


GRAND
CANYON
 RIVER
GUIDES

boatman's quarterly review

the journal of Grand Canyon River Guides, Inc.

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1923

1985

9^{1/2} East Aspen

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A Dirty Deed

Willis Johnson Thistle, Utah



Willis Johnson at Olympia Bar in Glen Canyon, 1942

Willis Johnson—a name that pops up often in river stories from the '30s and '40s. He ran Cataract and Grand Canyon with Burg and Holmstrom in '38. He was with Julius Stone and Frank Swain when they put up the Separation Cenotaph. He ran a boat on the '39 uprun of the Snake. He pioneered the Middle Fork of the Salmon with Frazier and Swain. When the budding river running community suddenly switched to inflatables, Willis was there. And after most of his river friends had caught that big back eddy in the sky, Willis was still rowing his boat down the Middle Fork and quietly going about his life.

We met last spring over biscuits, gravy and coffee in a small cafe in Tooele, Utah. As in so many attempts to collect oral history, great stories began pouring forth before I got the recorder going.

He told me a bit about growing up in Thistle, Utah, and how that town was inundated by a landslide dam a

continued on page 28

9½ East Aspen Street Flagstaff, AZ

Somebody had to do it. I was a stupid kid and didn't know better. So I accepted the embers when Brad administered the oath of office. I placed my left hand on *The Exploration of the Colorado River And it's Canyons*, raised my right hand, and repeated after Brad, most of which I cannot repeat here. After the ceremony he said, "...looks like a pretty quiet year ahead. Not much happening these days..."

So off I went to be GCRG President. US Senate Bill 208, legislation to revamp concessioner contracts, died in the 103rd Congress. An 'old timers' trip went downstream. Glen Canyon Dam's Final Environmental Impact Statement (FEIS) would soon be issued; most of us didn't have much argument with what we thought was coming. Rob Amberger came into office on the South Rim. People liked him. Grand Canyon celebrated it's 75th Anniversary on a gorgeous day. Maybe Brad was right. Maybe things would be smooth and easy. It sure looked like that.

GCRG needed a project. We dove into *Perspectives II*, a special edition of the *bqr*, a publication on river access issues. We solicited comments from over 100 boatmen, privates, passengers, outfitters and NPS. Ellen Tibbetts did the cover art—it was killer. But only a few folks, and an outfitter or two, would talk. Mum was the word. Too sensitive a topic, it was said. And hard to understand: the Colorado River Management Plan is up for review in '96. Not a problem, said Steiger. '96 is getting closer. And we still want Ellie's art on the cover.

Things skidded downhill from there. Nimrod Petroglyphs appeared at South Canyon. Quartzite Falls was trashed good and proper. County Health, County Health, County Health: Can't we please make sense out of this mess?! Meetings in Phoenix on the FEIS or how to deal with the FEIS, or something else about Glen Canyon Dam. Late in the day came the question of whether to save the Bat Towers—and the answer was no. Meanwhile, back at County Health... Then the telephone call from Hell: *Hullo. I am Lt. Fred Soriano, US Coast Guard...* We knew it was coming. But it hurt. Really bad.

Next Board meeting. Follows a dialogue between various attendant characters: *Oh, ferChriststakes... Lookit...what...?? WHY? Goddamnit, WHY?? ...Don't these Coast Guard guys have somethin' better to do? ...we know a helluvalot more about boats...fastwater...* Back to the computer, the phone (did I say I hate phones?) and a *bqr* with everything happening at once. [to paraphrase] *USCG Invades Grand Canyon—Situation Critical—Write Another Letter—Don't Forget the FEIS on*

boatman's quarterly review

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

Grand Canyon River Guides

is a nonprofit organization dedicated to

- * Protecting Grand Canyon *
- * Setting the highest standards for the river profession *
- * Celebrating the unique spirit of the river community *
- * Providing the best possible river experience *

General Meetings are held each Spring and Fall. Board of Directors Meetings are held the first and third Monday of each month. All innocent bystanders are urged to attend. Call for details.

Officers:

President	Shane Murphy
Vice President	Lew Steiger
Secretary/Treasurer	Jeri Ledbetter
Directors	Martha Clark
	Bert Jones
	Bill Leibfried
	Andre Potochnik
	Christa Sadler
	Tom Vail

Our editorial policy, such as it is: provide an open forum. We *need* articles, poetry, stories, drawings, photos, opinions, suggestions, gripes, comics, etc.

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. Send an SASE for submission guidelines.

Deadlines for submissions are the 1st of January, April, July and October, more or less. The earlier, the better. Thanks.

Glen Canyon Dam. Then more meetings. And more follow-ups.

GTS: Due entirely to Andre, Christa, Martha, Patty and Ted, and the several hundred people who made it to Hatchland and beyond. I did, and will always be able to say wonderful things about those few days. But it wasn't my work, none of it, even if I did get to referee a fist fight.

Then: US Coast Guard Commander George Wright on the other end of another phone call. *I am going after the MOA [Memorandum of Agreement between National Park Service (NPS) and USCG] as fast as I can. WHAM!* Brad had some busted shoulder parts then—plenty of time to sit in front of his computer, outraged. He should have been. Wrong agency on the wrong river for the wrong reason. Brad wrote countless, very long letters to everybody he could think of. He put out the Coast Guard Action Alert which you ran into at GTS '95. If

you didn't, you saw a reworked version in the last *bqr*. If you did that, you wrote. Again. I hope. I wrote a few myself. Who wouldn't?

Some of this is not gentlemanly. Fair is fair: *Where are the '95 Commercial Operating Requirements?* FAX from South Rim: 47 pages!!! Steiger and Jeri drove to the March Constituency Panel Meeting, as Brad said, loaded for bear. But Superintendent Arnberger beat them to the punch. Seven pages of regulations got shelved that day. Recall "wilderness experience" and what those pages would have done to that ethic; you might reflect on quiet motors at the same time. GCRG had a hand in that, a big hand.

US Geological Survey needed help to remove the National Canyon cableway; there wouldn't be a flood flow for some time to come, they said. We jumped on it, and got that cable gone pronto. But a few short weeks later, at a meeting inside a far corner of Sky Harbor International Airport, it is startlingly clear that people who write letters about final EIS' talk louder than people who just talk and, further, that some important government agencies don't communicate enough: *Secretary Babbitt will make a decision soon about the "flood flow" for '96; we [Reclamation] want your comments on this meeting by May 31st...* We worked with an alliance called, usually without affection, *The Green Team*: GCRG, GC Trust, American Rivers, Friends Of The River, Sierra Club, Sierra Club Legal Defense Fund, Environmental Defense Fund, Arizona Flycasters, others I can't mention right now... But, to end this tirade: somebody should write a very long book about the EIS process which will result in the Record of Decision on Glen Canyon Dam. Fascinating. Absolutely. Even if the cable didn't stay gone for long.

And there are ongoing rumors, mostly true, I think, about the Coast Guard. They're still on the scene. There is still **not** a problem. Nonetheless, we still expect the MOA. Weird world. The latest here is that licensing and inspections won't cost anything, will be couched in the COR, and that drug tests are coming. Fine. Even if testing doesn't end up coming from the Coast Guard, it can already be found in the new *Prospectus*.

A gentle reminder: if you are not part of the solution, you are part of the problem. Any letter is better than no letter. No fair standing around camp doing nothing. If you want to lead a hike, speak up. If you don't, nobody can hear. Talk. Phone. Write. While you're at it, consider doing some of the work yourself. Without you, *the person reading this sentence right now*, GCRG is nothing. What happens at Board meetings defines us. We've got a dozen projects on the leeward cooker right now. All they need is someone to stir them. Maybe you've got a few of your own. Come on down. Think about that. About carrying the fire.

I got burned a few times. I didn't know how to lug the stuff around in faxpaper firepans. I was illiterate on the PowerPC. I've learned an awful lot in a year—and a lot about the PowerPC, too: everything in here is my

fault, or claims to be. But, in truth, others did the rest of my work. I was out—at meetings in conference rooms, far places from Grand Canyon. I got wrapped up running a river from a hotel room. But this has been the most significant of times in my life, a potent learning experience, rewarding in that twisted, river trip way. I camped in convention centers, hotel rooms, and in front of a computer, what I called *The BIGMac*. I drove a lot, I tried to use a cellular telephone, never wore a tie, and was always the one person in flops. I met many good people which, it turns out, was their fault; generally, I stand in corners and talk to myself. I'll even tell you the worst: I never slept after any board meeting. Never. I'd find myself lying wide-eyed in bed at 3 a.m. cursing or crying or laughing out loud or all three. What an *amazing* experience!

9½East Aspen. Up the high stairs. First door on the right. Big room with, more than likely, nobody in it. But lots of space. Bill Leibfried joined SWCA, taking his equipment. The bookshelves, copiers and computers are laid back against walls now, with a space to pow-wow in the middle. Nobody can hide behind a bookshelf any longer. There's propaganda on the shelves, a postage meter on a new table, and chairs, work to do, and thousands of papers to file. There's more room for the BIGMac, which still answers the phone most of the time, and sometimes doesn't. That's normal. Sorry.

Our membership roll is longer than ever. We've easily gone through more money this year than at any time in our short history. Difficult to imagine what has happened around here in the last 7 years. You name it, and it has been discussed. And maybe worse. How terrible can it get? And who knows? Certainly nobody who's about to take a bible into his hands. Thank Gawd its Lew and not me.

I'll tell you something else. This boat, this GCRG boat, is a monstrous thing to drive.



Shane Murphy

Shane steps down September 1st, after managing to put in more time in his one year than his predecessors squeeze into their two-year terms. It often seems a thankless job so we, who come to meetings and help with projects and so on, would like to thank him.

THANKS, Shane for running lead boat, showing us the rocks, rolling a few out of the way and broadsiding others. Thanks for the devotion and commitment you have shown, and for banging your head unceasingly against a number of bureaucratic and other sorts of walls. Catch an eddy, pop a cold one, and pull back out and run sweep. It's a way funner position.

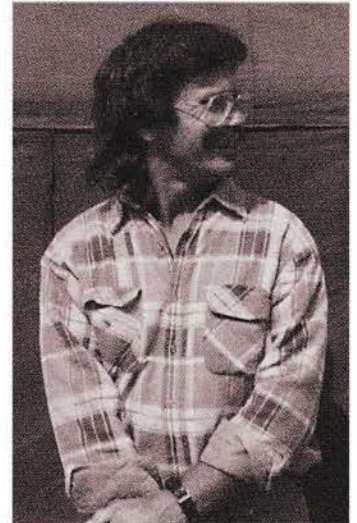
GCRG Election Results

After the dust settled, almost 200 ballots returned from our election mailer. That means almost one-third of our guide membership voted, and that's a good turnout in these parts. Way to go, everybody. When the ballots were counted, they showed the incoming Board members to be Kim Crumbo, Bob Grusy and Tim Whitney, who returns for another round. They'll be on for two years. Bert Jones, Andre Potochnik and Tom Vail each have one year remaining in their terms as directors. Jeri Ledbetter ran unopposed for vice president, so you can sorta figure out who won that race without too much trouble. Lew Steiger will move up from vice president to replace Shane Murphy as president. Lew's got a one year term to live through, and Jeri will succeed him. It'll be the two of them driving the big boat for the next couple of years. That's the good news.

The bad news is that Martha Clark, Bill Leibfried, Christa Sadler and Shane, will step down from their GCRG duties just in time to enjoy some Autumn weather. They'll have less work to do—call that a benefit. But they'll probably end up doing projects they've wanted to do for the past two or three years but never had the time to get around to because they were trying really, really hard, to slay a thousand and one dragons. Some they killed dead. Others are still on the loose.



Kim Crumbo



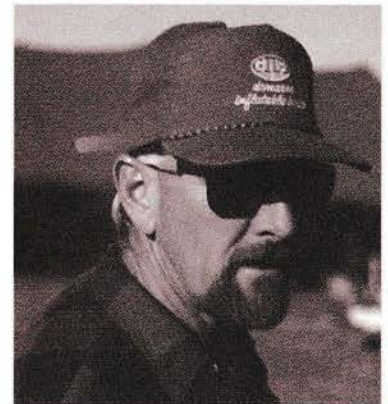
Bob Grusy



Tim Whitney



Andre Potochnik



Bert Jones



Tom Vail looks on; four used presidents: Tom Moody, Brad Dimock, Shane Murphy, Kenton Grua; new fodder: president Lew Steiger and new vice president/president elect Jeri Ledbetter.

A New Prospectus for River Running Contracts

After years of procrastination, delays and uncertainty, during which the spectre of concession reform has risen repeatedly, the Park Service has finally sent a *Prospectus for River Running Concessions* to all 16 Grand Canyon outfitters. On September 11 the NPS will begin evaluating all submissions and within a few months issue 7-year contracts for each permit. Commercial river running can now breathe a sigh of relief. Or can it?

In an effort to see what the renewal process entails and what it signifies for the future of Grand Canyon boating, we have waded deep into the six hundred plus pages of the *Prospectus*. What follows is an attempt to explain, in simple English, some of the more interesting and alarming things we found; to answer some questions; and to ask a few more.

Right of Preference

As many of you may recall, *Concession reform* had threatened to remove outfitters' "Right of Preference" to renew contracts. This would have opened renewal up to the highest bidder and, in our opinion, caused a scary destabilization of the industry and a disincentive toward long term thinking.

This didn't happen. *Right of Preference* is intact. But this is no guarantee that each outfitter can simply renew their contracts. Anyone can bid on each and every contract, and the *Best Offer* will be chosen for each contract. *Right of Preference* means that if an outfitter has not had an unsatisfactory evaluation this year or a marginal evaluation for the last two in a row, they have the right (should someone else's offer be chosen as *Best Offer*) to match that offer and be awarded the contract.

Should an outfitter in this circumstance choose not to match the *Best Offer*, the competing bidder will be awarded the contract and will be required to buy as much of the old outfitter's physical assets "at fair value" as the old outfitter desires.

Best Offer

The application is broken down into three *Principal Factors*: 1) *Experience & Background*; 2) *Conformance to Terms and Quality of Service*; and 3) *Financial Capability*. These factors are broken down into 19 *Criteria*—14 of these criteria are *A-level*, meaning you must meet the preset objectives; and 5 criteria are *B-level*—these are extra credit and could make the difference in a tie-breaking situation.

The criteria are then broken down into a series of forms, tables, essay questions, plans and rhetorical questions (a no answer disqualifies you; the entire application is deemed *non-responsive*)

Best Offer must satisfactorily meet all *A-level* criteria.

If more than one offer meets all *A-level* criteria, *Best Offer* will be chosen by best *B-level* offers.

In order that no one has to meet the terms of an unrealistically low offer, *Best Offer* must leave the applicant with a "reasonable opportunity to realize a profit".

One scary thing here is that there is nothing saying that one applicant cannot bid and win all sixteen contracts.

No Change in Operations

"Offers should replicate the general character of the trips currently being conducted by the company for which the proposal is being submitted, e.g., percentage motor/oar mix, trip lengths, trip activities, and other factors which highlight the existing company's operations."

While this shows a commendable effort to preserve diversity on the river, and could prevent situations from deteriorating, it does seem to stand in the way of other things improving.

Increased Scrutiny of Guides and Operations

"The concessioner shall provide the necessary formal training and development programs for employees to increase and maintain their ability to provide interpretive services acceptable to the Secretary...concessioner will be required to have its employees ...present a neat and business like appearance... shall require its employees to be hospitable and to exercise courtesy and consideration in their relations with the public... Those employees who are in safety-sensitive positions such as, but not limited to, boatman and transportation guides, will be required to participate in periodic drug testing... The use of alcoholic beverages by concession staff while actively engaged, or within four hours of when they can be expected they will be engaged, in on-river operations, shall not be permitted. All other staff and customer use of alcoholic beverages in the course of a river trip including land-based activities shall be managed by the concessioner to, at all times, ensure the safety and well being of staff and customers."

And no smart-ass comments, either.

And stop whistling, dammit!

The Applicant is asked, "How will you establish pre-employment screening, hiring, training, termination, and other policies and procedures for the purpose of providing services to park visitors through the concession's employees in an efficient and effective manner, and for the purpose of maintaining a healthful, law-abiding, and safe working environment for concession employees?... Define how you intend to initiate and carry out a drug-free work environment and eliminate substance abuse in your work force. What will you do to identify individuals who abuse drugs and or alcohol? ... How will you hire people of integrity who are both interested in serving the public in a national park environment and interested in being positive contributors to the park? ...

Outline the training program you propose.... How will you achieve a consistent standard level of knowledge among all staff about the park and its rules, regulations, and special programs, as well as a consistent friendly and positive attitude [especially when guides have to go through all this other horseshit] by which guests are greeted? How will you go about setting standards and training to standard? ...All on river employees will be expected to attend formal training activities prior to assignment in a non-trainee role. For employees who have not attended formal interpretive training in the last three years, explain your proposal for reintroducing them to the necessary interpretive skills training"

Meanwhile, the question of whether the NPS has full jurisdiction within its borders is being further defined as: no, not really. *The Concessioner shall provide a copy of a current food establishment permit from a state or local health authority having jurisdiction at the place in which food, food containers, or food supplies are handled, prepared, packaged or stored for river trips that will take place within the Area.*

And still further regulation seems to be headed our way. *All operators must comply with all current and future NPS plans to minimize and/or mitigate impacts of beach use. These include but are not limited to... use of ground cloths in food preparation areas...use of heater blasters for cooking [?].*

And so on...

Reduce motor noise and emissions

"Raft operations using motor power on the river have both noise and combustion emission effects on the river environment. While the use of motor power is not in question, minimizing the noise and emission impacts of the motors does improve the river experience for the user. It is the intention of the NPS to make an effort to take advantage of developments in motor technology and pursue the uniform use of the quietest motors reasonably available as well as those which have the least negative effects on the air and water of the river. Periodically, as appropriate and as scientific technological standards can be defined, offerors can expect modifications to the CRMP/COR that will set standards in this area. Explain how you will, in cooperation with the NPS, actively participate in accomplishing minimizing the noise and emission impacts of motors on the river."

While GCRG and such outfitters as ARR have been leading the way in this endeavor, NPS is missing the point by singling out just the motor as the culprit in noise levels. The type of frame, use of sound dampening systems, the tube design and, just as important, speed of schedule, are all major factors.

Even if 4-cycle engines are proven to be affordable, manageable, effective and dependable in the long haul, they should not be viewed as the only solution.

The bottom line is, "How loud are you?"

Future Allocations

"A review will be conducted to determine if the current commercial/non-commercial division of available user days is

appropriate to the needs of the public, who are the users involved in both types of trips. This may mean that commercial operators will experience adjustments in river day allocations during the course of the term of the new concession contract."

There it is, in black and white. GCRG has been, and will continue, to look at this most thorny of river access issues. Your opinion, in 300 words or less, is hereby solicited. Really.

Increased fees

There has already been a great deal of hubbub about this. Last week the Flagstaff paper carried an article entitled *Riding the Colorado to get much pricier as fees set to double*. Let's look at the numbers:

In 1991, the franchise fee for motor trips was raised from 2.25% of gross, to 6%. Perhaps as an incentive, or perhaps because rowing costs more per head, the oar trip franchise fee was left at 2.25%. The new fee structure eliminates any preferential treatment of oar power, and is structured thusly:

Franchise fees: 1% of the first \$500,000 of gross receipts, 5% of the next \$500,000, and 8% of all gross over \$1,000,000.

In addition, a new fee is being added. Partly in response to the complaint that franchise fees go to Washington and we get nothing back on the river, and partly in response to the continued federal slashing of the NPS budget, a *Government Improvement Account* is being established. Called the *Colorado River Fund (CRF)*, it will fund, *"on a project basis, improvements which directly support concession river operations required to be conducted under Concession Contracts within the Area. ...[but] will not include routine operational maintenance of facilities or housekeeping activities... a CRF can be used to rehabilitate or construct facilities.. and... there is no possessory interest accrued by the concessioner for improvements made through the CRF. The BUSINESS OPPORTUNITY explains:...river concessioners do use the put-in and take-out points (including the river orientation facility, restrooms, parking areas, launch ramps, solid and human waste disposal systems, and camp grounds), as well as the river itself, various beaches for camping and food preparation, associated trails, and cultural and natural curiosities. As a result of these concession operations there is an impact to all of these areas and resources. The cost of providing necessary real property improvements will be the purpose of the [CRF]."*

A rough estimate based on current Concessioner Annual Grosses would put about \$800,000 annually into the CRF. We can hope that the term "improvements" can be more loosely applied to maintenance and stabilization on the river (trails trips, etc.), leaving actual improvements for places like Lees, (a more dependable electric system at the ramp?... a good interpretive center and training facility for the newly mandated training,

perhaps to include a boat museum for the boats now languishing in the open air at South Rim?... a better camping arrangement for boatmen and privates?...), Phantom (a water line to the boat beach?...), and Pearce Ferry (A road to a new take-out on the point once Pearce Bay inevitably fills with goo?....)

The total amount collected for Franchise Fees will increase slightly under the new system, and when the CRF is added on we can expect a total rise in fees collected of about 85%. This increase will not be borne equally by all outfitters however. The inset box shows what the net percentage of fees would come to for companies of various sizes. As you can see, the smallest motor companies may actually see a decrease, while the very largest could see an increase of around 75%, or an additional 4.5% of their gross. Meanwhile even the smallest rowing companies, by losing their economic advantage, will see a doubling of fees, while the largest will nearly quadruple, paying an additional 6% of their gross.

In the end, though, few outfitters should need to raise their prices (or lower their profit margins) more than a few percent to accommodate the increased fees.

Optional additional fees

Under the *B-level* criteria, an outfitter can offer higher percentages for Franchise Fees or CFR contributions. In the event of a tie-breaking situation, this could determine *Best Offer*. It is difficult to see this as a healthy incentive from the consumer's point of view.

It seems designed for the big outfitters to bid the small ones into oblivion. After all, they're already paying 12% on most of their operation—why not bid for a small outfit, offer the NPS 12%, and just see if they'll match it?

Lower Fares

Another *B-level* tie-breaker criterion is to offer lower fares to the public. If there is to be a bidding war, this one is far fairer to the public. Prices are already pretty stiff out there, with motor trips averaging around \$190-200 a day with amenities, and rowing trips about \$ 20 less. While there are a few outfitters like Diamond with a bare-bones rock bottom price, others are astonishingly high (divide annual gross by the number of user days for a rough idea). With the commercial allocation filling each year without much struggle, this is one way to reintroduce competitive pricing.

Disabled Access

Outfitters will be expected to make every effort to accommodate disabled passengers through mainstreaming and specialized trips. In addition, for extra credit, one of the *B-level* criteria is to agree to put on one special disabled trip for a minimum 20% discount.

Outfitter	% of use motor/oar	ann. gross in millions	user days per year	% fees paid now	% fees new deal	change in fee %
ARA(WRE)	86/14	1.7	9,546	5.5	8.5	+3
AzRA	18/82	2.0	10,368	2.9	9	+6.1
ARR	97/3	2.2	11,099	5.9	9.3	+3.4
CANY	97/3	1.0	4,403	5.9	6	+1
CANEX	0/100	.7	4,063	2.25	5.1	+2.85
CRATE	93/7	.5	2,848	5.7	.4	-1.7
DIA	88/12	1.0	7,203	5.6	6	+4
EXP	0/100	.6	2,960	2.25	4.6	+2.35
GCE	94/6	2.4	13,967	5.8	9.5	+3.7
HATCH	100/0	1.4	11,027	6	7.7	+1.7
SLEIGHT	69/31	.5	3,323	4.8	4	-.8
MOKI	30/70	.6	3,693	3.4	4.6	+1.2
OARS	0/100	1.5	7,355	2.25	8	+5.75
OU	0/100	.9	4,821	2.25	5.8	+3.75
TW	83/17	1.0	4,823	5.4	6	+6
WEST	99/1	4.3	14,001	6	10.6	+4.6

1994 figures supplied to NPS by outfitters, rounded to nearest tenth

Restrictions, paperwork and the bottom line

It is a disappointment that the only mention of how guides should be treated is *How will you further regulate and restrict them? And how will you force them to smile?* No bonus points for decent pay, health care, retirement or other incentives to keep a seasoned, experienced quality staff on board. Damned shame, 'cause some outfitters are really making an effort here, and some really aren't.

Too, those outfitters that have invested a great deal of their time and finances into making resource and training activities happen are put at the same level as those less eager to give something back to the Canyon.

I have only touched on a few of the topics in the *Prospectus*—there are many many more. The applicant has hundreds of questions to answer, facts to establish, policies to write, certainties to provide legal evidence thereof... all to be done during 90 days at the height of the season. Perhaps some of the bigger corporations can afford the time, expense and hassle of preparing this kind of document. Perhaps. But is it realistic to ask even the smallest mom and pop operations to go through this?

The future of the Grand Canyon experience is largely defined and directed by this document, yet the prospectus was created with no input or review from the public or the people who live and work in the Canyon.

And of course it is the guides and passengers whose adventure in the great outdoors will become further and further defined and restricted. Is this where we really want to head? Does this follow the guidelines recently set forth in the Regulatory Reinvention Initiative? Is this the way to ensure the best possible Grand Canyon experience to the American public?

Yes No

(A Yes answer will render your opinion non-responsive)



Brad Dimock

A Dirty Deed Has Been Perpetrated Upon Us

They killed the dragon on the Salt River. They gutted it with dynamite. Blowing its entrails out of its body. What avarice does one possess to take a wild thing and domesticate it, containing it, de-clawing it, muzzling it, removing its teeth so it can only slobber?

Making it more domesticated, like cows. One looks into their eyes and sees a faint light that barely glows with a remembrance of a past when they had bodies that could run, and calves that were born naturally.

By control, we kill what we admire most. Quartzite Falls stirred the soul. Made us mortal, put adrenaline into our system making us respect its power and our fragility. Like hunters to a worthy prey, we would creep knowing that if bitten it could be fatal.

When my friend—that Navajo boy—(Navajos do not speak of the dead let alone mention someone's name who has gone on) went beneath the surface of the Salt River never to return, an Apache woman was there helping in the search for his body.

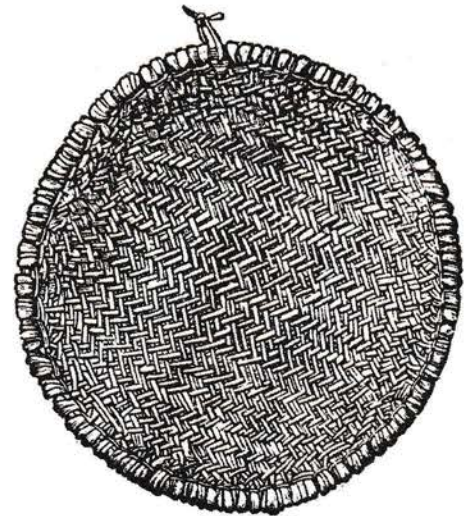
Two floaters came by face down. All were surprised to find two others than the one they were looking for. The Apache woman said, "He did that." The others involved in the search said, "Who?" The Apache woman spoke, "When that Navajo boy went under the surface his spirit became a fish. He swam up to the falls and waited. When those three went through the falls he took those two with him... he needed two dogs to accompany him on his journey..."

To kill such a force real or imagined is a foul deed.

To save time in portaging, to relieve a bottleneck, to make more money... to castrate the bull.

A dirty deed has been done and perpetrated upon us. To those who respect the horns of the bull, and to those who have yet to learn.

Roger Henderson



Have you ever had that feeling in the pit of your stomach, that nagging thought at the back of your cranium, the red light on and they all say, "STOP!" Well, I certainly had that feeling from the beginning of my thirty-second Cataract Canyon river trip. The water was not running extraordinarily high but it was in the high-range. Running about 60,000 cubic feet per second. That simply lovely, gnarly stage where the water is backed by the power of sheer hydraulics, and the holes and obstacles are open and hungry. But, a professional guide doesn't simply back out of a contract because it doesn't feel right. What kind of a reputation would that lead to? The reason a person can make it as a free-lance whitewater guide is because they're basically a mercenary at heart and will run any boat through any stretch of water—for a price.

from Flipped by Joy Ungrich

Air Traffic—the Drone Goes On

Once again, your input is needed on the air tour controversy. The governmental bodies involved: the Federal Aviation Administration (FAA), the National Park Service (NPS) and Congress, are under heavy pressure from the air tour industry to ignore NPS recommendations on how to reduce the impact of aircraft noise in Grand Canyon.

Background

In 1987, the FAA issued SFAR 50-2, rules which established flight regulations over Grand Canyon. Congress passed legislation which mandated that the NPS study whether or not these flight rules had substantially restored natural quiet to Grand Canyon. The NPS issued their report to Congress last fall. Their research determined that, although there had been some improvement, substantial restoration of natural quiet had not occurred. Also, due to the continued growth in the air tour industry, which has more than doubled since 1987, much of whatever improvement the original flight rules had generated had already been lost.

Modeling

The NPS created a computer model to predict noise levels with various actions being taken, including *No Action*. The model depicting *No Action* by the year 2010 displays an unacceptable scenario, with almost no place in the Park where you could expect to be free of aircraft noise.

With NPS recommendations in place, the model predicts slow but steady improvement over the next 15 years. By the year 2010, sizeable areas of the Park could exist where one could expect the absence of aircraft noise most or all of the time.

The recommendations involve closing the entire airspace to all but the quietest aircraft, phased in over the next 15 years. Dragon corridor, which crosses the river just below Hermit Rapid, would shift to quiet technology immediately, and would close altogether in 5 years. A more in-depth report of the recommendations was printed in volume 8, number 1 of the *bqr* last winter. (If you have misplaced it and would like a copy of that article, please call the office and we'd be happy to send you another.)

Air Tour Industry Response

As you might expect, some air tour operators are outraged. They have put tremendous pressure on the FAA and a Congress more sympathetic to their concerns.

Public Meeting

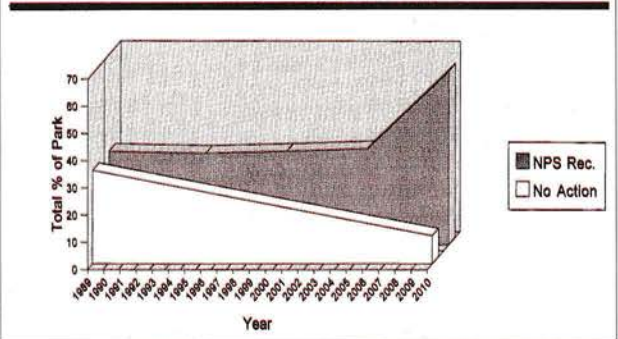
The FAA has scheduled a meeting to "provide the public with the opportunity to provide comments..." Sounds good, except that in order to speak at the meeting you're supposed to sign up in advance. If you'd like to say a few words, call the FAA at (202) 267-7626. There also may be some speaking slots open for people who just show up and sign in. As the FAA and the NPS move into the next phase of the rulemaking process, it is vital to provide them with well balanced input. Even if you don't speak at the hearing, your support by coming to the meeting or providing written comments would be greatly appreciated. If you would like more information, call or write GCRG.

Jeri Ledbetter

Attend the public meeting!

August 30, 1995
1:00 p.m. and 7:00 p.m. (2 sessions)
Woodlands Place Hotel
1175 West Route 66
Flagstaff, AZ

PERCENT OF PARK SUBSTANTIALLY RESTORED NPS Recommendation vs. No Action



Written Comments

It would also be helpful for you to mail your written comments, (one last time, please), in triplicate to:

Federal Aviation Administration
Office of the Chief Counsel
Rules Docket (AGC-200) Docket #25149
800 Independence Avenue, SW
Washington, DC 20591

Comments must be received by September 8.

The letter can be fairly simple, really, pointing out the following:

- 1) The FAA's expertise is and has always been managing the safe operations of aircraft.
- 2) The NPS's expertise is and has always been balancing visitation of our national parks with the impacts that visitation.
- 3) The NPS, after exhaustive research, has made well balanced and creative recommendations which allow for continued aircraft overflights, yet attempt to minimize their impacts which affect every other form of visitation.
- 4) As long as the recommendations do not adversely affect safety of aircraft operations, the FAA should institute the NPS recommendations without further delay.

The 1923 US Geological Survey



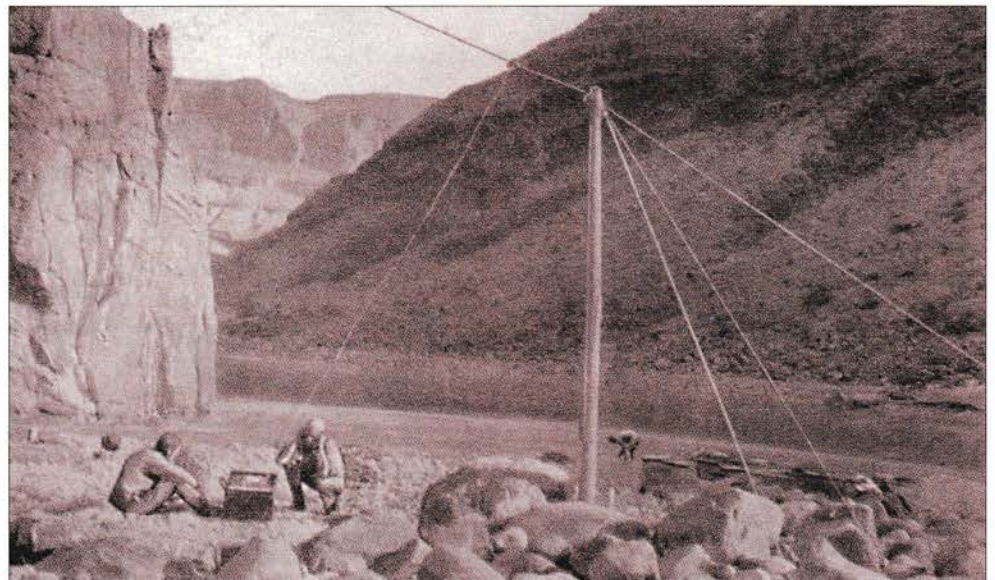
OUR EVENING DANCE BY THE CAMP-FIRE

John Wesley Powell was first down the Colorado, and first to map Grand Canyon. But by the 1920's more precise information was needed as America became interested in power generation, flood control and groundwater irrigation. In 1923 the US Geological Survey, Powell's old stomping ground, organized an expedition, led by Claude Birdseye with Emery Kolb as head boatman, to remap Grand Canyon according to the new century's demands. Along the way they identified damsites. They were the first folks

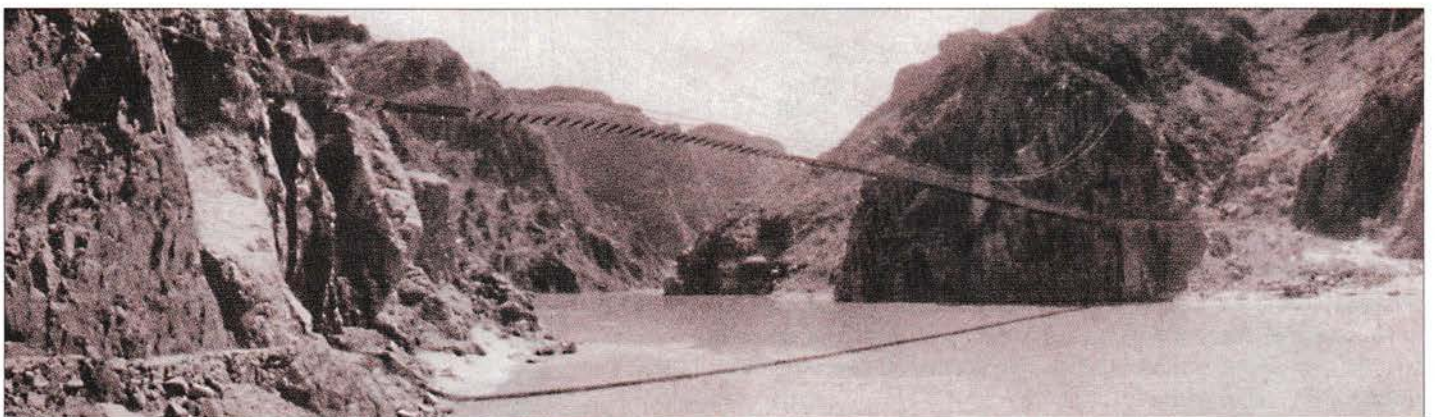
to lug a radio through Grand Canyon—how else would they have heard about Warren Harding's death 45 minutes after it happened? And they listened to the funeral while on the river, and later named the rapid they camped near that day in the late President's honor. They were further surprised by a Little Colorado River flash flood of 100,000 cfs which overtook them at Lava Falls, causing the Colorado to rise 21 feet in the middle of the night.

E. C. La Rue, the hydraulic engineer, working with Kolb,

continued on page 12



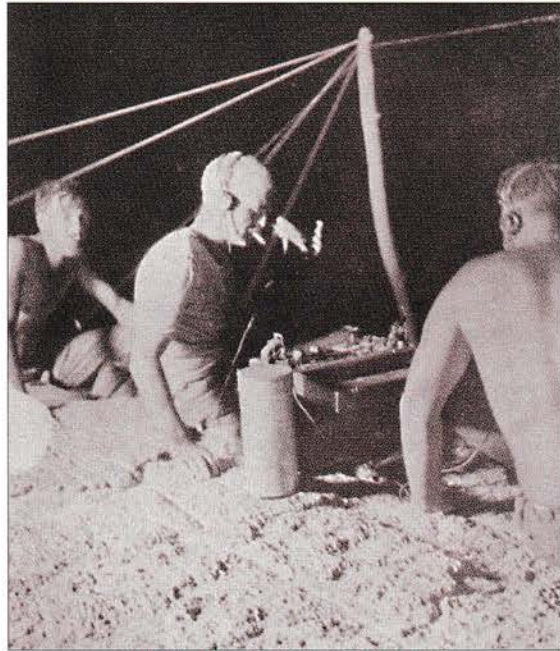
RADIO MESSAGES CAME IN CLEAR AT ALL POINTS IN THE GRAND CANYON ...



LOOKING UP LOWER GRANITE GORGE FROM THE MOUTH OF BRIGHT ANGEL CREEK, SHOWING BRIGHT ANGEL SUSPENSION BRIDGE



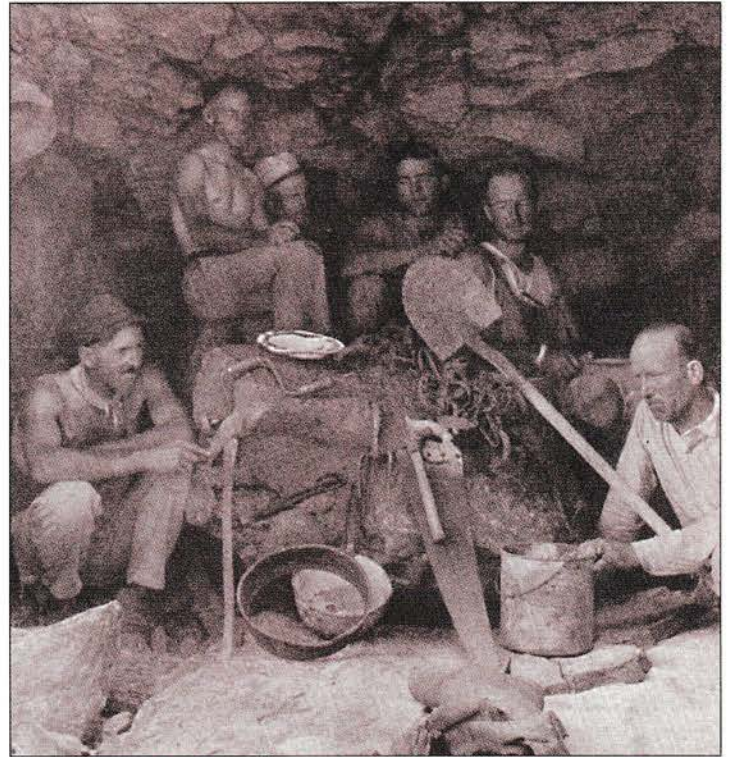
THE MARBLE BEING SOAKED READY FOR THE TRIP THROUGH GRAND CANYON



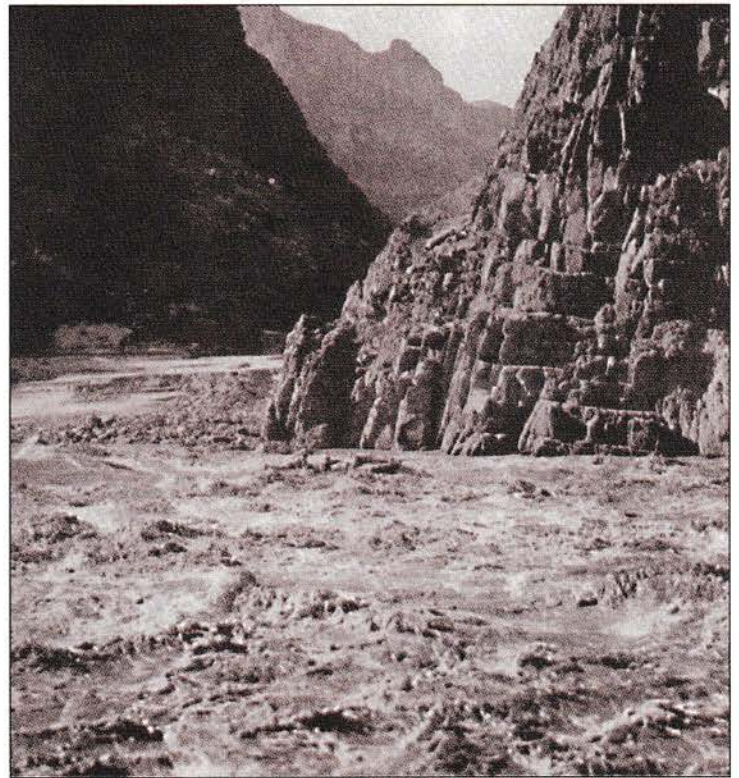
...WHEN THE OUTFIT WAS SET UP



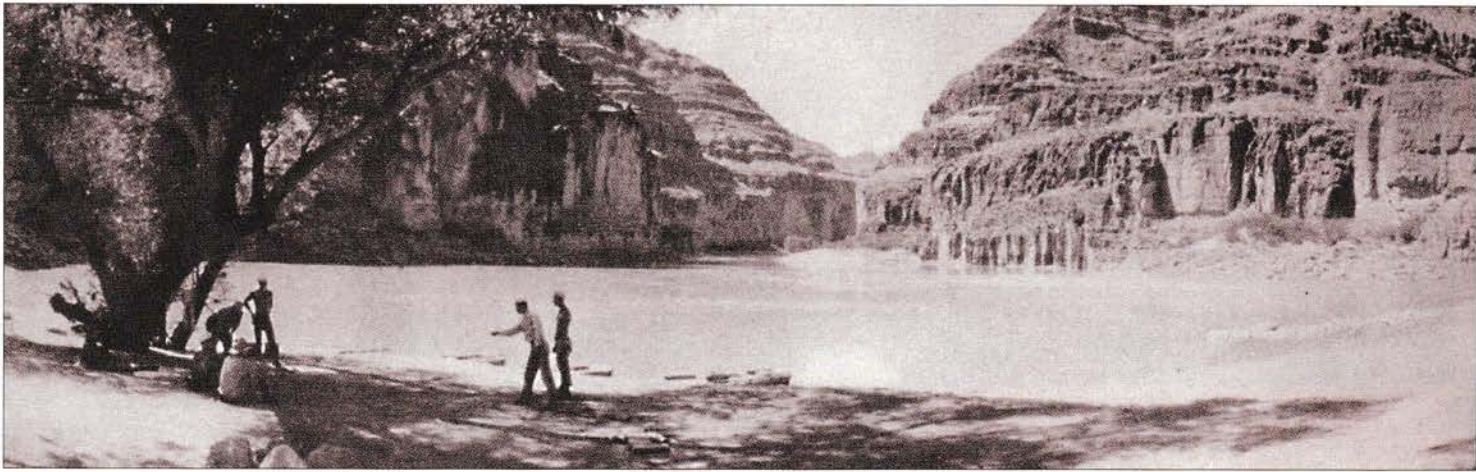
THE BLACK CANYON DAM SITE



MYSTERY ENVELOPS THE FATE OF THE TRAPPERS WHO LEFT THIS EQUIPMENT The cave in which these objects were found by the Grand Canyon Expedition is below the high water mark, so that lighter articles must have been swept away. It is surmised that the owners' boat was lost in the rough water immediately below, now christened "Cave [Springs] Rapid."



THE MARBLE IN A RAPID NINE MILES BELOW DIAMOND CREEK [Separation Rapid]



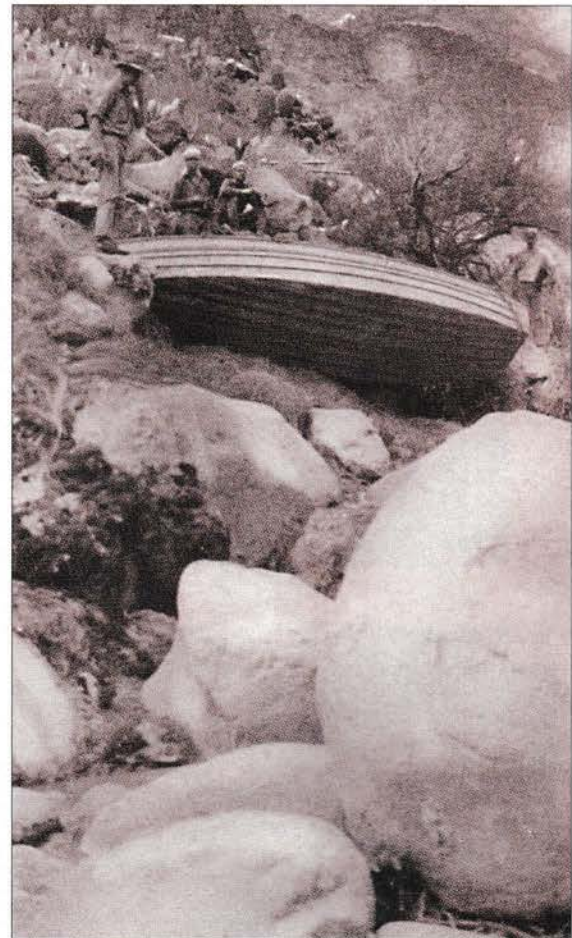
THE MEN AT PLAY 40 MILES BELOW THE MOUTH OF HAVASU CREEK, WHILE WAITING FOR THE ENGINEERS TO COMPLETE A SIDE CANYON SURVEY

Leigh Lint and E. H. Blake, was the official photographer, much to the consternation of Emery Kolb. Lewis Freeman took pictures also. Today, the work of both men is captivating. Their photos tell a good story about an historic Grand Canyon river trip. Both men's most stunning work can be seen in *Down The Grand Canyon*, by Freeman, and in *National Geographic*.



THE FLOOD AT LAVA FALLS

Unwarned, the party was taken unawares at a point far from favorable—twilight on the brink of the falls.



SAVED FROM THE FLOOD

The Marble drawn up 21 feet above the river after the high waters of September 18 had receded

So Goes The Flow

As you no doubt recall, GCRG, other members of the environmental community, and a lot of our members expressed concerns over two changes in flow parameters that were added to the preferred alternative of the Glen Canyon Dam Environmental Impact Statement (EIS). These changes, not included in the draft EIS provided for public comment, increased the maximum releases from 20,000 cfs to 25,000 cfs and raised allowable upramp rates from 2500 cfs/hr to 4000 cfs/hr. While Grand Canyon River Guides, Grand Canyon Trust, and other environmental groups continue to support the cooperative effort that has characterized this EIS process, we feel the need for more information on these changes prior to the secretary's Record of Decision (ROD).

We have requested that the Bureau of Reclamation make public a formal assessment of the impacts of the increased maximum release and upramping rates on the resources of the Colorado river, including hydropower. In an effort to make more and better information available, we suggested that these changes be treated in the same manner in which changes will be addressed under the proposed adaptive management program and requested that a thorough assessment should be produced similar to that expected in annual reports from the Adaptive Management Work Group. Until the public has a chance to examine the scientific assessment that led to the proposed changes, we cannot support them. Trust between interested parties depends largely on faith in the honesty and openness of the process. This faith, based on good, thorough, and easily understood science, is critical to the success of future adaptive management decision-making.

GCRG has worked hard over the years to secure protection for the natural and cultural resources of the Colorado River through Grand Canyon. While we have no inherent objection to operational changes at Glen Canyon Dam that benefit the power resource, such changes must meet the Grand Canyon Protection Act

We suggest that an assessment should address, at a minimum, the following for each proposed change:

- *The background assumptions under which the change is proposed and impacts assessed;*
- *Specific resources that could be impacted positively or negatively, both short- and long-term;*
- *Specific studies already completed that best address these results and a discussion of their results in the context of the proposed changes;*
- *Monitoring criteria necessary for measuring the success or failure of the proposed changes.*
- *A peer-reviewed final report with recommendations for or against implementation.*

mandate to protect, mitigate adverse impacts to, and improve the values of the downstream resources. The Bureau received more than 2000 comments on the Final EIS, many of them from you. Thanks for taking the time to be involved.

The Bureau and and GCES scientists are presently preparing the assessment document. It is critical to establish a firm understanding of the expected frequency and duration of use of these flows, especially the maximum release. What are the benefits and costs of these changes? Is it expected to be used never to rarely, 1%, 2%, or 5% of the time? And, equally important, to identify the means by which we can monitor those areas where unwanted impacts may occur. (see inset)

We look forward to working with all parties to resolve this issue, to

complete this assessment, and to producing a signed ROD as soon as possible. Much has been accomplished, some questions remain. We'll keep you informed.

Tom Moody



Wilderness and the Colorado: What's the Problem?

As we approach the twenty-first century, as visitation to Grand Canyon climbs to five million this year, as 800,000 thousand people annually climb aboard aircraft that inundate the Park with droning decibels, as "an increasing population, accompanied by expanding settlement and growing mechanization" engulfs the West, as all this and more threatens our wild places at least two questions need to be asked, and ultimately answered. The first is: What is it about Grand Canyon that makes it so special to us? The second question is: How can we preserve these qualities for ourselves and for those many souls who will follow 10, 50, or even 100 years from now? For us, The Canyon, especially The River (as if there were no other), is special. In this time of commonplace superlatives, it suffices to say that Grand Canyon is only the most beautiful place on earth. (Who can argue with that?) And if The River is not the most sought after experience next to good whiskey, Nirvana and Advil, it probably is the most coveted of wilderness-whitewater experiences. Over 21,000 people float it each year; more want to go. Approximately 5,000 names are now on a waiting list to conduct a "private" river trip in Grand Canyon. Based on the current average private group size of 13, this represents approximately 60,000 do-it-yourself boaters who must wait ten or more years for a permit to run the river. Granted, not everyone on the waiting list is a true river enthusiast, but even if half the names on the list are bogus, with approximately 250 private launches allowed each year, there remains a ten-year wait for a permit. The point is that demand continues to grow.

This current situation is not new. When the first river allocation was established in 1973, private-boater demand was just beginning to develop. Throughout the 1970s, concessioners were allocated approximately 92 percent of the total use even as the demand for noncommercial use expanded rapidly. In 1972, the Park received only 47 applications for private trip permits. That number increased to 441 trip applications in 1978. Thirty-seven private trips (395 people) filled the entire private allocation and the Park Service turned away an estimated 4,700 people included on rejected private permit applications.

So, how did the Park Service resolve this sticky issue? Although the complete story involved more intrigue, anguish, and bloodletting than presented here, the net result was to increase the noncommercial use in 1981,

by approximately 600%. Not incidentally, the commercial use increased by 30%.

So, how should the Park Service resolve continuing increased demand for river trips? There really are only two options: continue to increase use as demand increases, or establish defensible limits to use. In regard to the first option, monitoring results and observation by river runners shows that current use levels often result in overcrowding and congestion, especially at attraction sites and areas of limited campsite availability. There exists the possibility that a better distribution of launches would reduce frequent crowding and congestion even under current use levels. Obviously, the prospect of increased use decreases the likelihood of achieving desirable, not simply tolerable, levels of contacts between groups.

The second option—establishing defensible levels of use based on some kind of qualitative criteria—is the only means to preserve the river experience. So, how do we keep the Canyon a special place and not force it to degenerate into a damned zoo?

First, we could trust the existing political-bureaucratic process to protect the Canyon from the ever increasing demands for increased use. This would unquestionably result in increased use. Demand established in 1972 determined the first allocation plan. The increased current use levels are based upon 1981 demand for trips. The next allocation scheme could easily be based upon demand established in 1997. National Park designation alone does not assure the land is protected from the increasing pressure for development or increased use, nor does it require the agency to protect the visitor experience.

When our concern shifts to experiential protection, as it must for this river, there is only one long-term assurance based in law. Wilderness designation mandates protection of experiential quality. "Wilderness experience," although scarcely a precise mathematical concept, is definable and defensible. Critical elements of wilderness experience such as group size, crowding, congestion, visitor contacts with other users, and other experiential parameters are adequately defined in a growing body of research and should be incorporated in any future Colorado River Management Plan. In fact, most of the Park, including the river, is proposed wilderness. According to NPS policy, these areas must be managed "as wilderness" to protect wilderness values until Congress enacts wilderness legislation. However, without the explicit mandate of wilderness designation,



the Park Service has not established wilderness management criteria for the Colorado River. For example, Congress passed the Wilderness Act in 1964, 31 years ago. Since that distant time the amount of annual use on the Colorado River increased from 547 people to over 20,000.

The reason Grand Canyon, unquestionably one of the greatest American wildernesses, is not designated Wilderness lies in part, if not totally, with our river running community of guides, outfitters, and the Park Service. The level of motorized use conflicts with the purposes of wilderness spelled out in the Wilderness Act. While exception for "established" use of motorboats is permitted in Forest Service wilderness, the current level of motorized use in Grand Canyon is considered inconsistent with wilderness designation for national parks. Use of motors, principally the motorized commercial river trips, is and has always been the obstacle to wilderness designation in Grand Canyon. Very few conservation groups would support wilderness designation with the current levels of motorized use. Many outfitters and guides oppose removal of motorboats, and past efforts to remove motors from the river were effectively countered by political subterfuge and Park Service complacency. That is, however, another story.

In spite of motorized pontoons, there is good reason and opportunity to pursue wilderness in Grand Canyon. The current Grand Canyon Wilderness Recommendation provides the basis for compromise by proposing "potential" wilderness designation for the Colorado River. "Potential Wilderness" is defined as "wilderness that has been authorized by Congress but not yet established due to temporary incompatible conditions," in this case motorboats. If Congress approved Grand Canyon wilderness recommendation, it would create 1.1 million-acres of wilderness outside the river corridor. The river would be designated as "potential wilderness"—and managed as "wilderness"—while allowing the indefinite use of current levels of recreational motorized craft. Congress would include a special provision giving the Secretary of Interior the authority to designate "potential" wilderness as wilderness at such time she or he determines they qualify. As written, the recommendation provides for wilderness designation for most of the Park, provides wilderness criteria for managing river use (except motors), and avoids the politically volatile issue of motorized river tours versus wilderness designation. Wilderness legislation would create a defensible limit of use and provide long-term assurances for preservation of wilderness values, including visitor experience.

So what's the problem? The obvious result of establishing limits is the creation of a fixed allocation "pie." We already have a pie, but it keeps getting bigger while

impacts continue to increase. Wilderness will protect visitor experience, but it will not resolve the difficult, politically explosive issue of how to divide that pie. That issue is separate from wilderness. Given the high demand for private and commercial river trips, it is unlikely that the status quo will persist, regardless of wilderness. We (guides, privates, Park Service, "the public") will ultimately decide how the pie gets divided. That prospect, not wilderness, should get people nervous.

In answer to the first question, "What is it about Grand Canyon that makes it so special to us?" I could endlessly list physical and biological aspects essential for my own appreciation, enjoyment, and awe for this place. I'm sure you can too. The response to the second question, "How can we preserve these qualities for ourselves and for those who follow?" may require more time and discussion, but we need to get started. We need to get the Department of Interior to convince the President to submit Grand Canyon Wilderness legislation to Congress. We need to convince the Arizona Congressional delegation (and ourselves) to support such legislation. Wilderness designation provides the best, probably only, assurance of protecting the most beautiful place on earth, and the experience that goes with it.



Kim Crumbo

Errata

It was Jack Stark who wrote and drew *The Doggerel Log*, not Bob Sharp, as we indicated on the back cover of our last issue, *bqr* 8:2.

Bob wrote to say there were other errors. A lot of them. Here's what he had to say. ...*Insofar as I know there is no Pittsburg Institute of Technology. Carnegie Institute of Technology is, as I recall, in Pittsburg, but neither the mythical Pittsburg Inst or the Carnegie Institute of Technology had anything to do with the 1937 Canyon trip. The Carnegie Institution of Washington supported the trip but furnished no personnel. Campbell and Maxon were from Caltech, J.T. Stark was a professor at Northwestern University, Sharp was from Harvard at that time, and McKee worked for the Park Service. Eddie McKee did not join at Bright Angel, he came aboard near the mouth of Shinumo Creek... My recollection is that we may have been near Diamond Creek when Buzz arrived but not at it. I remember the campsite well and it was not the mouth of Diamond Creek—or any other large canyon. Stark's *Doggerel* may be poetic or Jack may have erred. See my field notes...*

We're sorry, and we stand corrected. Every once in a while we blow it, but honest, we do try.

In 1985

Bald eagles had discovered Nankoweap. Some were overwintering; the fishing was good. Most of the burros had been removed by boat and helicopter. The last "tail dragger," a pontoon with its engine hung on a 2" x 6" wood frame off the far back, went downstream in the late 70's.

Private use availability had exceeded demand by then. So the Waiting List, subsidized by NPS, had been established in 1980. But there were more motorboats than before, and more rowboats. And people. More of everything since 1981. All this due to the notion that Grand Canyon river trips should be natural and, hence, non-motorized... [imagine what motor pilots must have thought, what with all those little synthetic boats, dressed in composite oars, waterproof aluminum boxes and cam straps, scurrying around] ...so, that, In Congress...please find an increase in private and commercial user-days. Privates did best although, at the time, not many said so. But do not find reference to the number of actual passengers on river trips. Oil and water will not mix. That is a very short, economic base, story. It had to be. What's done is done.

Then, in the spring and early summer of 1983, a one-month flood, cresting at 92,000 cfs, raged through Grand Canyon. It is estimated that 16 million tons of sand and related sediments were swept away, primarily in Marble Canyon. Some customers died on that water, not real good for business. Some boatmen were born on the flood. Others crawled away, possibly because of horrors encountered at Crystal Rapid ...*hit any part of that wave and you're goin' surfin' into the corner pocket—Slate Creek—REAL fast...if you're lucky...* another victim of flood damage. And nobody's fault, not really. That's how it goes when everything is haywire. Which does not mean things were wrong. Not exactly.

But 1983, Glen Canyon Environmental Studies [Phase II] was ordained by James Watt. This is later associated with the rewind of turbines at Glen Canyon Dam. Rewound to 33,000 cfs or whatever it was. What it was: bigtime peak power. The river rose and fell more than ever then, and more boatmen were up later at night watching their boats. They drank to do this. Face it: boatmen needed something to do when watching their boats. Whatever to get by back then. But it's fair to say a FONSI (Finding of No Significant Impact) was required for anything having to do with Glen Canyon Dam's effects on the Colorado River in Grand Canyon after that.

On Grand Canyon boat trips, Gore-Tex was worn but its fabric bubbled-up after rugged use. Synthetic down sleeping bags were on the market. River guides bought them. Cam straps were gaining rapid popularity; if you didn't use them, you got laughed at: HA!

Mark Thatcher canvassed Lees Ferry handing original Tevas to boatmen, saying ...*wear these shoes*. They did. And feature Patagonia clothing: full-on and pricey.

Commercial Operating Requirements ordained twenty companies to offer trips on the Colorado in 1985; the list does not include Hualapai River Runners. It does include Arizona Raft Adventures; Arizona River Runners; Canyoneers; Colorado River & Trail Expeditions; Cross Tours and Expeditions;

Diamond River Adventures; Expeditions, Inc.; Georgie's Royal River Rats; Grand Canyon Dories; Grand Canyon Expeditions; Hatch River Expeditions; Mark Sleight Expeditions; Moki Mac River Expeditions; OARS; Outdoors Unlimited; Tour West; Western River Expeditions; White Water River Expeditions; Wilderness River Adventures and Wilderness World. Small, self bailing prototype rafts with outriggers had been run before but, in 1985, Wilderness World put the first full-time commercial self-bailer down the Colorado. Her boatmen called her *the surf pig*. But it worked, like the *Callegari* which worked, almost. Thin-skinned but beautiful that one!

Back to the *Commercial Operating Requirements* which ran 25 pages, not unreasonable by today's standards. Georgie's was still, easily, the biggest boat on the river. It accommodated 28 tourists which, Georgie said, were no longer made as they had once been. The *Human Waste Carry Out Method* was required; some outfits did not bother with toilet seats, hence the term *groover*. Burning toilet paper was not allowed. Burning driftwood, this in 2nd generation firepans, slick, flat, fit-together units lately on most boats, was agreeable between October 1 and April 30, but not for cooking. And nothing was to be left behind. Nothing. Nothing but footprints—and only where appropriate. *Take Only Photographs* was what the sign said.

Jimmy Carter, a man who cared about rivers, was gone by then. Now it was Reagan and Bush in the White House, and James Watt at Interior. Things were slow, but healthy, on Wall Street. Personal income rose 5.95%. Americans bought a record 15,600,000 light trucks and autos. The Dow Jones Industrial Average set



a spectacular record when the New York Stock Exchange closed at 1553.10. Still, the USA became a debtor nation in 1985. At the same time Congress authorized the Gramm-Rudman bill, ostensibly to reduce the federal deficit, to zero, by 1991. This same year the Social Security Administration turned fifty. Uncle Sam paid \$1,800,000,000 in benefits to 36,000,000 individuals on the roll. That number would grow. And there would be less and less money.

Willie and Waylon were big in 1985, big as Texas, and Cabbage Patch dolls were the rage; they were found everywhere in very huge cement shopping malls. Hurricane Juan ripped across the Gulf Coast, at a cost of \$1,000,000,000 in Louisiana alone. *Titanic* was found. The *Achille Lauro* was hijacked, a man shot and pushed into the sea in his wheelchair: international terrorism against America was on the rise. And, forget the mirror. This round it's crack cocaine. Richard Pryor could not have put it better ... *When you're on fire, people get out of your way!* Not a few people killed to say that.

Compact discs were new on the scene. Demand had immediately outstripped supply, a trend likewise reflected in what was called "the home entertainment industry." Videocassette recorder, and player, sales

skyrocketed. People stayed home because Hollywood's offerings were, let's face it, dull: *Rambo: First Blood Part II*, *Back to the Future* and *Rocky IV*. Even literature was suspect. *A Light in the Attic*, poems and drawings by Shel Silverstein, who worked for *Playboy*, saw its 112th week on the *New York Times* best seller list; it was the most popular book in history outside *The Bible*.

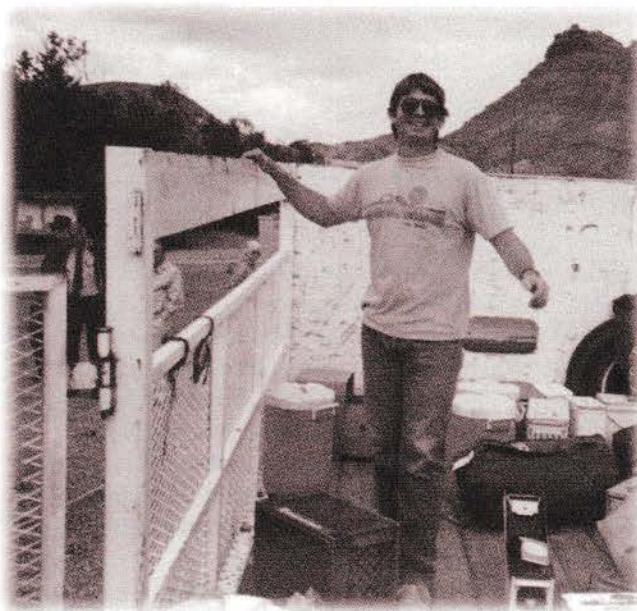
On the medical scene, a Nobel Prize was awarded for discoveries in the treatment of cholesterol problems. Rock Hudson died of HIV, a newly discovered, and deadly, virus said to have entered the country via jetliner. Among other dead people that year came Eugene Ormandy, Yul Brenner, Orson Welles, Henry Cabot Lodge, Roger Maris and Robert Welch, Jr. Christa McAuliffe was selected as the ... *first teacher to fly in space*. Her flight was planned for 1986.



Shane Murphy

This article is one in a series reviewing the growth in, and resulting considerations to, Grand Canyon rafting issues since 1955. See also Boatman's Quarterly Review 7:4; 8:1; 8:2.

Derryl Diamond



This spring, tragically, we lost Derryl Diamond. He grew up on the river and was a valued member of this community for the better part of a life that, though it seems far too short today, damn sure had its moments. In his prime he was something to behold...a live wire who stood out in any crowd.

That was the Derryl we'll always remember.

Our deepest sympathies to the Diamond family and crew.



A New Hand on the Throttle

Martin Litton's right. The grand gentleman of the river, environmental warrior, veteran of Sierra Club battles and the fight to stop dams in Grand Canyon. He is a Don Quixote who had the audacity to run unruly wooden boats through Grand Canyon and then chose to name them after places that had been lost in man's rush to progress. One of them was named Grand Canyon, I believe. I have great respect for Martin, no one has a better right to argue for doing the right thing in the Canyon. No one.

He argues that the Canyon is unique, that it is a shrine, a temple, and that it is not a place in which we should compromise. There are few enough places like the Canyon and the river that runs through it. That it embodies the spirit that we need to guide us forward. That it is the symbol of all that is important to us. He is right.

He is talking about the operations of Glen Canyon Dam, arguing that seasonally adjusted, steady flows come closest to mimicking the natural flow of the river. That there should be no fluctuations to satisfy the demands of peaking power, that peaking operations can be moved to Hoover Dam, damn it. In this too he may be right.

But I think he's wrong when he says that the changes that will soon be incorporated into dam operations as a result of the EIS are a cop out, that we have failed to hold true to the sacred trust of protecting the Colorado River through Grand Canyon. I too think of the Canyon as a temple and in that temple resides a spirit which will be with me forever. Glen Canyon Dam exists, and as long as it does, man has assumed a responsibility for managing the river system downstream. For over 30 years this dam, and others like it, have been managed simply to store water and generate electricity. But a profound change has occurred in our control of that water, one that it may well take years to appreciate. Thanks to the Grand Canyon Protection Act and the EIS, for the first time ever, the condition of the downstream resources of Grand Canyon have taken their rightful place in the day to day operations of Glen Canyon Dam. Perhaps you wonder why no fanfare accompanies this change. I'll explain what I mean.

Dam changes

There are many changes to the river as a result of the existence and operation of Glen Canyon Dam. The water is cold, clear, and much more predictable than

before. Gone are the rock bottom lows of the winter and the raging, mud-filled floods of the spring. An entirely different ecosystem has replaced the historic riverside, a ribbon of green vegetation now winds along the river. The terrestrial creatures have flourished, but the Colorado squawfish, bony-tail chub, and razor-back sucker are gone or going for good. Predacious exotic fish species like carp, catfish, trout and a host of smaller species apply pressure to the remaining natives. Beaches, once the grand symbol of the mighty Colorado, have been reduced or eliminated in many sections of the river.

Other changes were apparent too. Water levels fluctuated wildly each day, often as much as 10 feet or more, and dropped precariously low during weekends and holidays. River level at a rapid was more a factor of *time of day* than *time of year*. Big sandy beaches were uncampable because they were inundated sometime during nighttime hours. Releases from the dam followed the cycles of hot and cold weather rather than

the watershed hydrology, with high water during the winter and summer and low water during spring and fall.

We have not restored the river to its predam self. That cannot be done short of taking down Glen Canyon Dam and the dams that lie upstream of its headwaters and reclaiming the waters not diverted out of the river and often out of the watershed. Perhaps the question is "Can make it look like it did predam?" Or a better question; "Can we make it act like it did predam?" The answer is largely yes.

Floods

The dominant characteristic of the historic Colorado can be summed up in one word: dynamic. The channel, and the ecosystem that evolved to inhabit it, was based on change, on chaos, on large and irregular disturbances. Fish adapted to low freezing water temperatures in the winter, and warm, raging floods in the summer. The river channel was in constant flux, shaped first by the force of the annual floods and slowly reshaped by the lower flows that followed. In order to partially restore these dynamics, two special flows have been designed by scientists to restore that dynamic to the river: the periodic Habitat/Beach Building flow (spike flow) of about 45,000 cfs, and the Habitat Maintenance Flow at maximum powerplant capacity of about 30,000 cfs. But implementation of these flows has been hamstrung by legal arguments between Reclamation and the Upper Basin States. The experimental spike flow scheduled for

Thanks to the Grand Canyon Protection Act and the EIS, for the first time ever, the condition of the downstream resources of Grand Canyon have taken their rightful place in the decisions of the day to day operations of Glen Canyon Dam.

this past spring was indefinitely postponed. Now, it seems likely it will be re-scheduled for next spring.

The legal dispute is based on the States argument that the 1968 Colorado River Basin Project Act allows spills only for dam safety purposes and the Bureau contention that the secretary of the Interior has the latitude to operate Glen Canyon Dam in any way necessary to ensure downstream protection as mandated by the 1992 Grand Canyon Protection Act. Both sides are certain they will prevail, but both agree a long, expensive court battle is not the solution of choice. The result is a proposal by the Upper Basin States that will attempt to achieve the beneficial objectives of the spike flow while meeting their interpretation of the 1968 Act. The proposal would implement spike flows to benefit downstream resources when the reservoir is full or expected to fill instead at low reservoir levels as described in the preferred alternative of the EIS.

A New Proposal

In effect, given a high reservoir level, the operations of the dam would largely depend on the condition of the downstream resources. If a spike flow were considered beneficial, water could be released more slowly in the winter months in order to encourage a spill. If a spike flow is considered detrimental, more water would be released in the winter months to create more storage in the reservoir for spring runoff. The key to this management strategy is flexibility, that flexibility can best be achieved in cooperation with the basin States. Despite the mandate of the GCPA, the downstream resources have been the new kid, finally getting to play, perhaps even owning part of the ball, but only grudgingly included by the older players. Now the new kid is being invited on the team, to play center court, to help establish the rules.

There is, however, a troubling cloud within this silver lining. Flood frequency reduction, reducing the likelihood of a damaging flood to 1 in every 100 years, is a critical component of future dam management. It is an element of the EIS preferred alternative and all agree it is necessary. Reducing unwanted spills is accomplished by reserving more space in the reservoir. The States propose that it be accomplished by adding 4' to the spillways on Glen Canyon Dam. It is easy to characterize this proposal as fixing the dam by making it higher. That would be unacceptable, but, after listening to the proposal carefully, I tend to characterize it differently. The extensions must be specifically intended to protect the downstream resources from damaging floods, not to increase reservoir storage.

The proposal would attempt to accomplish the objectives of the Habitat/Beach Building Flow recommended in the GCDEIS utilizing reservoir releases in excess of powerplant capacity required for dam safety purposes during high reservoir conditions at Glen Canyon Dam.

I suggest that in order to support the spillway extensions three criteria must be met: 1) the intended purpose must be emergency flood protection for the downstream resources, not to increase reservoir storage, 2) they must be used very infrequently and for short durations for flood control purposes, and 3) that through NEPA, identify, eliminate, and/or mitigate adverse impacts to resources above and below the dam. Essentially the spillway gate extensions should be considered invisible, considered only in the event of an emergency threat to downstream resources.

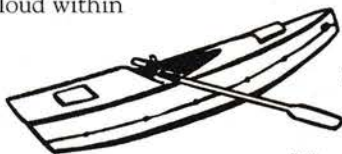
I believe that the States are willing to make these assurances and to support a comprehensive NEPA process. The National Park Service at Glen Canyon National Recreation Area is prepared to undertake the NEPA

process that includes tribal, recreation, environmental and other interests from the outset.

This agreement on implementing spike flows signifies a fundamental change in the philosophy of dam management. It provides the flexibility necessary to manage for the long-term protection and restoration of downstream resources of the Colorado River through Grand Canyon. We must not kid ourselves that we know all of the answers, that we can articulate the perfect operation for Glen Canyon Dam. By sidestepping a contentious legal argument, we have the ability to test and refine our present knowledge. Should our attempt fail, should we find that spike flows at high reservoir levels cannot protect the downstream resources, we are back at square one. But we have not lost ground. The legal test remains an option.

Martin is right, the Canyon is a truly unique place, a temple which must be cherished, an intricate weaving of processes. And that the power of the place lies in the synergy of its whole. We cannot completely restore the Colorado River short of removing the dam. One day I hope society progresses to the point that Glen Canyon Dam can be removed completely. Until that time we must do our best to manage releases to protect and restore its natural processes. This agreement offers a giant step in that direction.

Tom Moody



Respecting the Bundy Jars

The Southern Paiute people lived in the Grand Canyon until late last century. The traditional homeland of the Kaibab and Shivwits Paiute has been the area that encompasses the north and west side of the Colorado River. A place known today as



jars of mystery and intrigue

Indian Canyon is one of the camp sites of the Paiute. It served as an area that the Paiute and other Indian people used to journey from one side of the river to the other.

Indian Canyon is rich in the cultural remains of people who once lived there. One site in particular is important to the Shivwits people today because in the past, it was used as a place of offering when hunting or



artifacts circa 1992. Where are they today?

gathering food. This site is undisturbed and it is the wish of the Paiute people that it remain this way.

The infamous 'Bundy Jars' that are near an archeological site in close proximity to the river, have been an avid tourist stop. Boatmen give their groups an explanation of the origination of the jars and, for the most part, the story is interesting. But unfortunately, in order for river parties to walk to the jars, they walk through an archeological site disturbing cultural items.

The Southern Paiute people have respect for the history of the Bundy Family and the story that the jars



multiple trailing in 1995

tell. The Indian people who lived in what is today called, 'Indian Canyon' left remains of their life on the Colorado River. We must show respect by not disturbing what they left behind.

Many of the traditional stories Paiute children are told about their history are centered in their aboriginal land. Stories are told repeatedly as a child grows up and, in this way, he or she remembers as an adult by envisioning the scenery. For this reason, many areas of the Grand Canyon are mythical to the Southern Paiute people until they see the actual places. The sacredness of the Grand Canyon and the Colorado River needs to be explained to the people that journey along the river, as well as the concept of mutual respect for mankind and nature. The Grand Canyon and the Colorado River have sustained Indian people since the beginning. It is the Southern Paiute people's belief that it will be there for the future generations of all people.



Angelita Bullets

What Is GCRG Doing Right or Wrong?

Get back to our namesake! How is GCRG defining the average guide? Other than information, guides are not benefited—what about health insurance programs?

...please do not overdo guides' requirements. The costs are becoming increasingly difficult to handle.

...let's have NPS concentrate on keeping the park clean and wild rather than grabbing boatmen by the...

...carry on—you're doing a superb job.

...keep up the good work.

...as far as I can tell, you're doing outstanding stuff for the Canyon and people who work there. Being a member of GCRG means a lot to me; it allows me to keep in touch with the most incredible place on earth...

...let's push for one season open to outfitters to run trips anytime they can book them. I think this would take a little pressure off the summer crowds. April wouldn't be ruined by a few more trips.

...I strongly recommend that outfitters get together and do a 'boatman swap' for one or two trips per season. This would allow an idea exchange that everyone would BENEFIT from.

...Transfer [certain NPS personnel].

...Keep on keepin' on.

...I'd like to see some incentives or regulations to encourage outfitters to do less trips but longer trips, and a cap on current levels or even reduced levels. Let's look into Kim Crumbo's efforts towards wilderness designation in the park as a means of enhancing visitor experi-

ence by capping use limits. We're at a critical time; I'm glad we have the GCRG leaders/organizers that we do; great resources talks at Spring meetings.

...keep up the good work.

...has the Guides Training Trip turned into an old boatman's reunion, or what?

...push the park and reclamation to do real monitoring, not just "monitoring."

...keep after it!

...regs should be about protecting the park. The beaches and trails and wildlife. Set limits on people and all, but let the outfitters be the ones to make sure the folks come back alive. We will.

...ask to see the law! Let's go back to crap in a bag. The present system is filthy, disease ridden and unstable in an accident on the river. It is, in point of fact:

stupid.

...keep up the good work. Just don't get too political.

...keep up the great work.

...How about organizing a trip of guides, etc, to do a camel thorn eradication?

...I love this game.

...what about a guide exchange program between companies?

...I'd like to see an article on why archaeological sites are closed. Does this come on the heels of last springs GTS trip, the picture of "Jeff's Axe" in the *bqr*, and where people stood (inadvertently) during Jan Balsams archeological (and other) lectures?



Grand Canyon River Guides Office

GCRG has come a little further into its own. A year or so ago we were finally to a point where we could move out of the houses of the board members and share an office with then-Director Bill Leibfried. Now he has moved on to another office and we have taken over the entire space. It's really nice, with enough room to relax in.

Our theory is that, since over 90% of the work around here is volunteer, we need a comfortable, pleasant place to lure in and keep our helpers. Our plan is to dedicate one end of the office as a reading room/meeting place.

In addition to having our board meetings here, we hope to have a place where you can visit, help, relax, read, vent, write, draw, etc.

But we need a few things. A comfortable couch... some good river books... a few chairs for meetings... a microwave... a coffee pot...more shelves... a nice rug... If you have some of this stuff cluttering up your life, give us a call. Don't just bring it by, because someone may have beat you to it and our space is limited.

And when you're in downtown Flagstaff, come on up and visit. We don't have regular hours yet, but there's often someone here. You could help file things, or fill us in on the latest scandal. Or proofread. Or just glare.

We're at 9½ East Aspen in Downtown Flagstaff. Come in the copper door, climb the stairs and make a hard right. Suite 4.



Guides' Thoughts About Changes to the Commercial Operating Requirements

GCRG originally stood for quality and professionalism, but the furor over changes in the COR that would require operational improvements makes me wonder what GCRG stands for now and whether we still can claim to represent our clients who take these trips. I agree we need some input into the process of COR revision but the recent posturing of past/ present GCRG presidents regarding sanitation makes me wonder.

...We don't need requirements to operate a restaurant, which is physically impossible; our sanitation and food prep have been more than adequate thus far.

...realistic and workable health requirements.

...get rid of the handwashing system. How many ways can you contaminate that system? It's a joke! Too much regulation! Keep the Coconino County Board of Health off the river! Don't fix something that isn't broken. Coast Guard—give me a break! Their name says it all. We have few accidents and what do they know about rivers?

...not familiar with these.

...tell the Coast Guard to stay on the coast.

...Kudos to Rob Arnerberger for grabbing the controls.

The river unit has been a runaway train for too long. Keep up the good work by examining and removing many of the unnecessary, ridiculous, mean spirited regulations handed down in recent years.

...eliminate throwable PFDs; eliminate Guide Certification criteria 1a,b,c,f,i, and, too, references to character, etc—leave to the discretion of the outfitter.

...tarps under tables.

...we must avoid, if possible, involving two agencies—this is REDUNDANT. Assigned camps would be a decline in quality and spontaneity of Canyon trips...

...the most obnoxious thing are in-camp evaluations by a uniformed park person, checking your camp and quizzing your passengers. Ride-alongs are just as bad... Probably the most useless [regulation] is the hand wash device which despite demos still baffles people and spreads as many cooties as get washed away.

...why do we need more regulations? Are they driven by some occurrence on the river or off? Do they come from some basic need for more paperwork?

...keep the Coast Guard OUT!

...one of our boatmen, at great risk to his personal safety, jumped into a raging flash flood and saved a

passenger's life. Am I to understand, however, that the Health Department and the NPS believe the passenger was inadequately protected because the boatman didn't wear a hair net when he prepared her breakfast? These government agencies need to realize that we have larger concerns than whether or not we use tongs for the cookies.

...get rid of the tarps under the tables.

...I think its important they be reviewed and revised regularly, and that boatmen, NPS (Resources Management, not law enforcement rangers), scientists and commercial permit holders all be involved in these reviews and revisions. We should further limit Coconino County Health Department involvement in the process, and limit their regulating power.

...less, less, less.

...scrap 'em.

...tarps under the kitchen? About the new groover system: has anyone estimated the amount of poop that ends up in the landfill inside the plastic wrap of disposable diapers? You're supposed to scrape them off, but I'll bet most of them end up in the wastebasket still full.

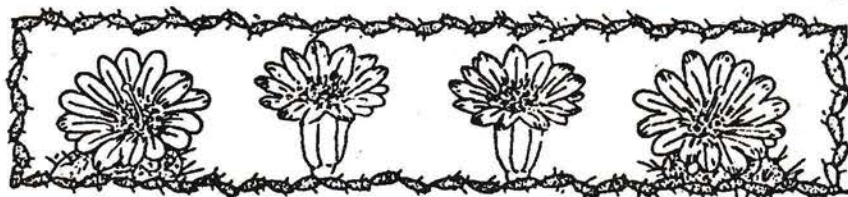
...Coast Guard has no place in Grand Canyon.

Unless of course they can control water levels which are the #1 for mishaps. Health Dept regs are out of line; it's a camping trip for God's sake.

...Coast Guard tests—how many different agencies are needed to oversee one industry. Food handling—We are not in a restaurant, but on a camping trip. Our passengers understand that. We do our best to make sure they don't get sick. It's not good PR to serve them bad food; they won't come back if they all get sick. Plastic gloves and hairnets are not part of the "Grand Canyon experience." These things should be left on the rim. I don't feel right about telling the folks about the dams at Marble and Bridge canyons and then going through 18 pairs of gloves in one meal. Not what the place is about.

...I would like to open discussion on being hired as a private guide for private trips. Now that GCES is winding down, what opportunities are there for me to be permitted to go down in the off-season to do my Master's geology? (What arrangements can be made for non-GCES science and research?) I think "swilling" food into the river channel, if done properly, is a viable

alternative to burying it in a landfill. Perhaps commercial concessionaires may fund some



research in determining the sustainability of such a practice. The park service should be the sole regulatory agency of river operations. Coast Guard and County Health should work through the NPS.

...food handlers requirements are going to create more litter: i.e., plastic gloves for food prep, hairnets, etc. None of which can be found in local fast food establishments. Put some sense into the powers that be on this one. Just say no to plastic gloves! Thanks.

...longer trips—7 days minimum to Whitmore. No more than 25% of quota in one month. Break out cost of trips by item; must have park service OK before raise; trips now are too high and boatmen don't make enough. More perks for boatmen like health insurance, etc.

...I hope Superintendent Arnberger is able to make good on his promise to combine representatives from all the involved parties to revise and amend the COR—certainly a ranger from the ferry, wishfully Blu. Let's revert to the KISS [Keep It Simple, Stupid] principle: provide safety and quality experience for the pax; protect the Canyon and the river; what else is there?

...standardize closure formulas, i.e. Shinumo Creek 100 yds up and down; Elves ¼ mile; Deer Ck ¼ mile and ½ mile. This is just fodder for test “trick” questions and cheapens it. Same with seasonal requirements—fire season doesn't mesh with launch dates/trip lengths. Throw out at least every other sentence, paragraph, page, etc.

...let's just be glad they threw out the 95s. Also—I talked to a Coast Guard guy on my first trip this year and he said they don't want to test the guides—so who does?

...something I feel needs to be addressed is the Lees Ferry ramp. The ramp is a dual purpose ramp, for both rigging boats and launching trips. When trips are launching I agree that rigging should stop, but if no trips are launching then the ramp should be open to rigging. A concrete time for rigging or launching is absurd. The park service blew it in the 1970's when monies appropriated to improve the Lees Ferry ramp. So what did they do? They put in curbs and gutters and islands and made it smaller. Not a very intelligent decision., in fact, a very irresponsible act. Let's be flexible on time.

...I think it's getting too regulated. We need to get back to basics—why we work in the Canyon and why people come down the river. No frills—no regs, or hardly any. No prima donna clients. Back to adventure and “roughing” it.

...too many regulators; too many regulations.

...if they're going to test us for a boatman's license, the test should make sense AND matter.

...the length of trips should be looked at as a regulating factor. There should be a vehicle of input to park service regs that is binding—like a NEPA process—before some of the year to year, whim to whim operating

criteria are put in place.

...keep the Coast Guard away and [Coconino County Health Department] at bay.

...do they have to add new regs every year just to say they are doing something? Just once I'd like to come into a new season with last years rules [This is one of those years—Ed].

...screw 'em.

...are these requirements also going to allow for some new faces in the commercial scene? Its my understanding that permits aren't to be sold, but in practice are. How can a new outfitter get started? I know there's big money involved, but why the monopolies?

...river trips have camps. People in the camps are camping. This is obvious. Campers eat camp food at camp kitchens made by camp cooks. This is not a @#*%‡ restaurant!



Moonlight on the River Colorado

*Each night I sit beside the campfire dreaming
In England's hills and dales across the sea.
And as I watch the embers softly gleaming
I always picture in my memory.*

*Moonlight on the River Colorado.
How I wish that I was there with you.
As I sit and pine each lonely shadow
Takes me back to days that we once knew.
We were to wed, in Harvest time you said;
That's why I'm longing for you.
When it's moonlight on the Colorado,
I wonder if you're waiting for me too.*

*Sweetheart, do you recall the night we parted,
Beneath the moonlight on that river shore?
Each time I see the moon I'm broken hearted
And longing to be home with you once more.*

*Moonlight on the River Colorado.
How I wish that I was there with you.
As I sit and pine each lonely shadow
Takes me back to days that we once knew.
We were to wed, in Harvest time you said;
That's why I'm longing for you.
When it's moonlight on the Colorado,
I wonder if you're waiting for me too.*

—as heard on A Prairie Home Companion

The Collective Mind of the Spigotmasters

The Stuff They Have to Think About

In the West, reservoirs store spring snowmelt and release the water during the remainder of the year. The incoming spring peaks can be quite large while releases are usually much smaller. This difference directly affects reservoir levels throughout the year. If the difference is large, the reservoir fills up quickly in the spring and gradually lowers during the remainder of the year. Water year 1995 is a good example.

Monthly water releases and lake levels are related. If there are "natural" high releases in the spring, reservoir storage doesn't change but releases do. On the other hand, if releases are constant throughout the year, reservoir levels fluctuate bigtime. The goal of dam operations is to balance desired reservoir levels and releases. Often releases are adjusted in response to inflow to meet target storage levels. And...

For Glen Canyon Dam, statutes and compacts control annual releases and storage levels. A minimum of 8.23 million acre feet (MAF) must be released to meet "Law of the River" commitments to the Lower Basin States and Mexico. During periods of low inflow Lake Powell is drawn down and Lake Mead storage stabilized; hence the drawdown of 1988 - 1994. On top of that...

The 1968 Colorado River Basin Project Act requires keeping the two large reservoirs equally filled. Nowadays, water can only be released from Lake Powell to adjust the level of Lake Mead. If Lake Powell drops below a level needed to protect Upper Basin usage, the 1968 Act prevents releasing water to Lake Mead to balance the volumes. The act also requires avoiding water spills, which would waste project water.

What They Do

These factors make figuring monthly releases tough. The Spigotmasters begin by estimating future inflow, then adjusting future releases until desired storage and water release commitments are reached. The decisions depend on

- inflow
- lake volume
- forecasts of inflow and their possible errors
- how much water must be delivered
- the downstream environment's needs

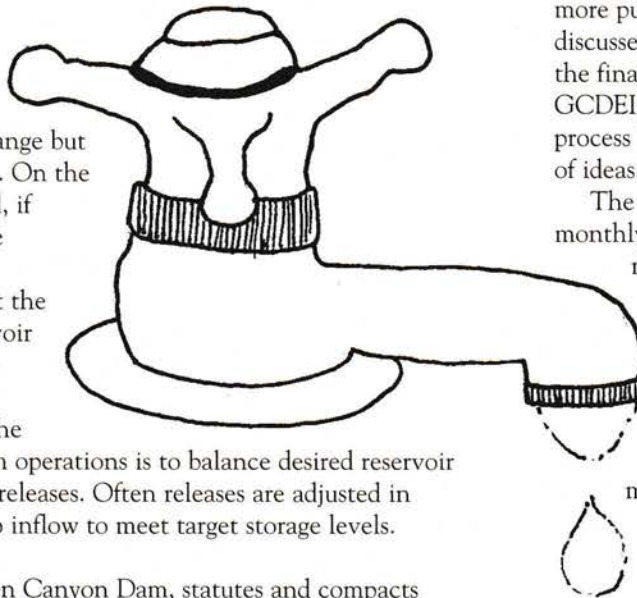
To balance the many Acts and Compacts, including the Grand Canyon Protection Act, the Colorado River Management Work Group was put together by Reclamation in 1986. This group originally included the Basin States, Reclamation and WAPA, but has gradually expanded to a wider range of interests. It is now a far more public process; decisions are appropriately discussed and debated, and discussed and debated. While the final decisions about dam operations proposed in the GCDEIS still lie with the Secretary of the Interior, this process has led to greater involvement, a broader range of ideas, and better decision making.

The work group discusses many key issues about monthly and annual operation of Glen Canyon Dam. In recent years these issues included avoiding spills, meeting power needs, and yes, research flows (including the spike flow). Reclamation seeks comments from the work group on reports for the water year (October 1 through September 30). The reports are then issued by the Secretary of the Interior on October 1. Several meetings are held starting in the spring, with the final meeting in August. Several scenarios are considered for the following year, illustrating the range of decisions and conditions that could be expected. The resulting plans for releases and storage include consideration of all water uses.

On January 1 each year's drawdown is estimated and begun, and on July 31 the reservoir is highest. The estimated drawdown is the baseline for planning releases in response to the weather and forecasts. The July 31 lake level should maximize water storage while avoiding spills and dam safety problems. The amount of drawdown and the highest lake level are adjusted until the storage and releases fulfill the law and meet power and water flow needs.

Lake Powell, Low and High

If the reservoir is low and Lake Powell is not expected to fill, annual releases of 8.23 MAF are likely. There is less risk and greater flexibility when the lake is not expected to fill. More water is usually released during winter and summer months for power production. Monthly release volumes vary between about 0.55 MAF and 0.9 MAF. Even if the reservoir does not fill, releases are sometimes larger than 8.23 MAF to balance Lakes Powell and Mead, but their cfs and length is unknown



until much of the spring runoff has passed, usually late June or July. So water is usually released to raise Lake Mead during the summer months.


If reservoir storage is high and Lake Powell is expected to fill, annual releases nearly match the annual inflow. To manage water during full reservoir conditions, the highest priority is given to dam safety. The risk of spilling water affects dam safety and economics. Releases must be scheduled so that the months of June and July have the greatest flexibility for peak storage, without risking the over-release of water. Often, this requires high releases during the winter, to make room for spring runoff, and moderate releases during the spring to keep operations flexible. The lake will then be lowest in March and highest in July. There are usually small margins for error in making these release decisions.

Water pressure.

When the lake is higher, life becomes more complex. Potential spills and over-releases of water become greater risks. Release decisions are a careful balancing act and sometimes releases change dramatically with each new runoff forecast. Changes in monthly releases on short notice can cause difficulties with power scheduling, recreational use, and research in the Grand Canyon.

Is It Going to Rain?

Forecast errors are the biggest problem in planning future releases. The scheduling of releases must account for forecast errors to avoid the risks we've talked about. Continual updating and reanalyzing basin conditions help to counter the climate variability which creates most forecast errors. These errors are often as much as several MAF during mid winter, a significant percentage of the total April - July runoff volume.

The 1995 runoff was a good example of how abnormal climate patterns can have a big affect. Since each year's inflow and forecast errors are different, monthly release patterns change all the time, adjusting to changing forecasts. But you get the basic idea. 

Randall Peterson

*Hydrologist, Bureau of Reclamation
translated by Kelly Burke*

Webb Photo Identified

Next time you pass under the Diamond Creek cable take a look on river right. Drag *bqr* 8:2 [p. 45] along with you—and it'll be easy to see that not a whole lot has changed in 100 years.

Shane

between daylight and moon shadow
pewter pearl datura with
untwisted calyx and ready stamen
offers gifts of pale purple tang
for fruition beyond
fall's thorny apples

Rhonda Barbieri



The Toilet Trail

*A rumbling deep within our gut
We feel that well known urge
Dame nature's way of telling us
The time has come to purge*

*The hanging can a talisman
Two buckets near at hand
A marker on the path we tread
They stand in shifting sand*

*Ahead we spy a metal lid
It speaks of journeys end
It tells us that the goal we sought
Is waiting 'round the bend*

*We find what we've been looking for
The potty and the pail
With silent voice that tell us of
The ending of the trail*

*Our mission o'er we travel back
To where it all began
And like my tale we find the end
Two buckets and a can.*

George Corbin

Where Do You Hurt?

Thanks to the two hundred twenty-five of you who filled out the Grand Canyon River Guides Questionnaire on the slow onset of pain and numbness in the Canyon. You may remember that the purpose behind the questionnaire was to look at the following questions:

1) Does guiding in Grand Canyon hurt? 2) What guiding activities hurt most often? 3) Where does it hurt? With the answers to these questions, or at least signposts to point out the way, the idea is to identify the mechanical causes responsible for breaking guides down. Once the mechanical causes are in view, by sharing and exploring techniques to deal with them, maybe we can keep our backs and arms together as we boat into the twenty first century.

Do guides hurt? A total of 844 questionnaires were mailed out, and 225 usable ones came back.

If you figure in the 'return to senders' and all, that's a 27% return rate. Of the 225 usable returns, 199 guides had one type or another of pain or numbness. That's 88%. 152 of the 178 males hurt. That's 85%. All of the 44 females hurt. That's 100%. All of the 3 gender unknown hurt. That's also 100%.

Yes. Guides hurt. We think. At this point, it may help to clarify some things. Comparisons of the results of this survey to the guiding community as a whole must be done with caution. It should be noted that a large number of surveys were not returned, and a very high percentage of those guides who did respond hurt. It could be that the rest of the 619 guides who did not respond did not hurt. Maybe they do. Either way or anywhere in between, the answer to that question is not the purpose of this study. What this study does is to look at the 225 replies returned.

In order to make sure that the 225 replies were reflective of average age and gender distribution across the guiding community as a whole, information on gender and age distribution was requested from four outfitters for guides who worked the 1994 season. This information (n=115) was compared to the same information from the survey returns (n=164). A match of 4% +/- 2% for gender and 5% +/- 4% for age distribution was realized. With this in mind, though this study should not be related to the guiding community as a whole, the survey represents as close a cross-section of guides from the general community as could be hoped for. Therefore, information about what these respondents said is very reliable.

In order to answer this study's questions, two things had to happen. The first was to look at those guides who worked the 1994 season. This was done to screen out guides who might have only done one trip years ago, etc. That dropped out 35 folks, or 18%, and left 164 guides. Of the 164 guides who worked in 1994, 148 said they hurt. That's 90%, about the same as 88%. 109 of the 125 males hurt. That's 87%. All of the 39 females hurt. That's still 100%.

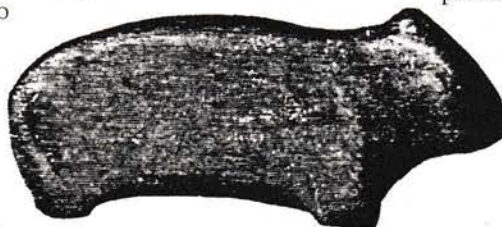
The second thing that had to happen was to drop out all the guides who either came to the Canyon with a preexisting hurt, or who had a traumatic accident in the Canyon. Remember, the idea here is to look at slow onset of troubles in the Canyon. In order to do this you had to have answered questions 12 and 14 on the survey I sent you.

Of the 148 guides who hurt and worked in 1994, 121 had slow onset of troubles develop once they started working in the Canyon. That's 82%. At this point, another question was answered by guides that relates to the severity of their hurts. Of the 121 guides who worked in 1994, with pain and or numbness developing gradually after they started work in the Canyon, 39 said their pain and/or numbness goes away in the off season. The rest of the 82 guides said their pain and/or numbness lessens somewhat or does not change. That's 68% saying their symptoms are with them year round.

With all this in mind, the answer to question #1 is a definite yes, guides say they hurt. But you knew that anyway.

The next question is what did guides say hurt them most often. Two different things happened here. The first was to split the replies into those guides with Pain/Pain and numbness versus those guides with Numbness/Numbness and Pain. This was done to see what guides said causes pain versus what causes numbness. To answer this question, information was used from the 121 guides who worked the 1994 season with gradual pain and/or numbness that developed in the Canyon.

The pain picture looks like this:
52 males had pain/pain with numbness
30% said put-in/take-out rigging hurt most often
27% said rowing hurt most often
23% said all kinds of other stuff
21% said daily loading/unloading hurt most often



12 females had pain/pain with numbness
41% said daily loading/unloading caused pain most
25% said rowing caused pain most often
17% said put-in/take-out rigging caused pain most
17% said paddle captaining caused pain most often

The numbness picture looks like this;

39 males had numbness/ numbness with pain
64% said rowing causes numbness most often
18% said sleep causes numbness most often
13% said all kinds of other stuff
5% said put-in/take-out rigging causes numbness
most often

18 females had numbness/ numbness and pain
40% said rowing causes numbness most often
28% said sleeping causes numbness most often
16% said daily loading/unloading caused numbness
most often
16% said paddle captaining caused numbness most
often

So that's the answer to what makes 121 guides hurt most. Then to answer the question of where on the body these 121 guides hurt. The information from guides regarding what hurts them most often indicates put-in/take-out rigging, rowing and daily loading/unloading trouble them most, as seen in the answers to question #2. The following is a list of the most often indicated locations of pain and or numbness from the body diagram on the questionnaire, based on which activity the guides said most often hurt them.

Rowing

Those guides who said rowing hurt them most often said it hurt them in the following locations;

64% of the males had pain in their low back. n=11
60% of the females had pain in their low back. n=5
36% of the males had pain in their hands. n=11
40% of the females had pain in their hands. n=5
92% of the males with numbness said it was in their hands. n=25.

88% of the females with numbness said it was in their hands. n=8

Put-in/take-out rigging

Those guides who said put-in/take-out rigging hurt them most often said it hurt them in the following location; 90% of the males had pain in their low back. n=10
30% of the males had pain in their shoulders. n=10
Note: no data is here for females because n<5.

Daily loading/unloading

Those guides who said daily loading/unloading hurt them most often said it hurt them in the following location; 100% of the males had pain in their low back. n=7
29% of the males, had pain in their upper back. n=7
Note: no data is here for females because n<5.

Well, that's that. Simple answers to simple questions you already had the answers to. Or are they? Sure seems like a whole lot of guides who took the time to fill out this questionnaire are hurting. Many guides also wrote in a line or two.

It might be appropriate to address some of your comments. There were lots of good ones. There were comments on rigging and daily loading, some quite harsh. As was shown out by this study, this area is in greatest need of review and transformation. Those guides and companies that are actively working in this arena with the use of such equipment as forklifts, rig trucks with lift gates and trailers to carry partially rigged boats, should be encouraged in their efforts.

Then there were comments about pins/clips versus oar locks. Seems for every guide who swore by pins/clips, just as many stood by oar locks. It should be noted that both rowing styles require loading the wrist during the push stroke. Wrist and hand complaints may be due to lack of hand padding, oar grip to hand size differences, oar lock stop position and oar lock angle placement, rather than using pins/clips or oar locks. What guides did agree on was changing their rowing style to reduce their symptoms, one way or another. These guides said this job requires a large amount of lifting, and puts stress on their back and hands.

In order to not blow-out those backs and hands, here are a few suggestions you've probably already heard:

Mind it when you lift. Don't jerk stuff around. Get help with the unit. Get help with anything else that's heavy. Lift with your legs, not your back.

Change where you put your oarlocks. Try some oar grip padding. Change what you do when you row. Jumping off boats, especially while carrying stuff, can end your career. Talk this stuff over with your fellow guides. Share your good ideas.

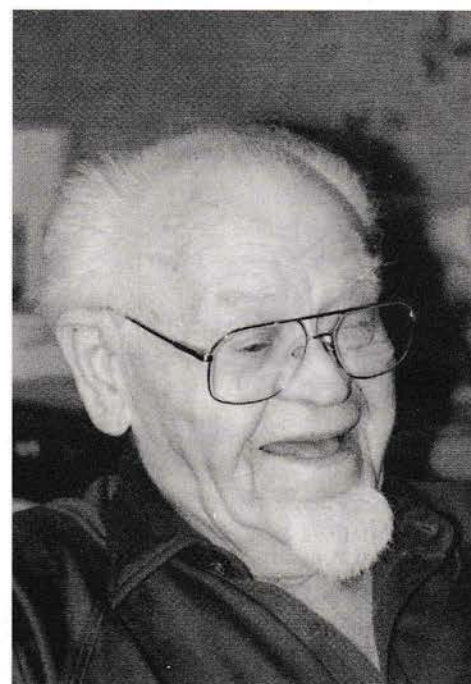
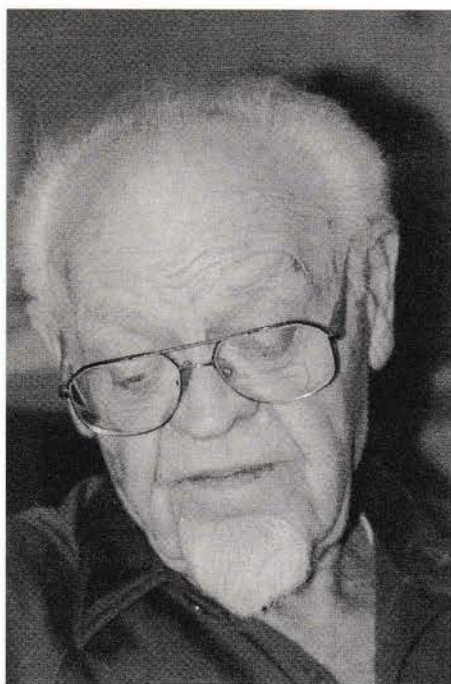
The bottom line is it's you out there in your boat, day in, day out. If you protect your body, you protect your fellow travelers, and your career. See you down- stream, someplace near the twenty-first century.

Tom Martin



If you'd like a copy of the really boring scientific write-up of this same info, to be completed this fall, write:

Tom Martin
Physical Therapy Department
Northern Arizona University
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Flagstaff, AZ 86011



Willis Johnson telling stories in his kitchen, Tootle, Utah, 1995

Willis Johnson

continued from page 1

few years ago. "All the houses floated away except the stone one my dad built," he said. "My brother went up to see the effects of the flood—he said it did over \$500,000 worth of improvements to Thistle!" He laughed.

I wolfed down breakfast before too many more stories escaped and we adjourned to his house for an interview.

Were you born in Thistle?

No, I was born on the outskirts of Springville, up on Mapleton Bench. Yeah, I used to drive by the house and see it, but they tore the house down now. There's a highway that goes right about where the house was.

When did you go to Thistle?

Well, we went from Mapleton to a ranch up on what they called Billy's Mountain. That was up above Thistle. Then we moved down closer to Thistle where we could walk to school. That was about 1917. It was 1917 that we moved down right into town. 'Cause by then Dad had a steady job on the railroad, and kept that job for thirty-five years. Kept it long after he could have retired, on account of age. My dad was too industrious to quit.

In 1938 Buzz Holmstrom was retracing his solo trip of the year before, rowing his home made wooden boat, the JULIUS F. Accompanying and filming Buzz was Amos Burg, rowing CHARLIE, the first inflatable boat to see Grand Canyon whitewater. I asked Willis how he came to join that expedition.

Well, them days, the Depression was still on. You missed something—by not living through the Depression, you missed something. So you seeked any kind of work. I had been working in a coal mine at that time. I wasn't doing too good, because it was isolated, and I was having to give too much of what I was earning there to the person that owned the mine. So I was practically digging coal for nothing. So I and my brother, we went out to Green River. We didn't know what we was gonna find there, but it was cantaloupe season, so we picked cantaloupe and watermelons.

I was working in Green River when Buzz and Amos reached Green River, Utah, and then the other guy, Lundstrom, he'd had enough. (chuckles) And they did want another guy. So I went down and visited with 'em about every day, you know. I asked if I could go on down the river with 'em—for free, you know. I told 'em I was good on the oars. Well, I was. My father loved to fish, troll. Them days, you rowed a boat with the oars—you didn't have a motor. But all day, for hours, I could row Dad's boat while he trolled, fished, at the right speed. It was no trouble. I liked rowing—Dad understood water pretty good, you know. So I learned to run a boat on a lake, and in storms on the lake—in the mountain lakes, a storm comes up in a flash, you know. It's not like other places, but you know these mountain lakes.

A lot of people wanted to go.

But they thought you were the one.

Uh-huh. Yeah, I was accused by one of them guys: I'd

come down to their camp and start a story and then I'd leave and never finish the story. The next time I'd come, I'd start another story, and never finish it, and they had to take me so they could get the rest of my stories. Yeah, I was glad to be chosen. I wanted to go, real bad.

In one of Burg's writings, he said you had a burro you wanted to bring along.

(laughs) He'd write anything to make it interesting!

He made that up?

Yeah, but I made something up about him. (laughter) When we left there, he'd got friendly with this certain woman, and he kept lookin' back over his shoulder, and he thought that guy riding along the river with a shotgun was a military departure affair, and kept looking back over his shoulder and putting all his power into that.... (laughs) And I said, "That guy had painted his shotgun white. He's going to take that shotgun right on through the temple!" For his daughter and Amos, you know. (laughs)

Amos Burg Journal, Green River, Sept. 24

Buzz had pitched camp on sandy bank near the bridge where we began our notes and receptions. Also CHARLIE needed reinforcing for Cataract Canyon. 150 rapids that lay behind have proven my equipment. Buzz of course on his lone voyage last year demonstrated his. Watermelon party tonight by Civil Club and what melons.

But before we left Green River, some old guy with a red shirt, he was looking over our equipment, and he was telling some other old guy there on the riverbank, "Next time we read about these guys, it'll be in the obituary." So I asked one of the natives, "Who's that old guy?" He said, "Well, that's old Lying Bert Loper."

But he's really not a liar, you know. He saved a lot of lives. He would tell such horrible stories that them young guys in Green River stayed home. They didn't build a raft and go down the river. He'd tell them about that Auger Rapid down here about eight miles. "A boat won't live through that water." And things like that, see. He was telling it for their own safety—things like that. He done them guys a favor. Yeah, I met Bert.

I looked him up one time, later on, going through Green River, had a good talk to him. I gave him a little parcel. It was a beautiful wallet I'd wrapped up with his name on it, gave it to him. It had a five-dollar bill in it too. (chuckles) He was interesting to talk to. But I told them guys, "You shouldn't call him 'Lying Bert.'" But he'd never run the Grand Canyon.

How old were you then?

I was in my twenties. I was a year younger than Buzz, a year and a day. (laughs) Our birthdays were that close. We got along just fine. I really liked Buzz, I liked to talk to him. So most of my time was in his boat. I got to row his boat a lot—no rapids up there, not for many miles,

there's no rapids. But I enjoyed that. What rapids I did run in his or Amos' boat were not worth taking a picture of, you know. So it was fun—it was a fun trip for me. And I got to know them guys very well, especially Buzz. He's kind of hard to get acquainted with. He don't talk a lot.

Buzz and I would like to wander around a little bit. I remember down in Glen Canyon we went way back in one canyon, just like this, and we'd run up around on the curve you know. But then we come to a blank wall. But if we'd have had a ladder that was fifty or sixty feet high, we could have went on back in, you know. But now, all them things are covered up with water. But I know it was getting dark when we got back to the river, and Amos had drifted on down—no rapids, just good



Buzz at Buttes of the Cross, Canyonlands

smooth. We got in the boat and (laughs) we was afraid Amos—we didn't want him to worry about us or anything, but I was sure glad when we could see his campfire down ahead. (laughs) And it was where a person ordinarily camps, stops his boat to go walk into the Big Bridge. We walked back in and seen that. I think Buzz had saw it before. I think he had walked back in there alone to see it, when he was on his lone voyage down through there. But we went up to Bright Angel, that dude place that the railroad owned at that time—Phantom Ranch—to get some groceries. That man was up there that had the concessions on railroad trains and things—the food handling and stuff. There was no customers, but the clerk. So Buzz and I stepped over the table and talked to him a little bit. But he wouldn't take any money for our groceries and beer. We bought a few cans of that. (chuckles) I thought it was three-and-two, but it was six percent! (laughter) So we were pretty high by the time we got back to camp with our groceries. And that's when we got acquainted. (laughs) And it was

okay. We had lots to talk about. You say things (laughs) when you're half drunk that you wouldn't say otherwise. We had a good talk.

Him and I, we thought the same about different things, you know. Other than that, we got along with Amos very fine, no big deal if there was an argument where Buzz would go to build his fire for cooking—he was the cook too—and if Amos didn't like where it was, I would just be a diplomat, I'd say, "Well, the cooks



Buzz, Willis, Amos Phantom Ranch

always know where they want their fire." (laughs) It worked out good. Some guys are like that, they want to open their mouth on any idea, with their ideas, see. Things like that, I would always speak up for Buzz. I thought if there was going to be any arguments between any of us a'tall, I'd rather it be between me and them, than them two guys. Because it reminded me of the Clyde Eddy trip. They started out with two boats and their crew—nobody knew each other. They wore helmets, they were all college athletes, football players, and they wore helmets, and they had a cub bear they'd picked up somewhere along the river. But by the time they had finished the trip, they had one boat and about eight guys—and none of them talking to each other! (laughter) Had been scuffles and bad blood between 'em all the way. Somebody had told me about that. That was always on my mind. I didn't want anything like that to mar our trip. And so that was good.

Willis Johnson Journal, October 17, 18, 1938

We almost lost Amos and his rubber boat today. His boat is too flexible and half the boat was sucked straight down into a strong whirlpool. It is a wonder the rubberized fabric it is composed of didn't rip for there was a terrific strain put on it. It is very tough though.

The wooden boat goes over the waves a lot better. We have been whirled around several times in whirlpools but can always get out of them with little difficulty.

The cliffs here are a limestone formation and many limestone caves are in the canyon wall. In front of one of these caves is the skeleton of a large man. Dr. Frazier found this skeleton here in 1934 and says it is of a white

man. He had been dead about ten years and his gun was lying by his side when Dr. Frazier found him.

He had evidently fallen about sixty feet from the ledge above for both his legs and one arm were broken. Some of his hair is still there in the dirt.

...he had climbed up into a cliff-dwelling house above there, but had fallen and broke an arm and a leg and just laid there and died. You could see where he'd plucked a barrel cactus and eaten part of it. Well, my wristwatch had been wet every day, every day, you know. It just quit running. And I had my name scratched into it. And I just took it off and put it on his good wrist and left it. Somebody found it and in the paper, "I found the body of Willis Johnson, the river man, down there." (laughter) I thought that was wonderful!

But I did finally get to run some pretty decent rapids. Buzz and I would take the rubber boat of Amos. Whenever we'd come to a rapid, he'd pull ashore and we would carry that boat around all the rapids. I never did get to read Buzz's account of the trip, but I know he had one. But Amos was keeping an account. He was a good writer, very good writer. He would ask me, "What did you write about the trip today, Willis?" I'd read it to him, and I always mentioned, "Well, we carried Amos' boat around this rapid, that rapid, all the rapids," you know. (laughter) He said, "I wish you wouldn't mention that in your writing." I said, "Okay," so I didn't ever do that anymore. (laughter)

Willis Johnson Journal, October 27, 1938

We ran several more rapids and stopped for lunch just below Boucher Rapid. Buzz also had some trouble in this rapids. It was very comical yet it could have easily ended in disaster. It was very rough and Buzz got one oar handle stuck in his pocket somehow. By the time he got released from the oar, we were again crossways out of control and got wet by the huge waves coming over the side.

The rubber boat of Amos's is more buoyant than the wooden boat and will ride up over the waves higher than the wooden boat sometimes. Because the wooden boat is more rigid, it will cut through the waves a little. In choppy water the rubber boat rides very roughly. In one rough rapid this afternoon, Amos's boat was tossed by the waves with such speed and force that Amos was tossed at least a foot up from his seat. This has happened several times.

Amos Burg Journal, October 27, 1938

In 4 miles came to Turquoise Canyon Rapid. Viewed this with anxiety & it took several recitations of Ulysses calling upon his comrades "To push off and smite the sounding furrows" to arouse enough shaky kneed courage to shove off in CHARLIE. At the foot intrepid Buzz complimented this performance & added soberly referring to CHARLIE "That thing isn't safe." He had seen me bounce.

October 30, 1938

Carried JULIUS F's load to foot of Deubendorf this morning. As we portaged picked up relics of Eddy Expedition which they cast off to lighten their loads after losing a boat here in 1927. Bill [Willis] with spirit of retriever generously shares all his booty with us, carrying nothing for himself unless he first offers it to us. His ready laugh, willingness and appreciation is so likeable that he is a tremendous lesson to me. What most of us excuse in ourselves as being human is mostly downright orneryness. Bill has some of the qualities that the whole human race might acquire in a half million years.

But Amos got quite ill down there. We couldn't figure it out. We would stop way down in the Grand Canyon, and he'd go ashore, complaining that he was sick. And we'd have a hard time getting him back into the boat to continue the trip. We couldn't figure it out, but he'd lost his nerve. I hate to say it, but he had lost his nerve. It is frightening down there, you know, all them rapids and so noisy you can't carry on a conversation around some of 'em. And the air just quivers, you know—you feel it in your body. Now Buzz, he loved it—I liked it too. I wouldn't go down and look at a rapid before we ran it, because I told 'em, "It takes the thrill out of it!" (laughter) We would set up our cameras—I'd be at the lower part of the rapid, and Amos up here. He's very good with a camera, and he taught me how to set it, you know. So we got some very good film.

But I run Amos' boat quite a bit there for a few days, because like I told you, he was ill. When Buzz run that river alone, he had a very heavy boat, about four hundred and fifty pounds. Them days, they add more lumber, make it stronger, see—but they were making it heavier. But these rubber rafts are the thing—you can just go places so easy, slide over rocks.

But Buzz run all the rapids—that'd be 1937, his lone voyage—all the rapids except five. And this time, he ran 'em all. But he was, I'd say, very expert, very expert, what he'd do in the river. He would always go down and look at the rapid, but yet he would describe the rapid before he got to it, tell us about it. And sure enough, he would remember. (chuckles) There's quite a number of rapids! But he had that.... (laughs) Well, you know, his life depended on knowing and doing. So that's one reason he could remember.

Back at breakfast in Tooele, I had mentioned meeting Lois Jotter the previous fall. Willis looked at me with wide eyes and said "Really? Lois Jotter? Buzz was in love with her!" I told him that Lois said she was extremely impressed with Buzz as well, that it showed in her smile as she spoke of him, and that she had said, with bemused self mockery, "But I couldn't date him—he was shorter than I was."

I just wandered away from camp, down through there

somewhere, quite a ways down in the Grand Canyon. And I knew that Lois Jotter... knew why they were in there—to get plant life, cactus and stuff, you know. There on a rock, was a pile this high of newspaper and then a certain kind of cactus—another layer, another layer, another layer, another layer. It was their stuff that they had got on the river. Because that was the purpose of that river trip, was to gather different kinds of cactuses. I felt real proud about carrying that back to camp. And Buzz gladly carried it up from Bright Angel camp spot to the rim—wrapped it good and mailed it to Lois. I'll bet she was surprised.

Well, Buzz never did ever describe Lois to me. He didn't say that she was taller than him. But he did tell me that he was in love with her. But I don't think he knew what to do anyway. He didn't have any girlfriends that I knew of. But there was nothing wrong with Buzz, he was all man, absolutely nothing wrong with Buzz. He was just a normal person, same as you or I. But he was attracted to Lois Jotter. She must have been a remarkable woman.

She still is.



Buzz and Willis, Granite Falls

Yeah, I'll never get to see her. But Buzz was just too busy to go with any women, and he had his mother to support. So whatever money he had went to his mother, of course. She was a schoolteacher some of the time, I guess. She was a good poet. She published a lot of poetry. I have one of her books of poetry. Very good, very good poems. She had a good mind on her. Buzz built that home for his mother.

It was big lumber mills there. There was good lumber going up the belt, up into these incinerators, burning it all—continuous burn. Buzz would just go in them incinerators—anybody could—pick out good lumber that hadn't caught fire—lots of it—and he built her a very

comfortable home of about three bedrooms, I guess.

Buzz didn't drink to excess—no more than most anybody. He'd just have a drink when he wanted it, or he wouldn't. (laughs) He used to tell me that he always gave better speeches if he had a few drinks! (laughter) He was always getting invited by Lions Clubs and Elks Clubs and stuff, to address them. (laughs) He was so enthusiastic, when he'd start givin' them talks, I guess.

Tell me again about him buyin' his suit to go speak at that sports convention back East.

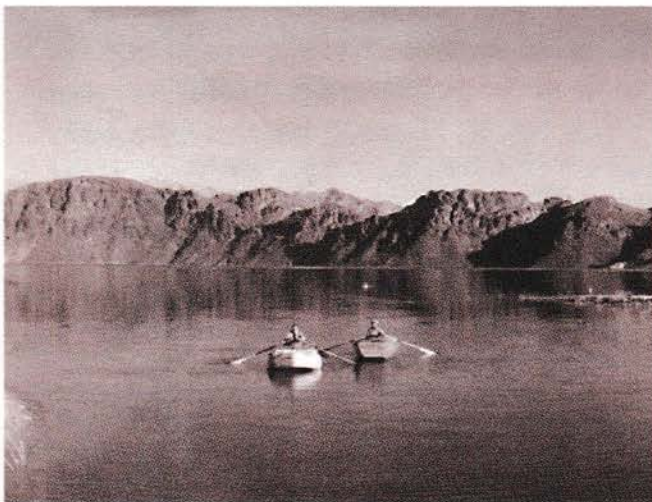
(laughs) Oh yeah! Well, he wanted to look good in front of Lois Jotter, 'cause she was to go to that sports thing also, and talk. I remember him buying that blue suit. (laughs) And a white shirt to go with it, and some new tennis shoes, canvas shoes. (laughs) And he told me he paid thirty-one dollars for it. He said, "I never spent that much money for clothing in all my life!" It never amounted to thirty-one dollars. (laughs) He was funny about everything.

Yeah, it's too bad that she was so tall. (laughs) Them things aren't really important. Yeah, she probably didn't know that Buzz was in love with her. (laughs) Some very strange things goes on in this world. No, I'm sure she didn't ever know. (pause) Buzz could have gotten other women. He wasn't that rough and tough-lookin', he was just an ordinary-lookin' guy.

Willis Johnson Journal, October 31, 1938

The current has been so swift today we came 36 miles before camping for the night at the head of Lava Falls Rapid. It is so full of boulders and suction holes that no one has ever been able to navigate it. Last year when Buzz came down the Canyon alone, he portaged this rapid.

This trip Buzz has run every rapid but it looks like this rapid will have to be portaged. We believe Buzz is the best boatman in the world, but I don't suppose he will attempt to run this death trap of the Colorado River.



Amos and Buzz, Pierce's Ferry

Amos Burg Journal, November 1, 1938

All night the subdued thundering muttering of Lava Falls hung in the air of the worst stretch of waters I had seen from the Continental Divide. Up at daybreak to gaze down on a foaming mass of holes and breakers and rocks through which no channel existed. To share no part of his decision I kept silent, but at breakfast Buzz admitted half-bashfully like a schoolboy bringing an apple to teacher that he would run. Lined CHARLIE left side to foot to have in readiness. Could see Buzz was growing increasingly nervous. 10:05 AM he descended. As he passed my camera at lower end he let out a triumphant "Yippee". In that moment he became First Voyager to successfully run all Colorado River rapids.

Willis Johnson Journal, November 1, 1938

He came over the top and the current took him along faster than in any rapid before. How he battled the swift current that tried to hurl him into the swift holes and ledges and yet won through is a great wonder. We were so overjoyed and happy that later we climbed back up along the right shore of the falls and Buzz explained to us just how he run it. It was very exciting for awhile.

After we got down to Pierce's Ferry, the next day—we stayed there all night—and then we put the boats on the ferry and Mr.—I forget his name—took us down to the dam. Had a big storm on the way. When we got down there, we was untying boats, you know—I was on one side, Buzz on the other, you know, and untying the ropes. I had Buzz's boat strapped down tight. I undone a knot, and it was the rope that Buzz was pulling on, and when I undone that (laughs), back into the river he went, and he never knew why! (laughter) Into the lake! I didn't have enough courage to tell him.

After Buzz made that trip, he went back there and he worked for this outfit.

Yeah, you see pictures of him now and then where he's down workin' on Lake Mead.

Yeah. He said it was so hot ... he was gettin' ready to go to bed, he would take a bucket of water and throw it into his bed, and then crawl in his bed. He didn't like that.

The next year, Buzz invited Willis to join him for the first leg of Edith Clegg's Pacific to Atlantic boat trip.

That was quite a trip. There's this woman.... She was actually from London, but she had a home in Vancouver, British Columbia, Canada. She wanted to backtrack the Louis and Clark Expedition. So her lawyer got in contact with Buzz, made the arrangements, and furnished the money to have two boats built. Buzz didn't build them boats—they were built by a Swede boat-builder right in Coquille—built very good, but built to Buzz's specifications. Identical boats. And we only had ten-horsepower Johnson motors, but they were enough.

You couldn't run up in them rapids anyway, with.... All them rapids, seemed like all of 'em, had an eddy. The rapid would come in here, but there'd be eddies going almost back up to the top of the rapid. We'd just gently take the boats up there, and then we'd carry this stuff a few feet up to the top of the rapids, and continue on. Once in a while we'd have to take the boats up in ledges. But Buzz and I could handle them boats real good in the ledges.

We had a camp flunky, and we had a young man, a doctor, but Buzz and I would do that. Them guys would carry their share of the luggage and groceries and things around rapids. We didn't run up them rapids like you might suppose—we just didn't have the power. It didn't matter, we knew what we was going to get into, before we ever started. And the woman was a friendly woman—she enjoyed the trip, we made it as comfortable for her as we could, and had her a little tent. Of course (chuckles) we had to throw gasoline stoves and things like that overboard (laughs) when her back was turned (laughs) before we ever started up very far, before we ever got up the Columbia River very far from Portland. But she was a good woman to be associated with. I thought she was pretty old to be takin' a trip. No one had been down through Hell's Canyon at that time, and she was about fifty-five, but she stood the trip good. Now I thought, "Boy, she's an old lady!" Now I look back, "Why, hell, she was young!" (laughter) It's funny how your thoughts change when you get older. (laughs)

The camp flunky was—actually, he was a buddy of Buzz's in high school. So he got chosen to go, but he didn't like that trip either—he didn't like it. And the doc we had with us—well, he was a medical student at the time. Now I liked him, and he was pleasant, he was a nice guy. He was a man that went to school with Buzz when they were in high school. I was sure glad when Buzz called me to go. You'd have liked that trip up the river, going upstream.

We had gasoline put down. There was a mail boat that went quite a ways up into the heart of Hell's Canyon, and he would leave us five gallons at a whack, you know, different bars. So we almost ran out of gasoline, the last day I think it was, we didn't have enough gasoline. Buzz and I walked up to Homestead. That was the last town before we started down in. We got a few gallons of gasoline, a few groceries we needed, and that was our only problem. Just a very few gallons of gasoline that we needed, and very few groceries.

But that's a beautiful canyon. I would like to have eventually ran down through it. That'd be nothing to it, really. Wouldn't be the dangers that you'd encounter on the Grand Canyon. And it was clear water—that was different, you know, different than the Colorado River. But now the Green, I know it is clear water sometimes. I've been down to Lee's Ferry and driven down to the



Edith Clegg, Clarence Bean, Willis

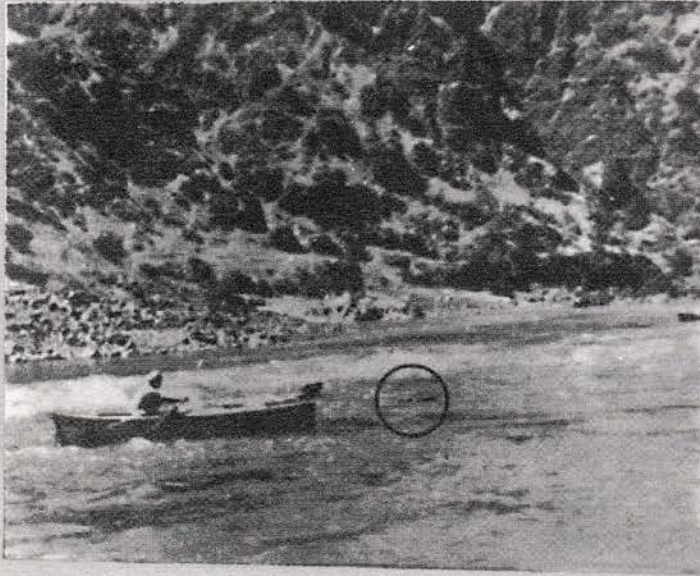
river, just to see the river. It looks so strange, that clear water running past you.

It's peculiar.

Yeah. But there's a lot of silt in that Colorado River otherwise. In the old days, it was one-third silt. We'd fill up a big coffee pot, and in the morning it'd be two-thirds full of sand, silt. Other than that, we—but it was no problem. We'd let it sit all night and settle. We had our coffee out of good water. (laughs)

A mouse crawled in the coffee pot one night and (laughs), and Buzz, he's always out of his sleeping bag ahead of everybody. (laughs) He found the mouse, but didn't find it soon enough! (laughter) He insisted I have a drink of coffee, but I knew there was something wrong right then. "Okay, pretty quick, Buzz, I'll have a cup of coffee. Okay Buzz, pretty quick." (laughter)

On that up-the-river trip we took up to Hell's Canyon, we stopped at Lewiston and Clarkston—off to the side. We stopped at Lewiston for groceries and we was there for a couple of days. The woman wanted to do some mailing of letters, and it was Buzz's and my birthday anyway. I and the Mrs. Clegg, we set down on an upturned boat and decided what we'd need for groceries up through there. Buzz was sittin' by my side—he'd keep saying, "[softly] pork and beans... [a little louder] pork and beans... [louder yet] pork and beans!" (laughter) So got down to the end of the list and he said, "Well, is that all?" And I thought, "Well, darn, something else..." "Pork and beans!" (laughter) And I said, "Oh yeah, we need a lot of pork and beans so we can eat a lot of them." (laughs) We could eat them three times a day. (laughs) I didn't tease Buzz much, you know. But he knew I was teasing him. He was a pretty good guy. He was a good guy to be with. Didn't have any bad habits or anything at that time, and whatever drinking he done between trips was not much to worry about. He'd come out and get a job where I was working at the Utah copper mine, so I got to bring Buzz home with me a lot of times on weekends. We were like brothers, really.



Holiday Greetings

Buzz' Christmas Card, 1939, depicting his near drowning

[Showing a picture] This is Buzz at that place where he almost drowned. For some reason, he decided he was going to run that rapid. Us others were carrying stuff up along the rapid, and he gave it a big run, standing up in the front of his boat, and he gave a run for it, and when he got to the head of that back eddy, he went up in the air, he hit it and the boat went up out of the air and the propeller came up, and Buzz went overboard, head-first.

My boat had a leaky carburetor, so I would always shut it off. Well, Doc was down very close to the boat, and he'd beat me to the boat, jumped in it, and went out to save Buzz, and got out a few feet and the engine stopped because he hadn't turned on the carburetor—he didn't know the carburetor was off. Buzz had come up here, and he'd come up there—a foot, a leg—come up many times. He was up and down and up and down and up and down. There I stood on the shore. I was right close. Always carried the camera on my belt—lots of good pictures of it. But he couldn't breathe, couldn't get a good breath of air. Drifted on down the river and Doc finally got on the oars and he got Buzz onto the boat. Lungs had gone into convulsions, he couldn't breathe,

he'd held his breath too long. But he was layin' there and laid him on his stomach and they went on down the river, chasin' his boat.

I asked him, "Do you want a drink of water, Buzz?" (laughs)

One day, we was sittin' there talkin', sitting on the rock, discussing this and that, happenings earlier of the day—and I looked and there's a rattlesnake under her feet! And I just walked over and scooped her up and stepped back without saying anything. (chuckles) She evidently didn't have it written down in her journal, or didn't write a journal then, but she said Buzz done that, when she did get around to writing a journal.

She was probably so excited she couldn't remember who it was. A lot of snakes, huh?

Oh yeah, I killed a lot every day.

Edith Clegg Journal, June 7th, 1939

We had dinner in the camp, all five of us, as Bill and Clarence were paid off today. We shall miss Bill very much. He was so faithful and friendly and deeply interested in the journey. He was very sorry to go and said that if I wanted him he would come and join us again at his own expense—and he really meant it. He looks rather like a very nice bear and has a most infectious school-girl giggle when he is amused.

On that first trip in Grand Canyon, what did you and Buzz think about that inflatable boat that Amos had? Did it seem like it was going to be the thing that took over the industry?

Well, we didn't know. We really wondered. It looked so fragile, but yet it was the best boat of both boats. It was the safest, it was the most easily-handled. We didn't ever get to find out. I know when we got down to the lake, we was out of current, you know, a hundred feet or so, and Buzz said to me—I was running the rubber boat, rowing it—gee, no power a'tall to pull that in on the lake. Buzz says, "Well, we'll just go down about two or three miles and pull out on a bar and I'll get things started." And we says, "Okay." I'd pull, you know, and we kept getting ahead of him. So I told Amos, "I wonder what Buzz is going to fix for us when he gets there," because we was going ahead of him, see... (laughter) Banter back and forth, you know. (laughs) But, God! I thought that was wonderful. But then the next year, we took that rubber boat down the Middle Fork.

Same boat, or another one?

Same boat, same guy. He'd been invited to go.

Willis Johnson Journal, June 24, 1939

Middle Fork of the Salmon

The members of our party are Dr. Russell Frazier,

Utah's foremost river-man and explorer; Amos Burg, international river-man and explorer; Frank Swain, Frazier's head boatman; his brother, Gilbert Swain; Charles Kelly, author; Hack Miller, sports writer; Bill Fahrni, merchant; and myself; all veteran river-men.

Dr. Frazier and his boat-men have attempted this voyage twice. On their last attempt to conquer this river, which was last year, they wrecked one of their three boats at the start and had to give it up. They pulled their two remaining boats upon the shore. We will pick these two boats up if they are still there, for we now have only four boats and there is a great possibility that we will lose boats on the trip and we will need them in case of a wreck.

Well, Doc Frazier says, "Now, it'll be a mile-and-a-half down to where your boat is." That's about as far as they'd ever got on the trips. So sure enough, take your pick... So I picked out one about twelve feet long. They were open boats. And Gibb Swain, Frank's brother, he took one that was partly decked, but it was shorter. So... got down to the top of the first rapid and looked back, and there's Amos up there at the top of the rapid, waiting for me to come up and get his boat and carry it down around the rapid. (chuckles) I didn't do it! So he waited a while, and seen we was going to go on down. He jumped into his boat and come down, and he made it okay. And he should have, because he found out right then, it was a good boat in rough water—if you want to call the Middle Fork "rough." But I made damn sure I didn't offer to help him. "That's over with! A boat like that don't need any help. He don't need any help." Actually, even easier than working a canoe. Amos was a good canoe man, but this was different—something with the oars was different. But he made it okay. And everybody was noticing.

Willis Johnson Journal, July 9, 1939

Many of our narrow escapes could have been avoided but we were very lucky to have come down as far as we did without serious accident or loss of a single boat but these men are very expert and experienced boatmen. We may have rubber boats next year for they add to the thrills of boating but it will be hard to have a more thrilling or enjoyable trip than this one we have just finished. Although I believe I am the first to navigate an open boat down this 250 mile stretch of rough water and believe open boats can be taken on through [to Lewiston], it will be much better to have rubber boats, for Amos Burg has proven them to be far superior to any other kind of boats even though a person will have his share of upsets if he isn't on the alert at all times.

So from then on, we'd buy these heavier black pontoon boats. Ideal—very ideal. You can build a little cockpit around for your oarlocks and a seat. And you ride pretty high, up on top of the water, instead of displacing it—you're on top of the water. On these

wooden boats, you're down in the water a bit. I don't think you'll ever see anybody building a wooden boat to go down these rivers anymore, on account all the people know that them rubber boats are the only thing—makes a better trip, and you're safer. Them boats are tough, you don't wreck them boats. And it's not very often you get a snag in one of 'em. I like them rubber pontoon boats. I had several different ones that I used to like to use on the Middle Fork. I like that Middle Fork!

You did quite a few trips there?

Yeah, I like to do prospecting along it. But in 1974, they put a stop to that.

So up until then, you were still doing trips up there?

Yeah. But they put a stop to prospecting. And digging. Which was okay, it didn't matter.

There was no regulations or anything about digging along, panning for gold—you could do that anywhere. But not the Middle Fork. Several times I did park down to where the Middle Fork comes into the main Salmon, and I would drag my rubber boat up a long ways, and do prospecting.



Willis on an Idaho fishing trip

There was no rules or regulations on the Main Salmon. So we done a little boating there, but it was a lot of fun, I liked that. The best places, working streams, was not there, anyway—it was up in Montana. But I don't do that any more. I like to do it from a boat, you know. On the Middle Fork you could take your shovel, if you knew where to dig, which you finally learned. You could dig down, just with a shovel, and take it to the river and wash it and always get a few colors—a few little pieces, on the Middle Fork. I think that there are places on the Middle Fork of the Salmon that would be quite profitable. But you have a hard time taking any equipment down in there, like a sluicibox and gasoline and a pump and all that, that you'd need.

In all your prospecting by boat, did you ever make much money, or was it just a way to go boating?

Well, it was an excuse. (laughs) No, I'd bring the

stuff home to finish out. I'd empty my sluicebox, if I knew there was gold in it, I'd wash the mud out of it, settle most of it in the bottom of the bucket and stuff—you know, shaking it a certain way—and clean off the top. And then I'd bring home from each sluice, like a coffee can, or a baggie, put it in there. I've still got stuff down in the basement I haven't washed out, with gold in it. But I washed out a few ounces, which I hadn't sold and somebody took it. So I just never get around to washing the rest out.

Nobody was like Buzz. Frank Swain, they were good friendly boatmen, him and his brother and his group. But Buzz was a man who knew how to run rapids.

Bus Hatch.... I never did get to take a trip with him. I know that after I got back from service, Frank had taken a trip or two during the war, and Frank used to tell me the troubles they'd have on their... the rocks and things. And he didn't go into too much detail, but the book [*Riverman*, Roy Webb's biography of Bus Hatch] was talking about the number of feet of rope that they'd take, things like that. And their big trouble was with running out of groceries, because they were hung up in the rocks.

And I see that we hadn't gone very far on the Middle Fork—I saw why. This was the first trip I'd been on with Frank Swain. They like them short cuts in the rock. Now Buzz and myself, we always go in the outside circle where the water is deep, rough and deep. Okay, here's Frank and Doc and these other boatmen, over here, lifting their boats up over rocks and stuff. And that's what they did on their trips up in Idaho. There's pictures in that book—I don't know where it's at, I've got it anyway—somebody had taken pictures of it, nice brown rocks, you know, like you see on the inside of a rapid. Well, that's where they were, the boat stuck in them rocks. And that's the way they done it. Now as far as courage, you couldn't fault Frank Swain and them guys for courage—they had plenty of courage. But they didn't go out in the deep water.

But pretty soon they were following, they were beginning to see, beginning to get the drift of it. And then we



The Endeavor

didn't have any more troubles after that. You can't tell them guys, "Hey, you guys don't know how to run rapids. Too bad you don't have a chance to go with Buzz, you know." (laughs) I was always saying, "Oh, Frank and Buzz, they're the best boatmen you'll ever want to see." But actually (chuckles) it was diplomacy. But I liked to go with Frank Swain. He's full of laughs, and nice around the campfires. Just good to be with, you know. He liked going up somewhere on a bus to get to where we were going to go. Old Doc Frazier always paid for everything. I remember Old Doc always sleeping and Frank getting into his pockets to get money (laughs) to buy us another bottle, you know. (laughs) They were just jolly good guys to go with.

I felt bad when Frank died. His mind was clear, but that was all that was left of him, his mind. His body deteriorated or something—I don't know what. He had a good mind about everything. And he'd tell the stories, you know, about everything. It was interesting when we'd take a trip, you know. He made the trip interesting. Besides, he was a good cook! (laughs) I was always glad we had a good cook whenever we'd go anywhere. I could've cooked the same things they were, but as long as there's somebody else who'll do it, that's fine with me.

I used to go up there, go out of my way, to get to Bingham to talk rivers with Frank. And he was so glad when I'd show up—he didn't have anybody to talk rivers! (chuckles) We used to have some good visits. He had quite a history, you know, when he was sheriff. He beat two Indians to death with his fists. That's the kind of sheriff he was.

Hack Miller was a nice guy to be with. He'd write very good stories about the river trips and things. And Frank would always build him a boat, glad to have him. He was a good writer, Hack Miller. He was sports editor of the *Deseret News*, from about the time he got out of high school. He was just that kind of a guy. He'd make trips sound more interesting than what it really was, you know. He could get a hundred stories out of one trip, you know, changing a little bit. (laughs) But it was okay. I told him, I don't care what you write about me, as long as you put it in the *Deseret News*! (laughs) That's about the way it was, you know. I've never regretted any of these, knowing any of these guys that I happened to be with.

Amos had a lot of footage, though, I'll tell you that! All over the world, nobody had done anything like that before, and it showed, I guess, in every theater. And I seen it a lot myself. People would call me on the phone, "Hey, Willie, you're on TV," and I'd know which film they was talkin' about. (laughs) Or maybe it'd be "The Eight Brave Scientists that Ran the Middle Fork." I have to laugh at that—they didn't use our names—they just called us "Eight Brave Scientists," (laughs) which was all right. There was a doctor and a merchant and policeman

and a couple of writers. (chuckles) But I found out the secret: always take a writer with you! (laughs) If you want to read about yourself, you better make sure you have a writer with you. (laughs)

Amos told me, the film that we made on the Middle Fork, "If it's worth anything a'tall, it's worth at least around three or four dollars a foot." And he had enough to buy a pretty good boat there in Astoria, that we went to Alaska in. He took the film of the Colorado trip, took it back to New York to sell. Buzz was to get a copy of it. He was going to show it at the World's Fair in San Francisco. Which he never got a copy of—just letters from Burg: haven't sold it and this and that and all that. Finally sold it for enough to take care of his profits. Buzz got nothing for that. And Buzz paid for that trip. Well, not all of it, altogether, because Julius F. Stone gave Buzz five hundred dollars to spend on that trip, the filming of the trip.

Very fine man, Julius F. Stone, wonderful man. But he'd given Buzz five hundred dollars. He gave me an autographed book of his trip down there in 1909. He never lost a boat nor a man on that trip—very successful trip. But Stone was the kind of a guy that was never resentful about anybody else running that river successfully. He's not that kind of a guy. I guess he'd corresponded with Buzz, you know, congratulating him on his trip. And I guess Buzz had told Julius in his correspondence, his plans of getting a film of it. And sure enough, Julius sent him five hundred dollars.

But only one person ever made anything out of that trip in the way of money, and that was Burg. Burg was for Burg. Of course Buzz never ever complained about it to me, but I know that he expected something out of it and he never got it.

I could of went to Little America with Doc Frazier and Admiral Byrd, but I had a chance to go to Alaska with Amos, and I chose to go to Alaska with Amos.

Tough choice!

Yeah. I would've got paid a dollar a year to go to

Little America. (chuckles)

Here's the picture of our passengers on the trip to Alaska.

That's you and Amos?

Yeah.

And three lovely ladies.



Uh-huh. They worked for Charles Wheeler. [a good friend of Amos, and the namesake of Amos' raft Charlie]

*Willis Johnson Journal
June 15, 1941*

There was a delightful swaying and rolling motion to the Endeavor for we were in what is called a "Ground Swell"; no sudden jerking nor lurching. It was mighty fine, but within an hour I had what is called Sea Sickness and it lasted until the morning of the 16th. After the first spell of sickness had passed, Amos said to me, "Willis, I have just now casually mentioned you in the 'Log.'"

"What is it you wrote down, Amos?"

"Oh, just that the ship is getting lighter."

It wasn't long before Amos and Dewey were also sick...

The Endeavor, that was a sailboat?

Yeah.

Did it have a motor?

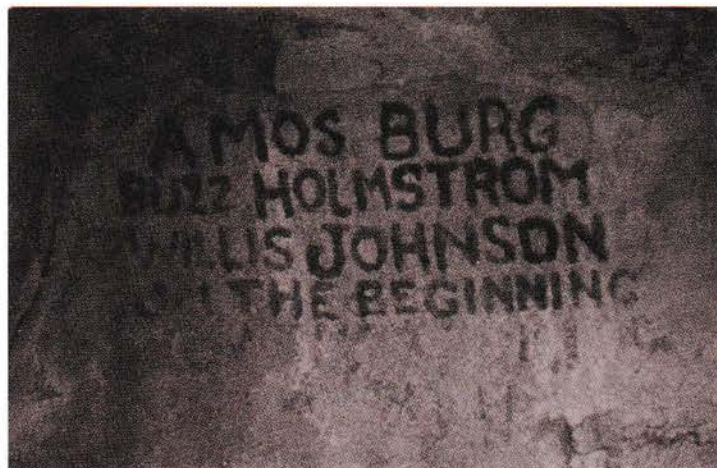
Yeah. Yeah, neither of us was very good with the sails, although Amos is supposed to have sailed around the world, you know, all alone and through the Straits of Gibraltar and all that. All alone. I'd read about it—all alone. I was at Gault's Boat Harbor there, fixing up the boat, painting it, and doing this and that. Some man come down to there. I was alone. We talked a little bit, and he says, "I'm...." I can't think of his name now. He told me his name. He says, "I am married to Amos' sister. I'm the man that went around the world with Amos."

The invisible man, huh?

Yeah. (laughs) I laugh about that!

But I went to Alaska with Amos. I'm indebted to

him for taking me up there with him. And I stayed up there just a few months, and I got drafted into the service, so I had to leave Alaska. I never made it back up there to work, but I did take Emma up there, a few years ago. It must be seven years ago. I wanted to show her where the mine was. There's no sign of the mine, smelter, or anything. It's been reclaimed, smoothed over, done away with.



Inscription at Lava Cliffs

A while back someone showed me an inscription at Lava Cliff Rapid, down there at the head of Lake Mead. It's hidden in a muddy thicket of tamarisk. It had your names and said something, I don't remember what...

You saw that?

Yeah. It's really hard to find, though.

It said "From the Beginning...?"

Yeah, that's it...

We went up in there. And wrote our names, and Buzz's name, and you found it. We had never told anybody about it. It would have been okay.

Do you smoke?

No.

You don't smoke. Well, you're missing something. (chuckles, lights one) But yeah, Buzz didn't want to write his name down, didn't want to deface. However, up at Separation, and up in Dark Canyon Rapid, a dangerous rapid, most everybody had their names written there, at the bottom of that rapid. Their names are still there. I don't know how far the river come up.

It's over Dark Canyon. It's a hundred feet under now.

It is?! Oh my God! Can't hardly believe that.

Yeah, it goes almost up to the Big Drops some times.

Oh my gosh!

I never got to see Dark Canyon, the rapid.

It was a dangerous rapid, because the water was like a

curve. The water was rushing into the ledges right to the bottom there. About all a person had to do was go down with a stern first, and he could watch it and just rowing upstream, you know, and you can pull more than you can push, so all you gotta do is just watch that and just pull enough so that you don't get into the ledge. And it only takes (laughs) a very few seconds.

You could sure see the paint on them rocks there where they struggled them boats around that rapid.

Let's see now... You came down after Nevills and Harris, right? It was their paint you saw?

Oh yeah. There's enough paint there to last a hundred years! (laughter) Sure! But Don wanted to run them rapids. I'm sure he could have done it.

Yeah, he ran 'em the next year, I think.

Don Harris' partner—that he was in partners with at the time—he told me that they ran Dark Canyon Rapid. Each end had a stowing place, four thumbscrews hold the lid shut. But he says they ran that, him and Don. They done a little bit of guiding down through there after the split with Nevills. And that's why I figured Don was a good boatman. He wanted to do it all the time, but Nevills wouldn't allow that. So they run it.

His partner, the one that worked for the Postal Department.... Jack Brennan. Brennan told me after they run Dark Canyon Rapid, they looked in the boat and they had left one of the covers open (laughter) in their excitement, you know.

Yeah, I was glad, glad that he had that chance to run them rapids. You be sure and tell him "hi" for me.

I'll do it.

I never ever got to see Don handle a boat, but I was glad to take his place on running the San Juan. I didn't know if I was ever going to get to run the San Juan.

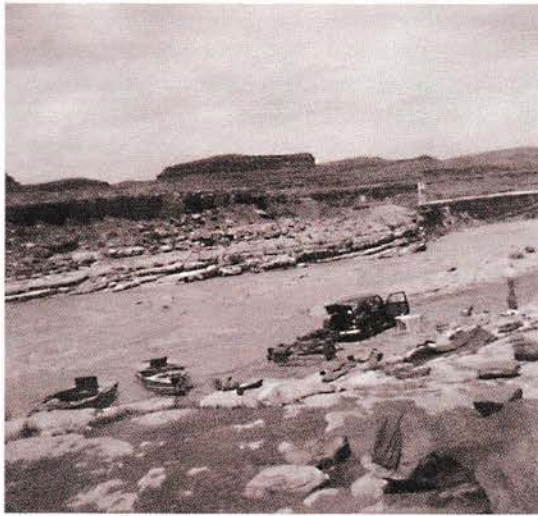
[Over breakfast Willis had told about rowing a San Juan trip that Don Harris was unable to do.]

How did that trip come about?

Well, Don had made plans to take a man and his wife, and the man's boy down the San Juan from Mexican Hat down to the Colorado and then on down to Lee's Ferry. I knew that there was only three rapids—somebody had told me there's only three rapids. We went down in very high water, and so the rapids were covered up, and so I never did know where them rapids were! (laughter) Just a nice current down through there. We took the two boats and the man and his wife and son down through there. It was just a nice trip, no rapids.

What was that like, the Lower San Juan? It's under the lake now, so we never get to see it.

Yeah, well, it was just a deep canyon. You can't tell very far how deep it is, because it comes up like this, and



Rigging at Mexican Hat, 1949

then over and up, and over and up. But by looking down onto it from [Muley?] Point, it looked no different than, say, the Colorado. The canyon looked about the same. Don's boss that he used to run rivers, used to take a lot of trips down through there, take tourists. I guess he made a good thing of it.

Nevills?

Nevills, uh-huh. But I never did meet him. We put our boats in and we was around there for several hours, just right down from his house. I know he knew we were due to be there. He didn't come down to talk to us or give us permission, you know, or whatever—"his" river, you know. (laughs) But I think Nevills done very good with his taking parties down through there. Then he got killed in a plane accident, which was too bad, because he had a good thing going there. But there's no rapids down through there. I'm sure they ran all them three rapids. But they were covered up when I went down through there. We went down in high water. No danger.

And Don told me... just... pull the boats out there at Lee's Ferry, and write down a list of all the groceries in it, because in a couple of weeks, we're going to go on down through the Grand Canyon. And he says, "We're going to take old Bert Loper with us. I said, "Well, he's in his eighties. I don't think you ought to let him get on the oars." He said, "Oh, we won't!" But they did, and he had a heart attack on the rapids. I think he was dead before he ever hit the water.

Many years later, they found his body. People in Green River told me, "You can take a section of wood, cut the bark on it, and you can hold it down and it'll get covered up. If you hold down a peeled log, it'll come up." Well, his clothing and stuff held him down, but after the water cleared up and it started clearing out all that mud and stuff out of the channel, his body showed up, after maybe twenty-five years or something.

But Loper, I think he must have been quite a guy

himself. He was up and down through that area, all over that area. Of course didn't leave records and stuff about it. But I admired the man.

He borrowed some film from Doc Frazier of the... pictures you flash on the wall. He's giving a talk at that club or whatever it was, and he said, "Now this is a picture of So-and-So up in Wyoming, and this is So-and-So. And this.. well I don't know where this is" He got mixed up on his list. He said, "I'll be god damned if I know where this is, I'll just show you the pictures." (laughter) That's the kind of guy he was.

On the Fourth of July in Liberty Park, Doc Frazier told me, he was there, the old man was there. And they had a contest, you know: everybody'd get in a boat and race across the pond and back. (laughs) The old man was across the pond and back before anybody ever got over to that one side. But a lot of guys don't know how to row a boat. You watch guys dig and bump, diggin' deep. Take a half oar of that water, on the surface. You get more, you can pull your boat farther with that. You dig down in the water, you've lost something. With your oar down, half-an-oar in the water, and it works a lot better.



Julius Stone, Separation

How did you come to meet Julius Stone?

Well, Julius was going to take that.... He had a plaque made, a big, thick, heavy plaque of the three men that left the party at Separation Rapid. Dunns and How...

Howlands.

Yeah, Howlands.

The lake had come back to the bottom of Separation Rapid, and most of Separation Rapid was covered by the lake. We had hired one of the tour boats to take us up there. And it went right to the top of the rapid. The lake had covered it up. And he wanted to put that plaque up there. And he said, "Now, put it up here, it's brass, it'll last forever. It'll get covered by the lake, it'll last forever."

Then that darned guy— thought he was doing something great, I guess—oh, you know him, I know him—



Plaque Party, Separation

used to try to run up the Colorado the wrong direction, you know.

Harry Aleson?

Yeah, Aleson. He rescued it! (laughs) Had it taken somewhere in Kansas or somewhere in a museum. He was telling me about it (laughs) and I told him nobody was supposed to move that, it was to be covered up by the lake. (laughs) Thought he was doing something great.

So you met Frazier up at the Bingham mines?

Yeah.

He and Swain?

Yeah, after the Middle Fork trip with Frazier, I was always able to get a job at the mine, because Frazier was the head doctor. Frank was their head sheriff. So they would hire me back—just quit, take a trip, and then come back and get a job. They didn't pay much, but it was a job.

What sort of job was it?

Track work. Got hundreds of miles of track. Traffic directors, and things like that—just sit in the shack and direct traffic with your phone—know when to hold a train up on a certain side, and when to release it and send it on its way down or up or whichever way it was going. Had a lot of us guys doing that, all over the mine. They're digging into the mountain all of the time, and so they got to move the tracks, keep up with the diggin'. It keeps expanding. So they had a lot of trackmen.

It wasn't easy to get a job, even though—big depression them days. It took, you had to be there about every day for two or three months to hope you'd get a job. But I didn't have to go through that. They hired me on account of Doc Frazier. One guy waitin' had been out there for three months, every day, every day, every day—and he told the man that was hiring, "Can I have a day off?" The man said, "Yes, when you come back, come to

work." That's the truth!

That's the way things were them days, getting three dollars a day from a big, rich company. I remember when they raised our wage to \$3.50 a day. It just barely paid for your board and room. Yeah. Oh, yeah, you missed something by missing the Depression.

That was terrible. Although, if you had fifteen dollars, you could feed a family. Like I told my wife, I'm getting stronger all the time—the older I get, the stronger I get. I can go into the store and I can probably carry a hundred dollars' worth of groceries. When I was younger, I must have been weak, I could only carry about fifteen dollars' worth. (laughter)

A lot of people never worked for thirty years—couldn't get a job. If you did get a job, you didn't know whether you were ever going to get paid or not. That happened a lot. Just nothing to do about it. We knew they couldn't pay you, even if you'd go to work. You had your doubts. So you really missed something.

It wasn't a very pleasant thing.



On the way to the put-in, Glen Canyon

You did a Glen Canyon trip with Charles Kelly and Doc Frazier in '42?

Yeah. Kelly's was a six-foot boat, and mine was an eight-foot. Doc had a sixteen-foot rubber kayak. Yeah, and the article that came out about it in the Utah Historical Society... it mentioned, "It was nice to have Willis, he could show us so much." But I was always in the third party, and they thought I was dead! They were really surprised when I walked into their office! (laughter) They hadn't read his papers right. (laughs) But this was okay. I like Kelly. He was a good writer, very good. He wrote about Butch Cassidy in his book. He got sued, and he had to change it. It was still a good book.

It was a wonderful trip, except we went down in the highest water. It was in April, during the runoff—high,

high water, and then no rapids, of course. And so sand wave rapids, on the curves, it was something new to us. And so when we'd see one building up, we'd put the power to the oars and get our boats over into it. You could see that water raising up. It looked like it was raising up. And there'd be waves start at the bottom. And then like that. And then the waves get bigger, and they'd have a crest and break, break, break.... And pretty soon they were coming in from all directions and you were in a big rapid. (laughs) And so after we had a couple of upsets, we didn't get into them any more.

They tipped you right over?

Oh gosh, you grabbed ahold of your boat. I had lace boots, and the power pulling, my boat's standing on end, and it rolled my boots down—they were laced up! (laughter) It was April 17. I bit my pipe right in two (laughter) when I hit that cold water. I went through the rapid okay, finally got my boat to shore and righted it up. But I looked back, and Kelly was going back and forth, and back and forth. To me, that's what it was. He says that river was taking him up to the head of the rapid and it had done that three times. He had tipped over, but he had crawled back into his rubber raft. (laughs) Doc Frazier had a sixteen-foot kayak. Oh hell, he went right through there. But our little eight-foot rubber boats were not made for that. But it was sure fun to get into them rapids. Got so much sand going down there, it would block up the channel. Sand wave rapids.

Well, boy, you've sure seemed to have run into an awful lot of the old legendary boatmen back then. It must have been a smaller world.

Yeah. Yeah, it was. Well, people were not running the rivers and things. To run a river you.... Like we were running the Middle Fork, I think it was, with Frazier. It was on the front page of the Salt Lake Tribune. Up here, above the title, "Doctor Frazier and party run the Middle Fork of the Salmon."

It was a big deal.

It was a great deal, big deal. But people were not doing that. Yeah, Amos said about me, says, "After Willis made that trip down the Grand Canyon with us, women would come to him to ask about how to raise their babies, even!" (laughter)

Yeah, I'm indebted to Amos and Buzz for takin' me down the river—made a new life, really. It was different.

Back to Buzz Holmstrom: After you did that up-river trip with him and Mrs. Clegg, did you see much more of him after that?

No, I didn't. I was in an Army training camp down in Southern California and he was across.... He was stationed there somewhere near San Diego, and he came out to my camp. I saw him then, and we had a good visit. He went his way and I went mine. He was in the



Willis Johnson, Glen Canyon

Navy. He ended up down in the South Sea Islands, and I was up around Newfoundland.

I had it pretty good. I spent my war years in Newfoundland: beautiful, so green, everything is so green and the big icebergs come down in the summer. And that's only about one-sixth or something above water. Underneath, you don't want to get too close, because if it tips over and there's a toe stickin' off here, you might get in trouble. I got kinda heavy, sittin' around, doing nothing. That's such a beautiful country, so green, so pretty. The icebergs are so pretty. They come down in the summertime.

But after the war we didn't take any more trips. However, I did see Buzz at Bingham. He come out and worked at Bingham where I worked, and we were together a lot, same boarding house, you know. And then he got a job from the government and it was taking a survey party down Grande Ronde River, I think it was. They only needed one boatman. And that's where he died, was down in there. He was the boatman, to take the boats and equipment down. They had a cook. The cook wanted Buzz to wash dishes for him, and Buzz said, "No, I'm not a dishwasher, I'm a boatman. I do this, that's my job and that's all I do." So I guess they had a quarrel, but Buzz didn't do any dishes for anybody—he was too proud for that. And I don't blame him. It wasn't a very big crew anyway.

And I forget who it was that told me about that. But Buzz evidently walked down along the river—all rivers have trails—to look a rapid or two over that he was going to have to run, but he was shot in the back of the left ear. There was no inquest, there was no inquiry. That was a sad thing. But in my mind, I think it might have been that cook that shot him.

That's too bad. Because Buzz was never depressed or suicidal. They're usually depressed or there's something wrong with a person that would commit suicide. Buzz enjoyed life too much to have ended himself. I felt real

badly. He was like a brother to me, I think. He would go out there to my home on the weekends, many times, go fishing from there, stay a night or two, and then come back to Bingham to work. All my family liked Buzz— everybody liked Buzz that ever knew him. But I don't know, nobody'll ever know for sure just how he was shot. It's terrible that they didn't have inquests and inquiries and this and that. But they didn't do it, they just took Buzz to Coquille and buried him. I didn't get to go to the funeral. I was getting ready for a trip down the Middle Fork with another guy, a prospecting friend of mine, at the time. That was the last of Buzz.

But I did get to see him a lot shortly after the war. He



Buzz

had come out and worked, got a job in Bingham at the Bingham Mine. But it was a big loss. I felt so bad when Buzz died. Because I'm sure there would have been many trips that we would have went on together, because he loved them rivers. He had a pretty good sense of humor. I don't know... I wish everybody could have taken a trip with him down the rivers.

As the interview wound to a close, Willis heaped up a pile of journals and photos for me to copy, loaded it in a box and helped me to the car.

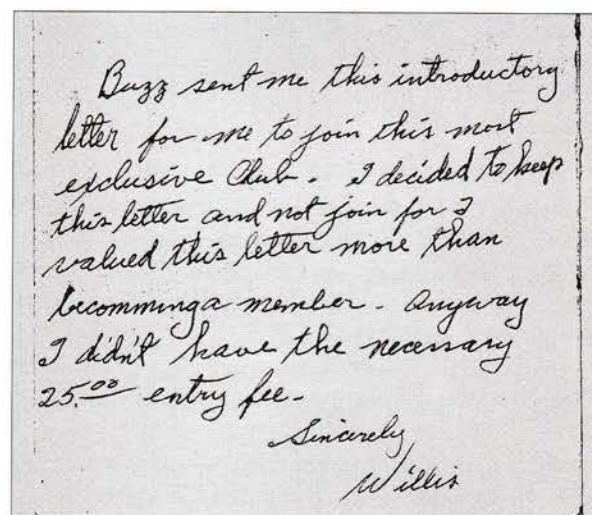
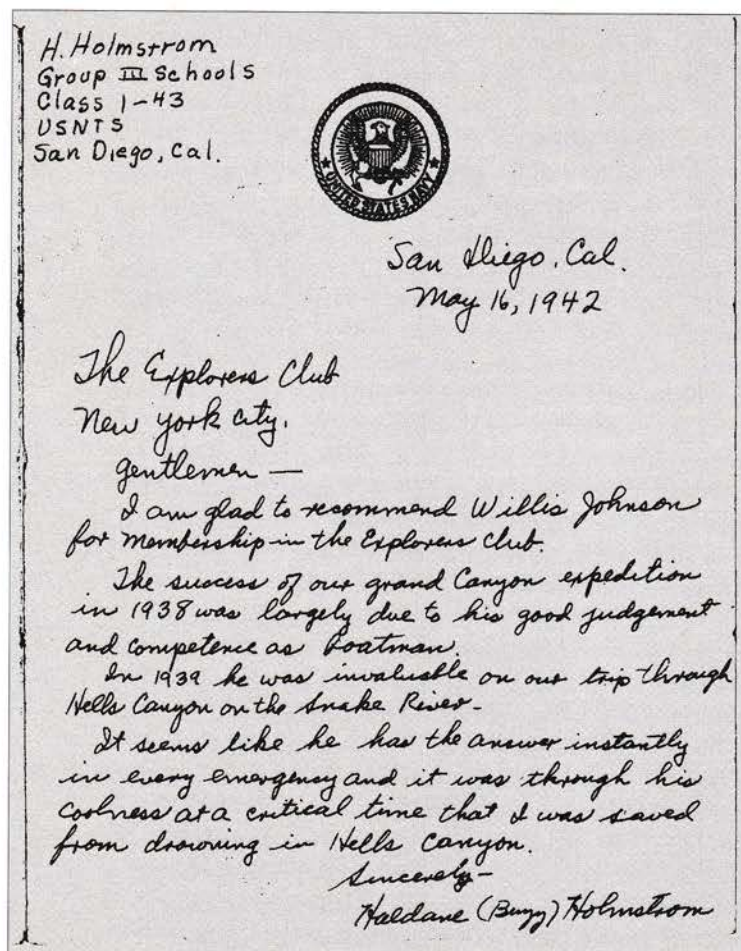
Yeah, use whatever you want, do anything you want with it. Now, you don't have to change my poor English in there either. I don't care about that. You don't have to edit it. (laughs)

Everybody uses whatever English they use. You change it, it doesn't sound right.

Yeah. Yeah, I read back through my diary, and I think, "Did I used to talk like this?!" I guess I still do! Emma corrects me once in a while. I don't mind. (chuckles)



Brad Dimock



Journal excerpts and photos courtesy Willis D. Johnson.

The Five Minute Fix-it

Is anyone out there, besides myself, interested in learning a First Aid technique that requires no tools other than your hands, and can greatly increase your capacity to deal with physical and emotional emergencies in the wilderness? Last September, I was lucky enough to guide an all women's trip down the Colorado. Sponsored by The Southwest Institute for Women's Healing Journeys (SWIFWHJ), a Flagstaff based non-profit organization, the trip roster included a number of nurses, therapists, and healers. It was a spectacular group of individuals. I injured myself twice on the trip, but am happy I did so—because it allowed me to experience the benefits of a First Aid method called Healing Touch.

Cooking dinner at lower Nankoweap, I reached across the stove to adjust the windscreen and grazed the inside of my arm on a pot handle. I did take the time to go to the river, splash the burn, wet a bandana and tie it around my arm... but the bandana fell off as I went about my chores, and as I've a high tolerance for pain, I basically forgot about the injury. Dinner done, my attention was once more drawn to the burning sensation and I sat for a half hour with the cool bandana wrapped about it. Next morning I'd a nice blister about an inch long and figured, o.k., so it will heal after the trip, 'cause there's no way I'm going to be able to protect it adequately.

Flash forward to an afternoon at Stone Creek, where Carol, one of the nurses along noticed the burn and casually said, "Oh, you need a scab on that. Would you like me to give you one?" Sure, I'll take a scab. Every day one had been attempting to form but, you know, water, work and play tend to wipe out your body's attempts to heal down in the Ditch. She wiggled a finger, literally, over the wound for maybe 10 minutes. The next morning, I woke up to a beautiful scab, nature's bandaid, that remained on my arm... and by Lava the wound was healed.

Big deal, you say. Luck. But injury number two was a little more dramatic. (I do take good care of myself but for some reason on this trip, I was slightly accident prone.) Climbing around at lunch, mile 114, up in the granite, I had what I thought was a good handhold. It was a mildly precarious position, ten feet above any possible flat landing. As I swung around on one foot to grab a second hold, the first crumbled beneath my fingers. "Just land on your feet, just land on your feet" was all I could think as I fell. I did land on my feet and stopped the fall, but the chunk of granite I'd pulled loose came wacking down on my shoulder and elbow. Great. Would I be able to row? The skin was barely broken but I'd have a bruise and an ache to beat the band the next

day. This time, others had observed the moment of injury and, after I'd soaked my arm in the river a while and taken some ibuprofen, Dorothea offered to "work" on the wounded area. She held her hand above my elbow and shoulder, wiping the air over the arm occasionally for about five or ten minutes. We had lunch. By the time we got to camp, I'd almost forgotten about the fall. The next morning, there was no bruise, no ache, no nothing but a perfectly good looking arm. Dorothea gave it one more five minute treatment for good measure. End of problem, injury healed.

My final story is about a sparrow. We were camped at Galloway when this pitiful looking little bird came dragging itself through the kitchen across the sand, sort of lopsidedly hopping. Conner Sauer picked up the little thing and handed it to Dorothea, who held it gently in her hands and walked away from us, talking quietly to the bird. Maybe ten minutes later, Dorothea set the bird down, and it flew, gracefully, away. I asked her what she had done to create such a dramatic shift in the bird's demeanor. "It just needed some ruffling", I think is what she said.

In all of these instances, Healing Touch was the method used to speed up, encourage, stimulate healing. I was so impressed by the results of this technique, I asked Charlotte McGuire, a nurse at Flagstaff Medical Center and one of the Founders of SWIFWHJ, if it would be possible to teach guides—in a limited amount of time and on a limited budget—how to use Healing Touch.

She and Dorothea Hover, Ed.D., RN, have offered to help organize a weekend seminar, to be held November 11 & 12, 1995 to teach Healing Touch. The cost of the 10 hour course would be \$95.00 each. If at least twenty people will commit to taking the class, the cost would be \$75.00 each. The location for the class is still tentative. We need to know how many people are interested in learning this special set of skills, that works with the human energy field to relieve pain, increase relaxation, accelerate wound healing, enhance immune responsiveness and reduce anxiety. Those of you who've taken the WFR and WFA courses will find this technique a great tool for your Karmic First Aid Kit.

Dorothea is one of the founders of the Healing Touch course, designed by the American Holistic Nurses' Association for health care professionals as a certification program that has reached over 10,000 care givers—and the major author of the first book on the subject, *Healing Touch*.

For more information and/or to express your interest in the class, please contact Charlotte (522-0144) or me, Nancy (779-1512).

Nancy Helin

GCRG Financial Statement

Fiscal Year Profit and Loss Statement

July 1, 1994 through June 30, 1995

Income	
GCRG Income	
Contributions	\$5,716.50
First Aid Class Income	6,165.00
Interest Income	190.83
Less Bad Checks	(58.50)
Membership Income	36,962.00
Resource Trip Grants	16,627.09
Total GCRG Income	\$65,686.92
GTS Income	
Freelance Guides	4,215.00
Outfitter Contributions	7,509.45
Total GTS Income	11,724.45
Sales	8,331.16
Total Income	\$85,658.53
Cost of Goods Sold	(7,568.28)
Gross Profit	\$78,090.25

Expenses	
Contract Labor	\$2,218.17
Diem payments (\$30/day)	660.00
Depreciation	3,986.87
Donations and Gifts	279.25
Education	120.00
First Aid Classes	5,713.89
GTS Expense	10,220.72
Insurance	365.00
Meeting Expense	2,999.08
Office Supplies	2,290.17
Postage	7,042.72
Printing and Reproduction	16,876.97
Professional Fees	145.09
Projects	110.00
Rent	1,787.00
Resource Trip Expenses	16,627.09
Service Charges	189.93
Subscriptions	63.00
Telephone	2,587.34
Travel Expense	2,687.73
Utilities	125.00
Total Expenses	(77,095.02)

Net Income **\$995.23**

Our books are always open for scrutiny. Should you have any questions, please contact me.

Jeri Ledbetter, Secretary/Treasurer

Balance Sheet

June 30, 1995

Current Assets	
GCRG Cash Accounts	\$10,627.71
GTS Cash Account	2,168.81
Accounts Receivable	732.91
Total Current Assets	\$13,609.73
Fixed Assets (Equipment)	19,934.35
Accumulated Depreciation	(10,492.33)
Total Fixed Assets	9,442.02
Total Assets	23,051.75
Liabilities	277.64
Equity	22,774.11
Liabilities + Equity	23,051.75

Fall Meeting October 28--29

Bring a sleeping bag, some firewood, a chair, your good cheer, best friends, and whatever else gets thrown into the car, to the Tour West warehouse on the outskirts of downtown Fredonia, AZ, for our annual autumn get together.

We're planning on two half-days this time, with a camp out—Tyler has even offered us cots to sleep on. We'll have fireside stories, maybe some music, good grub like always, and updates on the latest developments in Grand Canyon.

We'll begin at 10 a.m. on Saturday, the 28th, with our membership meeting and follow with talks about what we think is affecting Grand Canyon and the guiding industry most. Our agenda includes 2 lunches, one dinner with refreshments, one breakfast, door prizes, discussions on changes in the Commercial Operating Requirements, the latest on *Prospectus* issues, and a review of what's up with the Colorado River Management Plan.

Holey PVC! Jack Kloepfer, of Paco Pads, is going to do a seminar on patching PVC. Bring your leakers.

So be there. At Tour West.

Ten a.m. Saturday, October 28th.

Good Friends

The Board and Officers of GCRG want to thank all of our members whose generous donations during the past year have enabled us to continue our work. We deeply appreciate the extra support of the following contributors and sincerely apologize to anyone we have inadvertently missed.

Major Contributors

Garth Marston, Boston, MA
Grand Canyon Conservation Fund
Michael Wehrle, Charleston, WV
Environmental Experiences, Wooster, OH



Benefactor Members

Guide

Steve Atwood, Canyoners, Phoenix, AZ
Kenton Grua, Dories, Flagstaff, AZ
Gary Ladd, Dories, Page, AZ
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Merion Sharp, Freelance, Flagstaff, AZ
Lindley Smith, ARR, Lake Bluff, IL
Earle Spamer, GCE, Philadelphia, PA
Tony Sparks, Fort Lee Co., Page, AZ
Walt Taylor, Freelance, Flagstaff, AZ



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Brian Dierker, Freelance, Flagstaff, AZ
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Robert Hallett, Hatch, DeLand, FL
Bruce Helin, OARS, Flagstaff, AZ
Nancy Helin, OARS, Flagstaff, AZ
Sharon Hester, AzRA, Prescott, AZ
Dee Holladay, Salt Lake City, UT
Ken Jacobs, Diamond, Flagstaff, AZ
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RJ Johnson, Dories, Boulder City, NV
Dick McCallum, Expeditions, Flagstaff, AZ
Terri Merz, Dories, Boulder City, NV
Steve Nicholson, OARS, Bayfield, CO
Wayne Ranney, Freelance, Flagstaff, AZ
Carolyn Rigattieri, Canyoners, Atkinson, NH
Glenn Rink, Canyon Explorations, Flagstaff, AZ
Hilde Schweitzer, Outdoors Unlimited, Lotus, CA
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Lew Steiger, Freelance, Prescott, AZ
Tom Vail, ARR, Flagstaff, AZ
Mike Winn, Freelance, New York City, NY
Tom Workman, NPS, Saipan, MP
Jessica Youle, AzRA, Scottsdale, AZ
Anonymous



General

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Bill Wenner, Volcano, HI
David Whittlesey, Prescott, AZ
Tom Yerkes, Scottsdale, AZ



Announcements

Congratulations Fritz and Dirk

Willa Jean Fritzinger-Pratley was born July 3rd in Flagstaff. A few weeks premature but what the heck. She's strong and healthy and breathing on her own. Rumor has it she's been playing volleyball with her nurses, and winning every game. Way to go, Kid! Our best wishes go to Mom, Dad, and the youngest guide to join the boating community.

Flagstaff Fall Music Festival

The Flagstaff Fall Music Festival happens again this year all day on September 16th on the main stage at Fort Tuthill. Dan Hicks! Zuba! Walt Richardson! More! Tickets are \$10 and available around town in early August, or at the gate. Call 779-9716 for more info.

Good Guides Needed

Company working with physically challenged individuals looking for guides. Good salary, expenses paid, for off season winter trips. Contact: Lorne Smith at 602/926-2095.

Thank you Matt Claman

Remember a few issues back when we were looking for a volunteer member/tax lawyer to file a tax exempt 501(c)(3) application with the IRS for us? Several folks volunteered but Matt Claman just about demanded the work—so, of course, we gave him the job. Which is now mostly done. The completed papers, and there were a lot of them, are now in the hands of the US Government. Is that cool, or what?

Help Wanted

PRO is looking for a river-wise soul interested in working year round, with time off for good behavior. Starting wage \$6-\$9/hour. Send Resume. PRO, Box 635, Flagstaff, AZ 86002.

Canyonlands Field Institute

Wilderness First Responder/Whitewater Rescue courses begin soon; other interpretive/river skills workshops also available. For dates, course outlines call 800/860-5262.

Wilderness First Aid Courses

Whitewater Advanced First Aid (WAFA) Date: March 21 - March 25, 1996 (5 days)

Place: Lees Ferry - Camp at private boater's campground Class Size: 22

Member Cost: \$265 Non-Member Cost \$285 (3 meals per day included)

This course was designed by Wilderness Medical Associates for GCRG to meet NPS guidelines, and has been approved for Utah guides. It's received rave reviews. CPR certification is included.

Wilderness Review Course Date: March 27 - March 29, 1996 (2 1/2 days)

Prerequisite: must be current WFR, WEMT, or WAFA

Place: Lee's Ferry - Camp at private boater's campground Class Size: 22

Member Cost: \$145 Non-Member Cost: \$165 (3 meals per day included)

Wilderness First Responder (WFR) Date: April 1 - April 9, 1996 (8 days)

Place: Albright Training Center, Grand Canyon National Park South Rim Class Size: 24

Lodging: Albright cabins, included in price Meals: On your own; small kitchen in each cabin

Member Cost: \$395 Non-Member Cost \$415 (meals aren't included, but lodging at South Rim is)

Class sizes are strictly limited with preference given to GCRG guide members and guides. Send your \$50 *nonrefundable* deposit with the application below to GCRG to hold a space. To receive a \$10 discount, apply before November 1st.

Circle One: WAFA Review Course WFR

Name _____

Address _____

City _____ State _____ Zip _____

Phone (important!) _____ Outfitter _____

Guiding since _____ # Trips _____ Type of current first aid _____

Discounts to Members

A few area businesses like to show their support for GCRG by offering discounts to members.

<p>Expeditions 779-3769 625 N. Beaver St., Flagstaff Boating Gear 10% off merchandise to members</p>		<p>Canyon R.E.O. 774-3377 Box 3493, Flagstaff, AZ 86003 10% discount on equipment rental to members</p>
<p>Cliff Dwellers Lodge 355-2228 Cliff Dwellers, AZ 10 % off meals to members</p>		<p>Professional River Outfitters 779-1512 Box 635 Flagstaff, AZ 86002 10% discount on equipment rental for members</p>
<p>Teva Sport Sandals 779-5938 N. Beaver St. Flagstaff Approx. 1/2 price to boatman members Pro-deals upon approval</p>		<p>Sunrise Leather, Paul Harris 800/999-2575 15% off Birkenstock sandals. Call for catalog.</p>
<p>Dr. Jim Marzolf, DDS 779-2393 1419 N. Beaver Street Flagstaff, AZ 10% off dental work to boatman members</p>		<p>Mary Ellen Arndorfer, CPA 208/342-5067 714 N. 19th St, Boise, ID 83702 20% discount to boatmen members for tax returns</p>
<p>Dr. Mark Falcon, Chiropractor 779-2742 1515 N. Main, Flagstaff \$10 adjustments for GCRG members</p>		<p>Fran Rohrig 526-5340 Swedish, Deep Tissue & Reiki Massage 10% discount to members</p>
<p>Laughing Bird Adventures 800/238-4467 10% discount to members on sea kayaking tours Belize, Honduras and the Caribbean.</p>		<p>Dave Hellyer, 5 Quail Books 507/498-3346 10% discount on rare and endangered Grand Canyon books</p>
<p>Yacht True Love 809/775-6547 Bill Beer, Skipper Virgin Island Champagne Cruises 10% discount to members</p>		<p>Aspen Sports 779-1935 15 N. San Francisco St, Flagstaff Outdoor gear 10% discount to members</p>
		<p>Snook's Chiropractic 774-9071 624 N. Humphreys, Flagstaff 20% discount on initial consultation</p>

Thanks to everyone who made this issue possible... to all of you who keep submitting amazing things... to Grusy, Fritz, Renny and others for the drawings... to Edwards and Dimock for the photos... and to all of you who support us... It wouldn't happen without you. Printed with soy bean ink on recycled paper 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 fabulous journal to boot. Do it today.

<p><input type="checkbox"/> General Member Must love the Grand Canyon Been on a trip? _____ With whom? _____</p>	<p><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.</p>
<p><input type="checkbox"/> Guide Member Must have worked in the River Industry Company? _____ Year Began? _____ Experience? _____</p>	<p><input type="checkbox"/> \$_____ donation, for all the stuff you do.</p> <p><input type="checkbox"/> \$15 Short sleeved T-shirt Size _____ <input type="checkbox"/> \$17 Long sleeved T-shirt Size _____ <input type="checkbox"/> \$22 Wallace Beery shirt Size _____ <input type="checkbox"/> \$10 Baseball Cap <input type="checkbox"/> \$13 GTS Kent Frost Poster (mailed in tube)</p>
<p>Name _____ Address _____ City _____ State _____ Zip _____ Phone _____</p>	<p style="text-align: right;">Total enclosed _____</p>

THE 1923 US GEOLOGICAL SURVEY TRIP



UPSTREAM VIEW OF A RAPID FIVE MILES ABOVE THE MOUTH OF TAPEATS CREEK

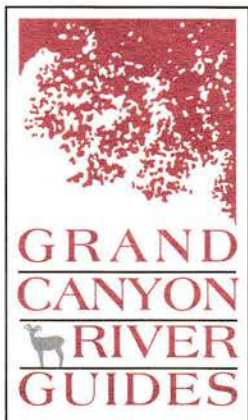
It was in this rapid [120-Mile] that the author's boat, the *Grand*, came into collision with a boulder. The blow was so violent that he imagines his craft had "actually bounced back upstream from the impact." An incipient leak was effectually closed with a patch of canvas and some white lead.

From *Surveying the Grand Canyon of the Colorado* by Lewis R. Freeman in *National Geographic Magazine*, Vol XLV, No. 5, May 1924. Photo by E. C. La Rue.

Box 1934
Flagstaff, AZ 86002
phone or fax
(520) 773-1075

For more 1923 trip photos, see pages 8-10.

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