabbering and scraping and hammer-

ing sound for a long time across the river. It sounded like crazy people. Finally I concluded it was some beavers at work, and maybe something else too, as I didn't think beavers made any vocal noise. Pretty soon I got up to see if one of them was chewing a hole in the boat, as it sounded close, but there was no sign...

October 28

My vacation from the service station ends today, but I can't very well be back to work on time.... Well, I have almost forgotten the gas business. Those cataracts ahead seem quite important now.

I washed this morning...

November 1

5:45 If there aren't some tennis shoes for me at Lees Ferry I will have to walk out to Salt Lake and get some, as both my soles and heels are right on the ground...

November 3

I am getting so I can pretty well tell time at night by the stars, and a good thing, as my watch is clear haywire...

November 4

I looked at my squash in the coals this morning. I poked around, and there seemed to be one coal a little bigger than the others. I broke it in two. It was red-hot clear thro. All that remained of my squash!...

I have no light now. I bought some flashlight batteries from Montgomery Ward and they were dead without scarcely any using at all. I wish the fellow who sold them to me was here and I would push him into the creek...

November 5

I got to the bridge at 4:30, and climbed out a quarter-mile above on the left. It is an awful climb. I don't see how I can carry anything down there. I will go down to Badger Creek in the morning and see if it is any better. The oars are in Flagstaff, and I will have to go after them and to mail things, as there is no post office here, no stamps or anything. And no groceries...

November 6

This is the memorandum of the things I must get and do in Flagstaff.

- Get oars
- Get supplies for two weeks
- Mail rocks (to mamma)
- Mail tent
- Mail thermos bottle
- Fix so can tie load inside
- Mail films

Write Uncle Roy
Batteries
Screw eyes

November 7

2:30 A.M. Flagstaff. I spent two and a half hours trying to find Badger Creek, where I could reach the river easier. Never did. Still think I can, tho, tomorrow, with the aid of a retired army officer staying at Lee's who used to live in Jackson's hole and knew Teagarden there.

The largest stand of pine in the United States is south of Flagstaff, reaching to the border.

I heard part of the USC-Stanford game. Stanford, 7-6.

No one here knows about rivers...

Mrs. Pete Nelson says she knew a fellow who was thought to have killed a man above, and came thro Cataract in a pig trough, but I think it must have been Glen Canyon...

I wish I hadn't come to Flagstaff. I look like a wild man now...

November 8

8:45 I just ran Badger Creek rapid. I intended all along to line it, and felt kind of blue this morning when I got up, but after breakfast felt much better. I kept looking at the rapid and thought I saw a way to run it... drop over the top on the right side of the main channel, which runs square into the rock below, and the suction below the rock sort of pulls the boat to the right so as to miss the rock. It worked fine. The waves were large but the only water I took on was from the sidewinders...

Soap Creek is next, which I will portage even if it looks good...

1:10 Well, I am sure getting to be a first-class liar. I came down to Soap Creek, and looked at it. It did not look so bad... very large waves that would surely wreck things were on the left, but on the right a little narrow channel, very swift, no doubt the same one Kolbs used in '11. They upset both boats, but it didn't look too bad, and it is a big job to portage, so I unloaded, apologized to myself, and ran it...

At Badger my knees got very weak, but they were like steel rods compared to the way they were here. If that channel was not entered just right with crosswise momentum it does not take a blueprint to tell one what would happen...

Two miles below the rock is North Canyon rapid. I stopped and looked it over from the right bank. It is a very steep drop and the narrowest one yet. It runs against the left bank and curves to the right. The waves in the center are larger than Soap Creek, and swifter. I intended to stay on the right on the inside of

the big line of waves, but did not look carefully enuf and the boat was drawn over into the center. One wave came over the side and gave me two and a half gallons and drenched me. I could see I was being drawn into the center of the biggest wave, but was not worried much as I was sure the boat would rise over it. The boat was flooded down on a rock in the trough and stuck there. All I could see was water on all sides. None came in tho. Why I didn't upset or go clear under I don't know. Too good a boat, I guess. The oars looked awfully small and useless in those circumstances, so I let go of them and grabbed the gunwales and expected to go over, under, or end over end, but she came loose, shot out of the wave cornerwise and headed for the ledge on the left out of the big waves. Then I grabbed the oars and ran the rest OK. I am going back up there, a half mile, in the morning, and try to analyze it and see for sure just what my mistake was. Mostly carelessness, I am sure...

The waves, especially in Soap Creek and several of the other rapids down here, break at intervals somewhat like the ocean ones. They will topple over upstream, then subside a little, then shoot up and break over again...

November 9

11:15 I am now at 25 mile rapids. I like its looks even less. I must come in at the head in the middle, shooting in to the left shore to miss the rocks at hand on left and the jumble of rocks and waves below on the right, cross over in a length of not more than 25 feet in swift water...

I will shove off now. The next rapid is one mile below here. I am making very good headway so far, but no one can tell what the next rapid will bring. That is what makes it interesting. I can still sing and whistle, only the echo is poor here, and not kind to my voice, as was Labyrinth. The boat has simply behaved like a million so far...

It really hurts to go thro here in a way, there are so many wonderful things and on such a grand scale I cannot begin to describe them, and pictures are almost an aggravation, as they do not show things as they really are.

Last night the quarter moon came around looking for me, but I was camped under a vertical cliff. The moon came down over the upper walls of limestone but could not get down into the narrow inner gorge where I was. Tonight I picked out a place where the moon is shining now and will till late. It seems like an old friend.

Things have been going so good and easy I am sure I must be in for some bad luck soon. I have been very cautious today, and have not had any trouble at all. Many of the rapids are close, tho, and a foot or two off

at the critical time would make an awful difference.

In 25 mile rapid today I had to start in the middle and pull to the left thro a narrow space below a rock above the left, and a rats nest of huge waves and rocks below on the right. I started well over to the right and rowed across to get momentum to shoot in below the rock. The current got swifter sooner than I figured, and I thought for a little I was going into that rats nest, but I really laid hard on the oars and slipped thro. In several rapids it has been necessary to shoot in from one side or other at the head to get proper position in the swift water. I would be unable to drop straight down and pull over. If you are in swift water and try to pull over into an eddy behind a rock the still water below the rock forces the boat back into the current. It was not so in the Green, where the water is not so swift...

It is 7:30, and I am going to bed. The canyon is more beautiful by moonlight than by day. The moonlight is reflected off the waves in the rapid below me...

November 10

12:00 I am at the Little Colorado—the much anticipated Junction. There is not much water, but it is clear and very blue. It leaves a white deposit all over the bottom of the stream. I may drown in the next rapid, but am sure proud of having run all the rapids in Marble Gorge in two and a half days' time...

November 11

It did not rain after all. I worried, tho. It is still cloudy. My suspenders broke in two places as I was about to get into the boat this morning, and I spent some time repairing them. It sure was lucky it happened here, tho. Just suppose I had been going thro a bad rapid and they had broken. I would probably have had to drop the oars and grab the pants, and would have wrecked the boat and drowned. It is 8:00, and I am leaving...

I am camped just above Bright Angel suspension bridge and gaging station on the left. I got here at 3:30. I could have made it up to the top by dark, but decided to wait till morning. I got some stuff straightened out to take up, and took a bath and washed my underwear. I am camped on an open bar and the wind blows a gale, making it difficult to do anything. It doesn't seem possible I came from Lees Ferry in four days minus. That was because I did not have to portage. I know there will be six or seven portages below...

November 12

I'm rich! Almost to the top of the rim, and starved—thinking of the burned biscuit bottoms I threw

away last night, and so weak I could lie down and die in the trail, when I find a piece of cheese the rats have been gnawing on the edge of the trail. I trim it up a little and am now sitting in the trail eating it. MM-M-MM--M!:

November 14

10:30 Ready to shove off at Pipe Creek, two miles below the Suspension Bridge. Emery Kolb helped me pack down my supplies and camped with me last night at the bridge, with his grandson, Sonny. He ran the boat down here thro some riffles, giving Sonny his first boat ride on the Colorado. I rearranged my load, threw away the wormy raisins, and am now shoving off...

11:15 I ran ashore a half mile below Horn Creek to straighten the left oarlock which bent when I let go of the oars in the rapid, and the oar was carried under the boat in a big wave...

Just ran Hermit Falls. Am not very proud of my performance there either. All went off as planned, only an oar got caught on the upstream side and carried under again, in the first drop. There was a loud crackling noise, and I expected to see the oar broken in two, but it was not, and I went on in the way I had expected. Took on about five gallons again, but did not come near tipping over. It's a bad rapid, tho: large waves at the head, making it necessary to go down the right, holding in against angling waves, and drop over a steep chute with fast angling reverse waves at the bottom. It was in the wave at the bottom that I cracked the oar. It was like Horn Creek, but less nasty. Didn't have any difficulty at Granite Falls. I dropped down the left of big waves against the right cliff. I got drawn into the center of the big ones at the bottom, but took no water at all. I am going to continue to use the oar, as it seems plenty strong yet and has been lucky so far.

The next one, Boucher, was pretty easy, a long, wide not very swift section and then it narrowed up and big waves were at the very last steep drop. I kept clear of rocks. I took some water, but it did not matter.

Crystal Rapids were next. They were much like Boucher—long, wide and slow at first, steep and clear at the last. I took no water, and camped just below Crystal, tired and hungry. Did not get much sleep last night. Kolbs used the bag, and I tried to sleep on the sand under the rubber poncho, but there was not much warmth in that, and my sleep was disturbed by an absence of heat.

It is a nice place here, with lots of wood and a good beach for the boat. Tuna Rapids, just below, sound bad. I hope the tuna doesn't bite. By the way, I had some for lunch. Fight fire with fire...

November 15

I had to peel the biscuits on the bottom. I haven't too much grub: plenty unless I have trouble, but am going easy on it. I feel well satisfied with the day's run of fourteen miles. I had been dreading Waltenburg. I should have fairly easy going tomorrow for about fifteen miles. I am not properly worried about not being able to get out of the canyon. I sit here like a king in front of my fire, governed by no man-made laws. Of course I can't make the wind stop blowing smoke in my eyes and things like that, but it is fine anyhow. Tomorrow night I may be clinging to some rock in midstream, but no use worrying yet.

The boat takes on more personality all the time. My fate and its are pretty well sealed together. If it is broken or sinks, so do I...

Thoughts of home are very pleasant, but it sure does seem a long way off. The moon is bright tonight, and almost full. For the first time in my life I can see the man in the moon.... large, bushy eyebrows, much like Mr. Holmes.... my old friend, the moon...

November 16

2:00 Just ran Bedrock. Bedrock Island is in the center of the rapid. It was easy to go on the right. That was one I had been dreading. The next one is Deubendorff, and it has a very bad reputation.

3:15 I am going to try Dubie's rapid. I don't like the looks of it, tho.

6:00 Made it OK. On the left above the rapid I put my prunes and raisins in a bag and unloaded the rest of the duffel on the right. In the center at the head of the rapid is a sort of rocky island with most all the water going on the left. It would be pretty easy to line a boat down the right to the lower portion, which is clear of rocks. The main current on the left runs thro a few very large waves which could be run easy, and then into a bunch of big rocks, mostly under water, which would smash a boat SO quick, but at the foot of the island the water begins to turn to the right thro some rocks and run into clear right side of lower end. I dropped over the head of the island as close to it as I could possibly get and hung right against it and slipped between two rocks at the lower end of the island and thro the lower end — BONE DRY!

The whole thing hinged on whether or not I would be sucked out into the main current and waves leading into the left end of the last drop, or whether I could hold against the island as there is a strong current away from it at the top, and once in the waves one could not pull out. I was some worried and sized up the country for escape and it did not look very promising. I don't get as scared as I should, tho.

This is the rapid Deubendorff's party upset in, and Eddy lost a boat here lining it. I think maybe

[Dodge's] outfit did the same as I, as I see many tracks but no signs of portaging boats...

I felt swell when I got thro this rapid, and better yet when I finally remembered the last two lines of "Barnacle Bill" which I had been trying to think of. They almost fit my case.

"My whiskers grew so bloomin' fast
The sea horses ate 'em instead of grass."
Mine are almost that bad.

I am camped at the lower end of Deubendorff, where I have the boat all loaded again. It was quite a long portage of the duffel over soft sand and rock bar. I cooked some prunes and raisins for supper, but did not eat them till after dark, as I have reason to believe that the raisins I threw away and replaced were not the ones that were wormy...

November 17

3:00 I am in walls much like Marble Canyon, high, narrow, sheer and smooth since above Kanab. Got out of the granite below Deer Creek. I am going to take a picture downstream, I can see the rays of the sun from above the left cliff, but they don't reach down to the river. It should look forbidding and dark downstream, rough, and no way out, but it doesn't look that way to me at all. Probably because I am just thro a bad one and no bad ones ahead for a while.

When I remember that I once considered selling the boat when I am thro, I am ashamed of myself. It has saved my life many times already and still has a job ahead. There are still a hundred miles of bad rapids...

November 18

2:00 A.M. The rain finally came. It woke me up at 1:30, with wind roaring up on the cliffs. I rolled up my bed and put it under a rock, as I don't want to get it wet. It is an awful job to dry it out. I fixed up the fire and am now sitting on my table thinking of the tent I discarded. It was heavy, tho, and if the rain doesn't last for days I am better off without it. This is fun now but would no doubt lose its humor if prolonged...

6:45 A.M. Had a little extra time, so washed face, hands and teeth. Hadn't figured on doing that till the end of the trip, but might as well do it now and not have to bother then. Breakfast was just mush and coffee this morning. My flour is going down awfully fast. I will now shove off...

7:00 P.M. Gateway was easy. Started down the center and finished on the right. I looked at none of them till Lava Falls, at 1:45 o'clock. (Mi 178)

A mile above the Falls a huge pillar of lava stands in the center of the river. I played with the idea of running the Falls on the right for fifteen minutes, but decided to portage on the left, then had to cross back

to the right for poles to slide the boat on. I started to portage at 2:30 and had the boat down at five. I will take my duffel down in the morning. I just might have run it, but it is very, very bad...

November 19

8:00 A.M. Have the boat loaded below the Falls. It is cloudy again this morning, but I will take some pictures before I shove off. I got up early and took a drink of water out of the bucket in the dark. At daylight I discovered two drowned rats in it. Before drowning, however, they had eaten one butter for me. Between rats and myself the butter is not holding out very well. On looking over the Falls this morning I am quite sure I could have run them, but would portage every time just the same, unless there was some very good reason for running them...

8:40 A.M. I got to thinking that perhaps those rats drowned themselves in remorse for having eaten my butter...

5:00 P.M. Camped at Granite Park, mi. 209. Made thirty-one miles today. Got here at three o'clock, but it was such a good camp that I stopped. Dodge's outfit stopped here, and left a sign saying, "Hello, Buzz! November 17, 1937" on some poles. Their fires were still alive. My figures say this is the 19th, so I am sure either theirs or mine are off as I believe they must have left here this morning. They left some cocoa in a can by the fire. I am drinking it now. This is the first time I was sure they knew I was coming. It sure seems good, almost as good as seeing someone. They may spend a day or two at Diamond Creek, and so I may see them there...

November 20

6:50 A.M. I am ready to shove off, but waiting for a little more light, as there is quite a rapid right below. The sunrise is beautiful. The moon is still in sight in the west, as if to show the sun the way; in the east above the dark cliffs the sky is the bluest blue I ever saw, and runs thro different shades up to the pink and red clouds. It makes me mad to try to describe it, as there are no words that will do the work.

My overalls are developing a good-sized hole where they rub on the seat of the boat the most....

Off at 7:00. Met Dodge's outfit at Diamond Creek, mi 226, at 11:15. Stayed with them at Travertine Creek, three miles below.

November 21

6:00 evening. At gnEISs canyon at 236, current strong against the right cliff. I started right, ended in center easy and dry. Bridge Creek at 235 was easy. I ate lunch at 236. They were all easy to Separation. I took a long walk down the side. It was easy. I started

on the right of the main tongue at the head, pulled to the right and dropped thro the second section on the right of a big submerged rock with a large wave, thro big waves to the third section. I started it on the left, and pulled over to the right; dry all the way.

At 240 I shot a steep one. Ran on left of a big rock at the head, hit a funny reverse wave, the boat stopped completely and tumbled crossways with its nose to the right bank, but I went thro dry.

241 mile rapid is steep and rocky. I dropped over next to a rock on the left bank and kept to the left thro big waves and pull out to the right at the foot where the current runs strong against the left cliff. I ran the rest to Spencer without looking them over.

I looked Spencer over from the left side at the head. I could not get down far on the left, but could see enuf. A nice clear stream comes in at Spencer. I started slowly thro the channel between submerged rocks at the head and pull over to the left cliff, dropped thro small reverse wave near the cliff and near enuf to a big rock to touch it (the rock is almost against the cliff on the left). To the right of the rock is a steep drop and very deep trough and monstrous reverse wave. I did not want to go thro that. Next to the rock was a better place, not so deep trough. Went thro there OK. The current shot the boat against the cliff, a big boil rebounded it, the stern eased against the cliff, and I pulled around bow first away from the cliff and thro OK, with about three gallons of water. Am camped on the right at the lower end of rapid mile 247, with the last bad one above me.

The Bad Rapid — Lava Cliff — that I had been looking forward to for nearly a thousand miles, with dread.

I had thought: once past there my reward will begin, but now everything ahead seems kind of empty and I find I have already had my reward, in the doing of the thing. The stars, the cliffs and canyons, the roar of the rapids, the moon, the uncertainty and worry, the relief when thro each one.... the campfires at night.... the real respect and friendship of the rivermen I met and others....

This may be my last camp where the roar of the rapids is echoed from the cliffs around and I can look at the stars and moon only thro a narrow slit in the earth.

The river and canyons have been kind to me.

I think my greatest danger is ahead — that I might get swell-headed over this thing. I am going to try to keep my mouth shut about it, go back to work in the old way and have it only for a memory for myself. I have done no one any good and caused a few people great worry and suffering, I know.

I think this river is not treacherous as it has been said to be. Every rapid speaks

plainly just what it is and what it will do to a person and a boat in its currents, waves, boils, whirlpools, and rocks if only one will listen carefully. It demands respect, and will punish those who do not treat it properly. Some places it says, "go here safely, if you do it just this way" and in others it says "do not go here at all with the type of boat you have" but many people will not believe what it says.

Some people have said I conquered the Colorado. I don't say so. It has never been conquered and never will I think. Anyone whom it allows to go thro its canyons and see its wonders should feel thankful and privileged. Sometimes I feel sorry for the river. It works every second of the ages carving away at the rocks, digging its canyons. It carries a million tons of silt a day. And again, I feel sorry for the mountains, with the river gnawing at their inside, but I guess my sympathy doesn't seem very important to either of them.

I know I have got more out of this trip by being alone than if I was with a party, as I have more time, especially at night, to listen and look and think and wonder about the grandeur that surrounds me, rather than to listen to talk of war, politics and football scores.

The river probably thought "He is such a lonesome, ignorant unimportant and insignificant pitiful little creature, with such a short time to live, that I will let him go this time and try to teach him something." It has been less kind to many prouder people than I...

I have about thirty miles of rapid yet, but all pretty easy I think. I will continue to be careful, tho. I felt lucky here, especially as I recognized places shown in pictures where others had toiled portaging and lining, and within fifteen minutes of the time I reached the head I was at the foot, load and all.

A perfect night. The moon comes up later now.... still.... every star in the sky lighted up brighter than usual.... my last night in the Canyon.

This excerpt represents about one quarter of the original manuscript. It was difficult to edit it at all, but space dictated. Three dots (...) represents an omission by me. Four dots (....) is copied from the original.

I received my copy from Joan Nevills Staveley, who got it from one of Buzz's brothers. It is said to have been typed by Buzz's mother from the handwritten original. I have tried to remain faithful to the copy I have, leaving grammatical and spelling eccentricities as I found them.

We hope to publish an unabridged manuscript with pictures, annotations, etc. at some future date.

Brad Dimock



Discounts to Members

A few area businesses like to show their support for GCRG by offering discounts to members. Here are the ones we're aware of:

Expeditions 779-3769

625 N. Beaver St. Flagstaff
Boating Gear
10% off merchandise to members

Cliff Dwellers Lodge 355-2228

Cliff Dwellers AZ
10 % off meals to members

Teva Sport Sandals 779-5938

N. Beaver St. Flagstaff
Approx 1/2 price to boatman members
Pro-deals upon approval (approx 1/4 price)
Ask about our winter new products testing program- ask for Adam Druckman

Dr. Jim Marzolf, DDS 779-2393

1419 N. Beaver Street
Flagstaff, AZ
10% of dental work to boatman members

Businesses offering discounts to licensed guides:

- Marble Canyon Lodge
- Vermillion Cliffs Lodge
- The Edge (Flagstaff)
- Aspen Sports (Flagstaff)

Public Announcements

Help Wanted

PRO is looking for 2 river wise souls. One position will primarily involve office work; the other, food buying and packing. Projected season will be 8-10 months with time off for good behavior. Those looking for multi-season work are preferred. Starting wage \$6-\$9. Send resume.

Professional River Outfitters, Inc.
Box 635
Flagstaff, AZ 86002

Chilkat Guides is looking for a manager for its river operations in Haines, Alaska. May- October, possibly year round. Need communication, guiding and computer skills. Send resumes to Box 170, Haines AK 99827. (907) 766-2491. Guiding positions also available.

The River Stork Drops By

Stephanie and Tom would like to announce the arrival of the newest Grand Canyon River Guide, Charles Yard Moody. In the hope he doesn't end up as a lawyer or insurance salesman his parents are depending on his many river aunts and uncles to help get his hands on the oars or motor handle someday. If you're looking for a boatman in about 18 years, keep him in mind.

the news is printed on recycled paper with soy bean ink by really nice guys.

Care to join us?

If you're not a member yet and would like to be, get with the program! Your membership dues help fund many of the worthwhile projects we are pursuing. And you get our lovely journal to boot. Do it today.

<input type="checkbox"/> General Member Must love the Grand Canyon Been on a trip? _____ With whom? _____	<input type="checkbox"/> \$20 1-year membership <input type="checkbox"/> \$100 6-year membership <input type="checkbox"/> \$195 Life membership <input type="checkbox"/> \$277 Benefactor (A buck a mile)* *benefactors get a life membership, a silver split twig figurine pendant and our undying gratitude.
<input type="checkbox"/> Guide Member Must have worked in the River Industry Company? _____ Year Began? _____ Experience? _____	<input type="checkbox"/> \$_____ donation, for all the stuff you do. <input type="checkbox"/> \$15 short sleeve t-shirt. Size____ <input type="checkbox"/> \$17 long sleeve t-shirt. Size____ <input type="checkbox"/> \$.50 GCRG logo sticker. (2 free with membership)
Name _____ Address _____ City _____ State ____ Zip _____	Total enclosed _____

Final Curtain for the Bio Bio

The sad last chapter of the fight against constructing the Pangué Dam is now playing out. Last fall the Supreme Court of Chile overturned a lower decision to halt construction, smashing the last hopes to preserve this world class river experience. The dam is being built.

What will be lost?

The Pangué Dam site is at the foot of a gorge named the Royal Flush—an intense series of major rapids stacked one right after the next. In one steep, narrow, hydraulic, half mile are: the Ace—a long, fast curving rapid with humongous holes in the center; Suicide King—where the entire river narrows to a boat-width, doubles back on itself and slams into an overhanging cliff; Queen of Hearts—an appalling boulder garden where no two boats ever make quite the same run; and the worst of all, One-eyed Jack—an evil hole field with a huge bedrock island in the middle and no sane or non-violent run on either side. Immediately below the Jack is a winding, wall-slammng rapid called the Ten—now a severe rapid due to the blasting for Pangué Dam.

All this will be inundated, but equally tragic is the loss upstream. For a day or so, as you float from the upper gorge to the Flush, you run dozens of rapids (the sex rapids: Bump, Grind... leading up to Climax). Fun exciting rapids that keep you pretty wide awake without too much terror. But this is also the land of a thousand waterfalls. With every turn several more cascades join the Bio Bio, each one engulfed in nalca (giant rhubarb with leaves up to four feet across), fuschia in full bloom and a chaos of ferns, moss and other greenery. At the very head of the reservoir, the Termas de Avellanos, a riverside hot

springs named after the local filbert-like nut tree, will go about ten feet under.

In all, about half the rapids and one third of the 60 or 70 mile run will be lost. But this is only the beginning. Next comes the Ralco Dam, a few miles above the Pangué Reservoir. That will knock out the whole upper stretch. And then more.

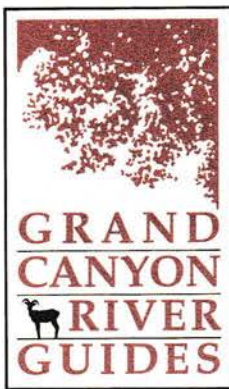
We had hoped, in fighting this dam, to let the Chilean people know that they needn't make the same tragic error that we did with places like Glen Canyon and Flaming Gorge, denying the magic of these places to all foreseeable future generations for such a short term reward. But it was not to be.

I spent five amazing winters on that river and writing this piece hurts as much as writing an obituary for a best friend; one that died needlessly in her prime. What to do? Keep fighting, keep trying. There are organizations like David Brower's *Earth Island Institute*, that try to help third world countries develop without

destroying themselves—to selectively harvest rather than clear cut; to come up with low impact, high yield, appropriate long term alternatives, rather than scolding them, "No you can't cut your forests or dam your rivers."

We live at a time when our industrial might has finally overpowered nature's ability to heal quickly. Once we eradicate ourselves, the planet will put itself back together in due time, but that's not the point. We owe it to ourselves, to our children and to the world around us to try and preserve the remaining magic. Keep up the fight.

Brad Dimock



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