



boatman's quarterly review

the journal of Grand Canyon River Guides, Inc.

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Gloeckler and Winter



GLOECKLER: I didn't have any prehistory. I was in high school. We were sixteen years old. Wade Falany came to us one day, a bunch of us, and said, "Hey, want to go run rivers?" and we said, "Sure." That was that.

That was in 1966. Wade introduced us to his brother, Henry, who was starting a company. We started off on the Stanislaus River that summer, really that spring, running training trips. Beatin' ourselves up pretty good.

It was Class 3 and 4, and it had a couple of 'em that were serious enough when you're just starting out and you're getting into, oh, ten-mans and basket boats is really what Henry relied on; and those were really not built for this particular kind of thing; (chuckles) he gave us those old shorty pontoons, and even pontoons that were thirty-five-footers we rowed through there with two men doin' it, depending on the flow of the river. Usually it can get down into the 100 cfs, or it can be, I ran it one time at 13,000 cfs and managed to scatter some people all around the river there.

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It's Not Pretty— It's Beautiful

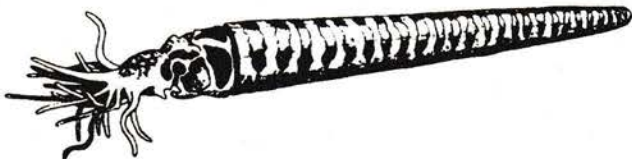
One day not long ago the phone rang. A US Geological Survey voice said "We'd like your help ... we want to take out the National Canyon cableway. How soon can you guys come up with a boat and some volunteers?"

Twenty minutes. And the trip took a week, with a boat donated by ARR. Now that cable is gone. It will return if we ever get a flood flow, but only for that flow. The Little Colorado cable remains, for a bit longer, because it's at a crucial site, just above where most of the remaining sediment enters the river; without it, there is no baseline measurement for sediment below the dam. Cool. We understand. And Thank You, Mark Anderson. Thank you very, very, much.

Then the earth shook. Rob Arnberger decided the 1995 COR was too much for 600 river guides and 16 company owners to handle—too much too fast, like an out-of-control car roaring down a freeway. So he slammed on the brakes, pulled off, and got out. When the smoke cleared we were back to the 1994 COR. And invited to participate in formulating next year's COR. What comes now will be a process where guides, outfitters, privates, and NPS folks, sit around a table and figure-out what reasonably fits into the regulatory process and how to bring it together and make it work for everyone.

The COR, its process and content, are up for review? You bet. If you've got something to say about it, do it. Drop us a line, or call, and we'll make sure your thoughts get thrown into the cooker on the South Rim this coming fall.

This from a man not afraid to carry Grand Canyon around on his back. Indeed. At the next Constituency Panel he'd like to have a barbeque, Texas style, with beer. That's a great idea. Yeah! We'll be there. No problem. And could we invite the Coast Guard crew, if they're still in town? It'd be great if they could stay longer than they did last time, at Hatchland. Life is short. Grand Canyon is big. This earthquake might take a while.



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 the 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 Mondays of each month. All interested members are urged to attend. Call for specifics.

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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.

So the seas are parting. Wider than a lot of us ever thought possible. All it takes is vision, you understand. A little bit of that will go a long way when given the right brain to roll around in.

That's the good news. But, truth to tell, we've still got some miles to make. As Dan Dierker said to Ed Page of the Coast Guard not long ago "...You mean, you want us to tell you what you should tell us?" Exactly!

That's the state of the state of the art. It's late in the day, and difficult to say if the sun's rising or setting. All that can be said for sure is that, this once, it's visible on the horizon. For our two cents, we say it's morning. And we like the scenery. 

Where It Has Went

Short story. Since the last *bqr* the Colorado's clock has roared ahead in startling detail.

During the past three months Grand Canyon has seen, not necessarily in this order: a new Lava Falls; a pending Memorandum of Agreement between the US Coast Guard and NPS; final stages of the GCNP General Management Plan; a Grand Canyon Public-Private Partnership Act; vast changes—and significant unchanges—to river concessioner's Commercial Operating Requirements; the issuance of Glen Canyon Dam's Final Environmental Impact Statement and the first meetings of a Transition Work Group; the birthing of a Colorado Plateau Town Hall; a host of nominations for upcoming GCRG board elections; possible removal of the Bat Towers and; with the greatest of sincere thanks to Andre and Christa, and Martha, and to Ted Hatch and Patty Ellwanger, the most deepgoing and homefelt GTS ever to cross anybody's path.

Puzzle that agenda. Most of it happening within the past few weeks. Add 3500 highway miles and three flat tires to your truck. Toss on a *bqr* once you get to the computer for a couple weeks; respond to mail, make and answer phone calls, send and receive faxes, while at it. Cram a board meeting in there. And another. Write a letter—NO ... Make that TWO!! And have a nice drive home. At midnight. Don't hit the elk.

GTS finished me off. Completely. I must tell you: the one physical task I managed before collapsing was to hang Bremner's poster on my kitchen wall; his photo of Kent Frost says it all. But that's the tip of only one iceberg. Here's the big picture: WHAMMM!!! For four days solid. And here's the punchline. Rob Arnberger, his family, and his top staff, were there for the whole thing and in the end he said to me: *This has been one of my most rewarding experiences as Superintendent.*

Jesus! Let's cut to the chase. The folks from Reclamation told me: *Don't win the EIS battle but lose the war.* Or was that Osmosis speaking? The Upper Colorado River Commission, if there, would have told me the same thing, and I would have said a few things to them as well. But we would have talked—that's the point. Lois [Jotter] Cutter, never mistaken in a crowd, sought me out and said, to keep this absurdly brief, *Thank You.* Really short: one body can only handle so much of that.

So ... I snored for three late days and long dark nights. Occasionally I drank tall pitchers of black coffee. I took vitamins; I worried about the test. But more than anything I tried to understand what happened at Hatchland, which was nothing in general and everything in particular. I pondered on that. After much


wide-eyed soul searching I render the following account, not exactly stream-of consciousness but its as close as I get at one in the morning. And not because you want to hear it but rather because you must.

TO WIT: GCRG has undergone a transformation almost impossible to describe within the boundaries of a printed page. I will work on getting you started. After that you're on yer own. Hang on. Here goes.

Hundreds made the crossing, and did not worry the journey. Call that scripture. Compare it to a folk music festival where Katie Lee would sing, and did. Visualize a snowstorm in freezing cold and, as usual, howling winds, not seriously considered until the kitchen flew off one more time. And somewhere in all the commotion those people so manifested later went away with more than the sum parts previously gathered. If that sounds like a joke, its not. Regard it as communion, everybody's innards working together. Make it fresh pizza dough rising in a proper Dutch oven. And say dinner was served on Sunday. Bill Beer, the last swimmer on stage, told us like it was. And is: *You are a very powerful organization. Do not underestimate yourselves.* That is a real mouthful, even from Beer, someone who understands his own language. Nobody missed the point. There wasn't a dry eye in the house. That's the story from GTS.

Here's the rest of it. Remember when you were young and had a superspecial place you went every day after school? Remember how you crawled in there and imagined what you'd be when you grew up and then Mom made dinner and you slept 'til morning? Really cool. The best bread and butter ever, a picnic enjoyed in thick honeysuckle vines, the one place you and your chums could plan bank robberies, or talk deep-down guts-and-gravel soul, man. That was you back then. Bigtime. And that's the message this round. When you were a kid, you were a boatman.

Here comes another one. We need a clubhouse. Really, really bad we need that. Just like before. Heck, yes! Like when you shared your secrets with the world through ga-ga eyes and threw-out what you'd learned to everybody because that was the one thing that made your heart pound and moved your blood best? Damned straight. And I am not kidding when I say there's a bunch of people pounding on the door right now. They want in. Whether its Friday Night Live And In Your Face, or not. They don't care. And who does? There's room for all. We're in it together, right?

Right. The end. 

Shane Murphy

Whew! (The 1995 GTS)



Rob Arnberger tells it like it is



...And it snowed



Martha and her beans

Well, the 1995 Guides Training Seminar is over, and if you weren't there, you missed a great time. It was our biggest ever, with lots of cool people showing up. No, Barry Goldwater didn't make it. (But he did make it to Flagstaff before the weather turned his plane back ... maybe next time.) Yes, Bill Beer, Kent Frost, Don Harris, Vaughn Short, Katie Lee, Les Jones, Fred Burke, and Buzz Belknap (to name a few) did make it.

Lessee... just what did happen? The weather was looking pretty bad, so we asked nicely, with sugar on top, and the folks over at Hatchland said we could use the warehouse for the whole time. That made it a lot easier; we put the kitchen up in the shelter of the big building, and hung out inside when it turned nasty. Which it did continuously. It was cold. It snowed. It rained. It blew. And we had a great time. On Friday afternoon, during the "Current Issues Seminar", Mark Law talked about proposed changes to the '95 COR. Marlene and other health department folks told us about diseases on the river and how to avoid getting them. The Coast Guard told us about their regulations and licensing for guides—you gotta hand it to them for even showing up, with a hundred guides staring them down. Gordy Lind and the folks from Reclamation were there too, to fill us in on the FEIS for Glen Canyon. After dinner we held our Spring GCRG meeting, nominated some possible board members and a VP,

and then settled down to watch

Don Briggs' *River Runners of the Grand Canyon* video. Kegs were tapped and drained, everyone partied, and a roaring good time it was had.

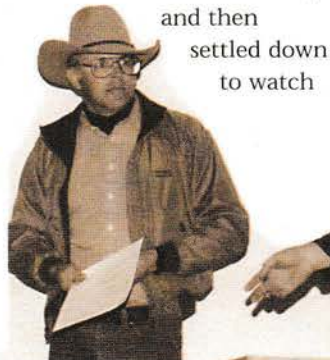
Saturday kicked off the GTS proper. We had a bunch of really good talks by Rob Arnberger and other park service folks and then moved on to Roy Webb and Karen Underhill, Bob Webb, Larry Stevens, Joan Staveley, Sandy Reiff, Helen Fairley, Bob Euler and Paul Martin. After dinner Don Harris narrated his movie of the 1939 Bert Loper trip, and then we heard stories from Kent Frost, Fred and Carol Burke, Buzz Belknap, Lois Jotter Cutter, Les Jones, Harvey Butchart, Lois Belknap Evans... We counted over 200 people that night. Sure looked like it. The place was packed.

On Sunday, we heard from Dave Wegner, Jack Schmidt (and his million overheads), Don Baars, Ted Melis, Bill Phillips, Kim Crumbo and George Billingsley. Bill Beer narrated *We Swam the Grand Canyon*, the movie, which was a riot. Katie Lee narrated an old film of a Georgie Glen Canyon trip. After dinner, we hung out to hear stories by John Cross, Sr. incredible songs by Katie Lee and poetry and a slide show of mule packing with Ken Sleight by Vaughn Short. 10:30 p.m. and everyone was still wide awake and listening. Good stuff.

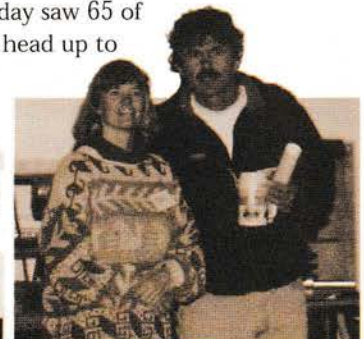
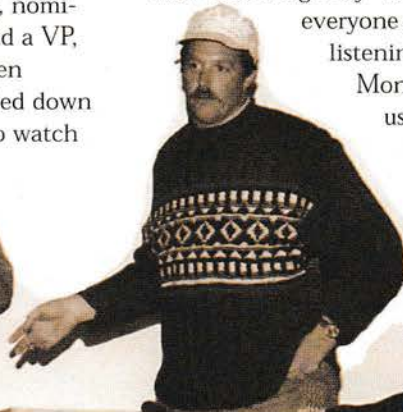
Monday saw 65 of us head up to



Billy makes his point



Tex Law and Garrett discuss river traffic remodeling



Jeri & Andre look on



I'm not buyin' it!...



...gentlemen ... Gentlemen...!!



...that's bullshit—bullshit, I say...

float Glen Canyon from the dam to Lees, courtesy of WRA. The weather was gorgeous. Bill Leibfried and Dave Harpman from BuRec talked about the new preferred alternative, Kent Frost told us some jokes and Vaughn Short gave us a poetic alternative to the management of Glen Canyon Dam. It's a pretty little stretch of river. You should try it some time.

So there you have it in a nutshell: the 1995 land-based GTS. But not quite. There are some people without whom this thing would have been a real nightmare.

Thanks especially to Ted Hatch, Patty Ellwanger and the folks over at Hatchland, who graciously lent us their warehouse and grounds for talks and camping and kitchen space. Don't think we broke anything this time. Martha and her energetic and ever-changing team of wizards fired-up some damn good food, and to *Late For The Train* for donating 5 pounds of the best coffee we ever choked down. We got most of the kitchen equipment from Regan over at OARS/Grand Canyon Dories, and some from AzRA, Expeditions and OU. Thanks, you guys. Thanks also to ARR for the toilets, to the NPS for all the AV equipment and to CanX for the rig truck to haul it all around in. Jeri, Hollis and their team stayed glued faithfully to the registration and sales tables. Lew, thanks for masterminding the sound system, Bert and Paul for helping collect gear and set it all up. And thanks to everyone who came to listen, hang out, help out and just be there.

It was one hellofa good time.



...and then the one guy said to the other guy...



Grand Canyon by foot meets Canyonlands by foot:
Harvey Butchart and Kent Frost



Dugald does Don



Christa and Andre



Wesley lookin' good



Bill Beer and Brad

photos: dave edwards

Changes A-Comin'

Grand Canyon's New General Management Plan

OK—Here's the scoop: Last year almost 5 million visitors went to Grand Canyon, and it's pretty clear this number is going to increase. Grand Canyon can't handle all those people unless some significant changes are made to take the park into the 21st century. The NPS recently released the Draft General Management Plan, which contains 5 alternative plans for redesigning the park. These range from no action to increased development. A few of us went to the scoping meetings held in Kanab, Tusayan, Flagstaff and Phoenix. It's clear the NPS put a lot of effort into these ideas, and that they have their work cut out for them. The following is a brief summary of Alternative 2, the Park's "proposed action."

Summary of Concepts and Philosophy:

This action focuses on the next 10 to 15 years, and emphasizes the regional context of GCNP. Any proposals for resource preservation or visitor use will take into account environmental effects on the park as well as the region. The most appropriate locations for certain facilities would be considered in a regional context, and developed with the cooperation of adjacent political entities. Existing structures within the park will be adaptively reused or removed. The number of visitors to any one area would be limited based on desired visitor experience for that area and the need to protect the area. Most of the park's developed areas would be accessible only through public transport, hiking or biking, and alternative modes of transportation to private vehicles will be emphasized within the park.

Specifics

GRAND CANYON VILLAGE

The changes to this area would include building a gateway/information center at Tusayan, as a mandatory stop for all park visitors, and an orientation/transit center near the rim at Mather Point. This center will be the primary place for people to learn what there is to do at the canyon (it will include an outdoor plaza, parkwide information desk, backcountry permitting station, lodging information, phones). A "well-screened" parking lot for 1, 225 private vehicles and 60 tour buses will be built near this.

The main village, and the road from Mather to the village, will be accessible only by shuttle, bike or walking. New road sections would be built away from the rim so any private vehicles could avoid the section between Mather and the village. West Rim Drive will be

year-round public transit only. Bikes will be permitted on all roads. An off-road bike trail system will be created to link Hermit's Rest and Desert View. Some road sections at Mather Point, Desert View and Hopi Overlook will be converted solely to bike paths. A few overlooks will be added along the East Rim for bike and pedestrian use only. The pedestrian rim trail system would be expanded. Interpretive facilities will be concentrated in the Powerhouse area of the historic village, and will be housed in converted historic structures. These facilities will include: an education center, a children's museum, artist in the park facility, American Indian cultural facility, film and theater space, and Grand Canyon Field Institute classrooms.

All visitor services will be concentrated in the historic village, with services not relating to visitors relocated away from the village. Gift shops will be reduced in number, and sale items will be changed to reflect the type of things that were historically sold. Hermit's Rest and Lookout Studio will be returned to their original historic functions and characteristics.

The Kachina and Thunderbird lodges will be removed and the area converted into outdoor seating, dining and program space, and revegetated. New rooms will be added at Yavapai West, and some historic buildings will be converted to lower priced visitor lodging. The total number of rooms added at the village area will be about 240.

DESERT VIEW

A bypass will be constructed on Highway 64 around Desert View to eliminate traffic in the developed areas. The present road would become a spur road and bike trail. A new entrance station will be put in to the east and the old one removed and revegetated.

An orientation/transit center will be built away from the rim, which will serve as the main hub for the east rim area. Most visitor services will be moved further away from the rim. Desert View Watchtower will be returned to its original character and function, with some interpretive exhibits. The Trading Post will be moved southeast of Babbitt's Store. The camping area would be increased from 50 to 100 sites in the area where previously existing campground facilities are.

NORTH RIM

Gateway information at Jacob Lake would be expanded to include more parking and restrooms, information and trip planning, backcountry permits, small-scale interpretive exhibits, lodging and camping check-in and phone connections for lodging and

camping reservations.

Visitors would be encouraged to use a new public transit system for the Walhalla Plateau and required to use it for Bright Angel Point. Overnight visitors will receive a pass to drive their own cars. Hiking and biking will be encouraged. Vehicles longer than 22' would be disallowed. A bike trail would be developed to link CC Hill, Bright Angel Point and all overlooks on the Walhalla Plateau. About 10 miles of rim hiking trail would be constructed, linking Vista Encantadora and Point Imperial, and another to link CC Hill, GC Lodge and the Transept Trail. A few short sections of mule-use trail would be added to connect the mule staging area to the North Kaibab Trailhead and the Uncle Jim Trail.

A small orientation center would be built on CC Hill. It will blend into the landscape and provide an information desk, book sales, backcountry permitting station, mule ride/tour bus info, outdoor seating, picnic areas, restrooms. A parking lot will be built there, and the parking lot at the North Kaibab Trailhead will be removed and revegetated.

All lodging services will remain and approximately 20 historic frame cabins will be converted from employee housing to visitor housing. Some cabins will be razed and the area revegetated. The campground will be redesigned and revegetated. The number of campsites may decrease.

The existing gas station will be adaptively reused for a bike rental shop. Picnic sites will be added near the North Kaibab Trailhead, and redesigned elsewhere.

Off-season, the USFS and the NPS will provide a system of winter huts outside the park for skiers. Within the park, a few portable huts would be located at prime overlooks and other areas accessible to skiers.

TUWEEP

All access roads will remain unpaved. Vehicle size will be limited to 22' in length. The parking lot at Toroweap Overlook will be removed and the area revegetated. A new lot will be provided at the entry to the Saddle Horse Canyon Trail. The existing road from the proposed parking area would be converted to a pedestrian trail, and a new loop trail would be built from the west side of the new parking lot to connect the Saddle Horse Canyon Trail and Toroweap Overlook.

A camping reservation system could be established for the Tuweep Campground during high use season. The two campsites at Toroweap Overlook would be removed, and replacement sites provided at the existing campground.

CORRIDOR TRAILS

Sections of existing trails would be hardened with a

natural material that blends in with the environment, and provides good traction. Some trails would be rehabilitated. Concessioners would be more responsible for corridor trail maintenance. The Hermit and Grandview trails would be suggested as alternatives to the main corridor trails for visitors with experience, but use would not be increased enough to alter their character. Mule use would be reduced to 40-visitor mule trips on the Bright Angel Trail and 20 on the South Kaibab Trail. Mule use and trail impact would be monitored on the North Rim and mule use could be decreased if impact warranted it. The old Bright Angel Trail would be



upgraded for user safety and to take more hikers.

Visitor programs would be provided at Indian Gardens, and a small amphitheater added near the picnic area. The roving interpreter program would be expanded.

Overnight accommodations at Phantom Ranch and Bright Angel Campground may be reduced. Indian Gardens and Cottonwood would remain the same size.

COLORADO RIVER

Not much in here about the river. But quite a bit about wilderness: "...All actions proposed in this document, and all future implementation plans based on it (such as the *Backcountry Management Plan*, the *Colorado River Management Plan*, and the *Fire Management Plan*), will be consistent with NPS wilderness policy requirements." As regards wilderness and the river, "...A wilderness experience will be provided on the river, and the nonconforming use of motorboats and generators will be among the subjects addressed in the updated plan..."

That's the general picture. The comment period is already over, but we felt you should know about some of the changes that might be coming to the park. Might be a pretty different place in another 10 years. Grand Canyon River Guides has sent comments to the park. We'll keep you posted.

Christa Sadler

The 10% Solution

The first day of my EMT class, the instructor wrote on the blackboard in big block letters, "DO NO HARM."

What did he think we were, retarded? What a dork! Let's get on with the important stuff, I thought. What I didn't realize at the time was, that was the most important thing he would teach us.

It took me a long time to really get what he meant. My first inkling came when I found a car that had run off the road into a tree one night and I stopped to see if I could help. The driver, unseatbelted, was just coming around after hitting the windshield. He'd hit hard. As I stabilized his spine, another motorist stopped to help. Having watched too many detective shows on TV—you know, where the car explodes before it hits the bottom of the ravine—he ran over, yelling, "she's gonna blow!" Now, I believe in saving my own carcass first, but the car really was *not* in any danger of exploding.

But it panicked my formerly compliant patient to the point that I could neither calm nor restrain him, and the

"helpful" motorist literally dragged the victim out of the car and my cervical precautions out of the window. When the ambulance arrived and immobilized the patient on a backboard he could still wiggle his toes so it probably didn't matter. The car, of course, never exploded.

It's an easy enough mistake to make, though. In our rush to "help" we can easily do more harm than good if we don't stop to think. The problem is, when the unexpected happens, it's entirely human to spaz. It happens now and then even to seasoned medics who see carnage on a regular basis. It's more likely for us—we can go years without having to deal with a medical emergency more dire than a stubbed toe.

Much of our first aid training seems like it teaches us what *not* to do more than what to do. A case in point is the simple procedure of washing a wound. In my EMT class such things were never mentioned. According to EMT protocols, deep wounds shouldn't be cleaned in the field—only covered with a sterile dressing. Obviously, such urban protocols are inappropriate on river trips. In this instance, Advanced First Aid classes through the Red Cross provide training superior to that of an EMT, as they usually teach students how to cleanse a wound.

It's easy to develop tunnel vision towards the first aid box when blood starts flowing. Sure, there's some useful stuff in there, but to irrigate a wound, you might be better off leaving the first aid box shut. The best solution to irrigate with is flowing by in thousands of feet per second: water. Filtered or otherwise treated, used in vast quantities, water is the best way to clean a wound.

Some companies provide betadine, but it's mostly bottled in 10% solution which is way too strong for irrigating a wound. Although the label brags that it is "recommended by doctors and hospitals, it contains iodine, and iodine is toxic to deep tissue. The last thing you want to do is destroy more flesh.

If used, Betadine should be diluted with at least 10 parts water or saline solution, approximating the color of tea. Then you can irrigate like crazy. If you don't have betadine, clean water or saline will work just as well, if not better.

At the risk of sounding like a dork myself, the first thing that runs through my mind in a medical emergency remains, "Do no harm."

Jeri Ledbetter



Bureau of Wilderness

It just kept on coming. Every year in Grand Canyon there were new rules, new regs, coming from everywhere—the NPS, the outfitters, insurance companies, the health department, and then the Coast Guard. “You can’t do this any more, you can’t do that.” The tighter things got, the tighter they got. And then things got even tighter. When we’d ask why, it would be. “It’s the law.” “It’s the ‘90s,” “That’s just not good enough any more,” “Wake up, boat-head, things are changing.”

As if, somehow, things really had inevitably and irreversibly changed. As if you could go on making new rules forever, outlawing more and more frivolity and common sense. As people are more and more protected from themselves, from each other, from the environment, from spontaneity and from anything that could remotely be construed as fuel for a lawsuit, the experience in Grand Canyon and elsewhere has suffered.

Now, I may not have been as wild as a lot of folks back twenty years ago but I tried. I pushed my share of limits and broke a lot of fun meters. And a lot of that’s not allowed anymore. It’s the ‘90s. Where will it all stop? What straw will break the camel’s back? Will society become so restricted and regulated, so pent up and repressed and frustrated that one day there’ll just be a big *kablooie* and society as we know it will fly into bits? Or will we finally be broken by bureaucracy, will the nation actually become one giant, docile and phenomenally boring herd of sheep? Must it be baa or bang?

I was talking to Superintendent Rob Arnberger at the GTS and I said “I wouldn’t mind the constant barrage of regulation if just, now and then, we could reset it back to zero and start over. Like one of those magic slate writing pads.” Rob said “You don’t get it, do you? You river guides just don’t get it. This is the Pile-on test. You think your so hot running all those rapids, but the real test is how many regulations it takes to break you. We’ll just keep piling them on until you snap.”

He was kidding, but I think a lot of people haven’t been.

A few days later, I was floating down the river with Kim Crumbo. I think I was complaining about some of the new regs in the first draft of the ‘95 COR. I was saying something like, “Fer Chrissake, I mean, you have to accept certain inherent risks when you go on a river trip. I mean, people swim through rapids under my boat. People fall off cliffs. Rocks fall on their heads. Snakes and spiders and scorpions and ants bite their little toes. You risk life and limb when you go outdoors. And they want me to glove up before I set out lunch? Where the hell is the perspective here?”

Crumbo looked at me for a while and he said, “Wilderness.”

“The Colorado River through Grand Canyon is “Proposed Wilderness,” he went on. “Proposed” means that historic non wilderness activities like motor boats may continue to exist until the area is either designated wilderness or removed from the “Proposed” status. And the “Proposed” status has no time limit on it. But in all other facets, it has to be managed for wilderness values.


Park Service law requires us to preserve and protect the parklands for the visitor experience, but there’s nothing to say *what* that experience is. You can be on a paved, fenced trail or inside a Plexiglas gondola for that matter. The Wilderness Act, Crumbo explained, is the only law that *defines* the experience. It’s supposed to be a primeval experience. It says that. In touch with nature. That implies that you are also vulnerable to the whims of the universe. That’s part of wilderness. Something might happen to you out there—that’s part of it. Not that we have *carte blanche* to put people at risk—just that there will always be *some* risk. By trying too damned hard to eliminate *all* risk you lose the wilderness. And when an area is Proposed Wilderness, you are required by law to manage for that type of experience. It’s the law.

Wow.

It took a while for that to click in. Meanwhile, back at the GCRG office a piece of paper from Bill Clinton belched out of the fax machine. The Regulatory Reinvention Initiative [See Page 20] It said there’s too many stupid, counterproductive regulations out there and it’s time to clean house. Re-evaluate. Simplify. It’s the law. Bill said so. So did Newt. Wow again.

Maybe it’s time, we thought. Wilderness Values. Regulatory Reinvention. It’s the law. Jeri and Lew went up to the River Constituency Panel meeting loaded for bear. Ready to declare war on over-regulation and strive for a wilderness ethic in river management. But Arnberger beat them to the punch. “No new regs this year,” he said. “And for next year you’re going to help figure out what’s important and what works down there.” “Yeah,” said Jeri. “What he said,” added Lew.

Newt and Bill may have their shortcomings—hey, they’re politicians. And Regulatory Reinvention could backfire in a big way if abused. But for Grand Canyon, *now* is the time. We’ve got a legal mandate and a Superintendent that’s willing to take the bull by the horns. Maybe, just maybe, we can, all together, turn the bureaucratic tide back toward a wilderness experience. Maybe Grand Canyon can be managed for what it is—one of the greatest wild places left.

Maybe we passed the pile-on test. 

Brad Dimock

In 1975

A *Prairie Home Companion* hit the airwaves. Harvard scientists created the first artificial gene. The Viet Nam War ended.

Nixon had resigned by then. Feature Gerald Ford and Nelson Rockefeller in the White House, one picture in a remarkably photographic year. Visit any library. Seek out these things. You will find many faces not mentioned here, and other facts. Always not expected. So runs the journey.

At the time, computers were about to become commonplace; almost until right now they had taken up vast amounts of space and were programmed, individually, with the aid of flowcharts fed into them via punch-cards. More photos: the Superdome was dedicated on August 1st. "Moon missions" were over; now it was Skylab and the Apollo-Soyuz docking; Viking 1 headed for Mars. Think about that. Think about this: Little Stevie Wonder's musical career being 12 years young in 1975. If that doesn't work try the Rolling Stones: *Exile On Main Street*, and in particular, "Sweet Virginia." Women, granted admission to military academies, immediately found themselves sanctioned by advertisers as capable of buying big ticket items, like cars and homes, all by themselves. Wow.

It was the biggest box office year thus far in history. Among the offerings came *Jaws*, *Godfather II* and, with startling eroticism, *Emmanuelle* and *Story of O*.

Discotheques were the rage, the place to flash dance, so called because of the lighting, and to snort cocaine. Which Jimmy Hoffa never collected on; Jimmy "...took a long walk off a short pier." More good news. Dillard won a Pulitzer for *Pilgrim at Tinker Creek*, literacy requirements were abolished for voting rights, and Karen Anne Quinlin breathed on her own.

On what was called 'the down side' a doctor's strike hit New York—see *The New Yorker* on that one—and a bomb thundered through LaGuardia's main terminal; 11 dead and 70 hurting was what Paul Harvey said. Exxon Corporation replaced General Motors as the nation's, not the world's, biggest money maker [see: *bqr 7:4*][& 8:1]. No kidding. Ten of Fortune's top 20 companies manufactured oil and gasoline; a severe fuel shortage had parked cars in long gas station lines the summer before. Euell Gibbons, the guru of a new, supposedly healthy breakfast cereal, granola, died. So did Casey Stengel. And "Cannonball" Atterly. And Thornton Wilder. Turn the page.

1975 reveals Grand Canyon as heretofore unknown. The Enlargement Act made it bigger. Most of South Rim Village was declared an historic district. None of this mattered. By now everything had changed. Everything. Immediately gone were 4,500,000,000 years of the past.



Various charts show this clearly. River temperature, for instance, is demonstrated to stabilize behind Glen Canyon Dam at between 7°C and 12°C. The same chart presents yearly predam temperatures with a range between 2°C and 25°C. A separate diagram shows the Colorado's seasonal fluctuations at times cold and wild and raging in flood; and then, later in the year, the water turning warm and wanting and, after that, to nothing at all. But now, because of Glen Canyon Dam, the river duplicated its yearly hydrograph daily, but on a much reduced level, with the Colorado's main nutrient, silt, trapped behind the dam. And so the beaches were going.

Recreational whitewater use absolutely exploded between 1966 and 1975. In those 10 years 85,148 recorded users took to the Colorado; for more than a century of prior use only 3000 individuals had done so. In straight numbers, that is an increase of 2800%! Speaking of JW Powell, human impacts, and resource management, the ciphers meant that what used to take one hundred years now required less than 24-hours. Now it could be done in minutes.


Use limitations, user days, had been structured to mirror 1972 levels, by NPS, in 1973. That put the skids on commercial development and private access. The movie *Deliverance*, also a product of 1973, always gets the credit for inspiring the tremendous interest in white-water boating during the decade. Don't believe it. Before anybody even got to a theater NPS had frozen use on the Colorado.

You packed it in—You pack it out was a good idea whose time had not yet come, at least not for most 'river people': "...containerized waste should be carried, by boat if necessary, to an area not normally used for camping.[!] Waste shall not be buried in such areas as the Ledges, Mile 152-3. Burial shall be in a hole at least 2 feet deep, 6 feet above the normal high river fluctuation, at least 50 feet from the river bank and at least 200 feet from any area normally used for camping. It is recommended that toilet paper be kept separate and burned in the burial hole prior to dumping the toilet. During the day, (whenever the toilet is not set up) toilet paper should be carried back to the raft and placed with other refuse..."

That generous offering from the COR, 9 pages total, with a Supplement to [Sec VI] "TRIP NOTIFICATION: PASSENGER-DAY COMPUTATIONS: The outfitter will provide as much advance notice as possible of scheduled and charter trip launch dates. This is particularly important if Monday launches are desired in light of the popularity of Monday launches and the 150-day-a-day launch limit." Less is more.

Yep. In our living memories, these are the good old days. You could dump the ashes from your new fire pan in the main current, if you could find wood to make a

fire; there was not much of it left near campsites. Hatch and Western were the biggest companies. Georgie, *the motorhead*—you can argue motors if you want and a lot of people did at the time—pulled over in an eddy, quite possibly because she desired just that. Otherwise, enterprise was the word. As early as 1970 Gay Staveley had hauled his big boats inflated. The "butterfly boat" was first, four long tubes folded up and over each other, longitudinally, and tied semi inflated on the first of his homemade trailers, towed behind #1 Truck, a Ford F-500 that was brand new back then. The boat didn't work. Off came the outriggers; they were rolled, tied, and grunted into the truckbed at Pierce's Ferry, with a stop at Frenchy's for breakfast, later, after everybody dug the trailer out of the mud... Sorry; I got turned around on that one.

Private boaters didn't fare well in the transition to allocated use. They were not there when the deal went down. The numbers show this well. They also indicate that not every private boater could go in 1975, or any year thereafter. But that is another story. 

Shane Murhpy

For Bill, in his kayak

Teasing the current, dancing in spray
a river otter man-child
is at play
in the dawn,

and the cool canyon walls at sunrise
are echoing laughter, and the light
from his laughing blue eyes
paints the Utah sky
in the color of day.

Mine was a heart so sandwashed and windblown
it lay still and cold
as Desolation sandstone
on a moonless night,

when in a calm eddy of water,
with a slap of his tail and an Eskimo roll,
an imp, a pixie, a blue-eyed man-otter

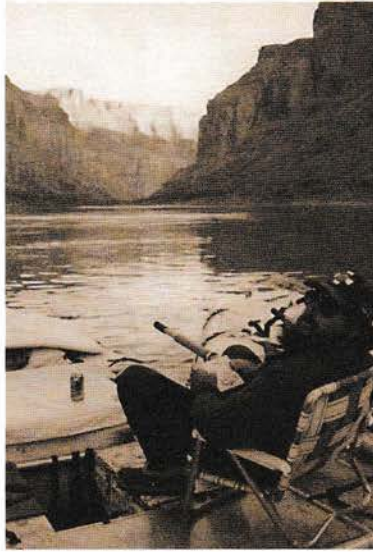
gives me a smile that rises the sun.

—Suzanne Motsinger Berman, 1992

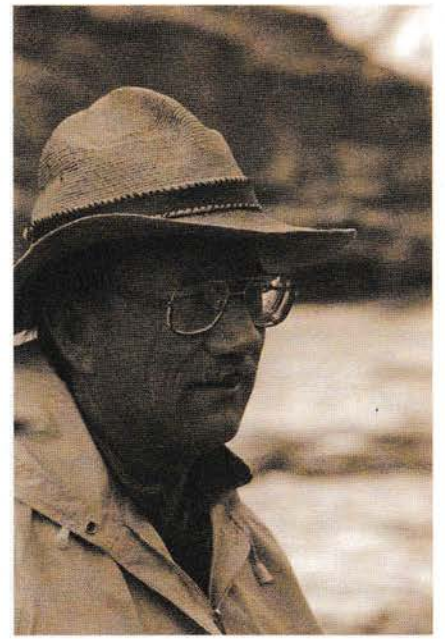
GTS River Trip



Matt Kaplinski on continental collisions



David Desrosiers hard at work



Chief of Resources, Dave Haskell



Telling of tall tales

Once again, the Guides Training Trip was an incredible learning and growing experience for all involved. We launched on a miserably cold morning with ten rowing rafts, two dories and a slew of guides old and new, trainees, interpreters and Park Service staff. Speakers included Larry Stevens, (Omnologist), Randy Scott, (Botanist), Matt Kaplinski (Geologist), Roger Henderson (Navajo Ethnology), Kim Crumbo (Resources), Terry Samples (Archaeologist), Kenton Grua (Geology and History), Dennis Silva (Plants and Blues Improvisation), Wesley Smith (Native American stuff), Brad Dimock (Enthusiastic arm-waving), and more. And there were guest appearances by Bill Masslich, Tim Hoffnagle, and Mike Yard, all speaking on native fish.

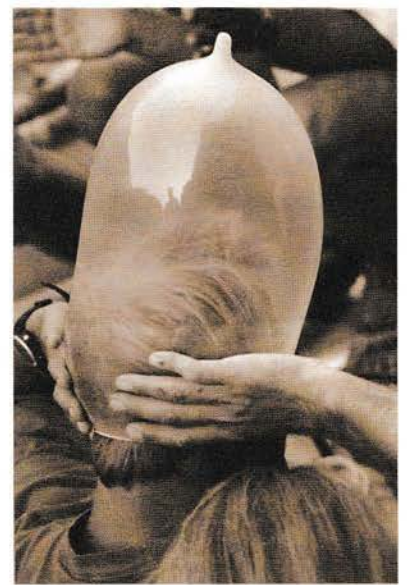
Park personnel included Steve Bone, Chief Ranger; Ellis Richard,



Why we're all here



Larry Stevens on big picture ecological change



Jeff Pyle on safe boating in the '90s



A morning fish story

crews were expertly arranged by Mack Rivers and the entire conflagration was masterminded by the effervescent Martha Clark.

There were quite a few walks, talks, demonstrations and discussions, each lending something undefinable yet essential to the whole. But there was also more than a week of living, eating, boating and camping together in the world's coolest trench, which broadens and deepens the communication between Guides and the NPS, between old and young

Chief of Interpretation and Dave Haskell, Chief of Resource Management; as well as David Desrosiers, River Patrol and a special guest appearance by Mark Law, River District Ranger. Food and cook



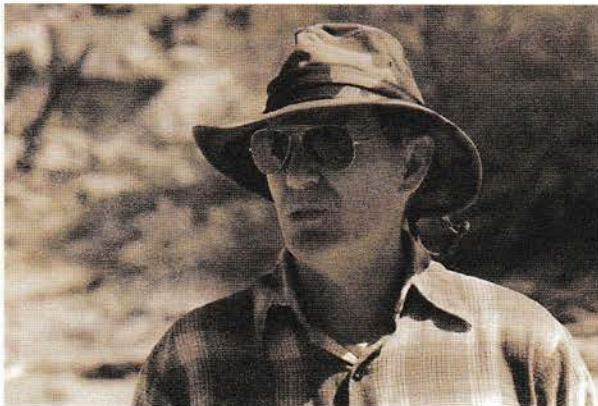
Martha, after a long week



A good time was had by all

guides, between guides from all companies and most importantly, between the Canyon and all of us.

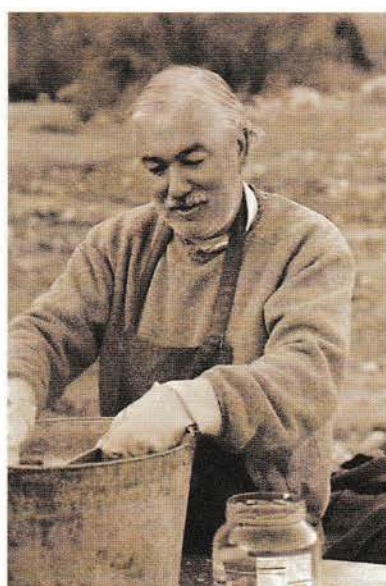
To know is to love, and to learn how to work in concert, to learn and convey knowledge of this place, is one of the most important things we can be doing. If you haven't been on a GTS trip yet, get on one. But until then, pay attention to those on your crew who have been, and make sure the knowledge continues to spread. See you next year, eh?



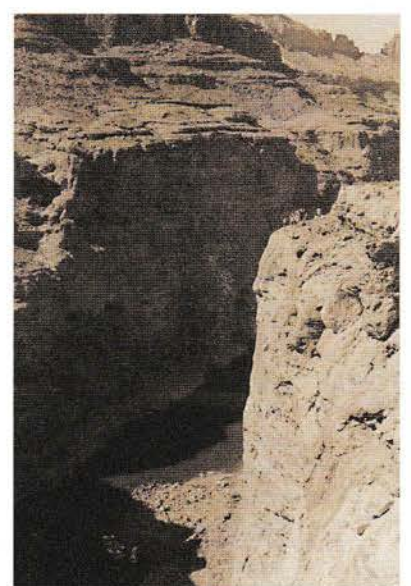
Chief Ranger Steve Bone "...I'm very impressed."



Lora Colten fiddling the night away



Chief of Interpretation, Ellis Richard



High on the Redwall

So, How's the Water?

This was an often asked question over the past three years as many of you encountered myself and other NPS folks collecting and processing water samples (we were the ones sitting at the little blue table in the shade) along the river. At the time, we could not provide a whole lot of information because samples had to be sent to an outside lab or incubated for bacteria. Plus, it is difficult to make significant conclusions about a tributary's water quality from a single sample. Now that we have about three years of data collected, we finally can make some sense (not much, but a little) of it all.

Before I go any further, I want to state upfront that water quality data is difficult to interpret with a lot of confidence because of the high variability of the medium you are sampling. Water quality changes continually as subtle shifts in discharge (or flow) and turbidity (cloudiness) change. Also, sampling itself can be difficult to do in an accurate manner as one pool or riffle could have differing concentrations than another in the same stream, especially when it comes to bacteria. Keep that in mind as you read this. We did our best to sample as accurately as possible; but its the nature of water, as a fluid medium, to be difficult to draw statistically valid conclusions. That's why I went back to being a botanist.

The reason we were out sampling was for a study titled *An Intensive Reconnaissance Sampling of Grand Canyon Tributaries* which was funded by the NPS Water Resources division, the State of Arizona Dept. of Environmental Quality (DEQ) and Grand Canyon National Park. Since so much information was being collected on the mainstem Colorado for GCES, I wanted to inventory the water quality characteristics of as many tributaries as possible.

Other studies have been done in the past on Grand Canyon's tributaries, mostly in conjunction with studies where the main focus was the Colorado River. If you've read any of those studies, such as those done in the late '70s and early '80s, you may not be surprised by the conclusions of this most recent effort. What stands out about this study is that instead of a one or two shot sample, tributaries were sampled on a seasonal basis over three years to determine if water quality characteristics varied by season or by change in discharge. The major "core" tributaries (Tapeats, Kanab, Havasu, Vasey's, Bright Angel, Paria, Little Colorado (LCR), Nankoweap, Lava Chuar, Hermit, Crystal, Shinumo, Royal Arch, National and Spring Canyon) were sampled at least eight or nine separate times from the spring of 1992 through the fall of 1994. Other tributaries in the study were: Matkatamiba, Warm (Lava) Springs, Three Springs, Stone, Monument, Clear, Deer, Saddle and

Kwagunt creeks and the infamous Pumpkin Springs.

So, anyway, how is the water??? Well, here's a bit of a summary of what we found. You'll have to plod through the final report for the rest. That report is available through the Resources Management division at Grand Canyon. It was also sent to all commercial river companies.

Basically, Grand Canyon's tributaries all have the same following characteristics: hardness, high alkalinities (or buffering capacity), pHs around 8.5 (except for some of the warmer springs where pH is around 7.5) and dissolved oxygen levels in the range of healthy streams.

Chemically, the tributaries can be broken into two categories: those with high amounts of total dissolved solids and those with low amounts of total dissolved solids. Unlike total suspended solids which are what cause high turbidity during flood events, total dissolved solids (or TDS) represent the total amount of dissolved chemicals, minerals and trace metals in waters. TDS is not just limited to calcium, magnesium, sodium and chloride. A clear stream can still have high TDS if it passes through the right rock layers or if other impacts like mine tailings or pesticide use are occurring. TDS is important to mention here because a high value in a stream tells you that there is more of a possibility of health problems (such as the runs or stomach problems) with these streams. These levels may be entirely natural, but can still cause problems and cannot usually be filtered out because of the tiny nature of the elements involved.

It's probably not too surprising that the streams found with low TDS included Vasey's, Thunder River, Shinumo, Tapeats, Deer, Bright Angel, Saddle, Clear and Stone Creeks, all emerging from the Redwall or Muav limestones off the North Rim. What may be of interest, is that TDS levels did not vary much by discharge or season in these streams even though the larger tributaries fluctuated widely due to spring runoff.

Those streams with high TDS emerged from the lower carbonate strata: LCR, National, Kanab, Matkatamiba, Crystal, Warm Springs, Havasu, Spring Canyon, Kwagunt, Royal Arch, Hermit, Three Springs and Nankoweap creeks (listed roughly in order of decreasing TDS). Of course, the LCR and Havasu make sense: high sodium chloride. The two most interesting components found in most of these streams were arsenic and sulfate. Arsenic levels were especially high in Crystal Creek which exceeded state health standards three out of eight times (and came close the other times). Others that were high in arsenic included: LCR, Kanab, Warm Springs, Havasu, Hermit and Spring Canyon Creeks. Currently, the thought is that these levels are most likely natural.

Other interesting components found in these tributaries included chromium, zinc, nickel and copper. Kanab Creek exhibited the highest levels of these, especially in flood stage. The LCR would probably have high levels as well, but we were never able to sample at flood stage during the study. Sulfate was found to be high in National, Kanab, Nankoweap, Kwagunt, Royal Arch and Spring Canyon Creeks. Although no health standards exist for sulfate, high concentrations can cause "the runs" in some folks. As with the low TDS streams, fluctuations in concentrations did not appear to be related to flow levels or seasons.

Radionuclide (radioactive element) levels were sampled at a selection of tributaries on a less frequent basis. Gross alpha/beta (a good first cut analysis) concentrations were determined for all of the tributaries already mentioned except for Matkatamiba, Warm Springs, Stone, Monument, Clear, Deer, Kwagunt and Saddle. Some radioisotope and total uranium data were collected for the LCR, Havasu, Kanab and Pumpkin Springs. The only tributaries where radionuclides were found to be above the natural range were Hermit, Paria and Lava Chuar. Kanab Creek had the highest concentrations (well above health standards) during flood stage. Keep in mind, that it can be difficult to obtain accurate measurements for radionuclides because of the analyses used, but this information can at least give an idea of where these components occur at higher concentrations on a regular basis.

And, of course, there are real 'weird chemicals' waters. You know them when you see them: the Paria River, Lava Chuar Creek and Pumpkin Springs. The Paria always seems to be turbid and can have high levels of arsenic, chromium, lead, cadmium, nickel, beryllium and gross alpha/beta radionuclides. It's even worse at higher flows when health standards were exceeded—for all the above— during the sampling period. The Paria drains such a large area that it's hard to point a finger at the source of these constituents without intensive sampling further upstream. The source could be entirely natural, though, considering that it flows through the Chinle formation. Lava Chuar, which passes through precambrian and volcanic layers, also showed high concentrations of arsenic, chromium, lead, zinc, copper, nickel and sodium chloride. And then there's Pumpkin Springs, probably the only truly dangerous water we have in Grand Canyon. Arsenic levels at Pumpkin Springs were 1100 milligrams/liter in one sample (the state health standard is 50 milligrams/liter). This is not healthy. Pumpkin was also found to have high levels of zinc, but not high levels of total uranium. You probably know that arsenic in large amounts is extremely toxic. This is the only water in Grand Canyon where NPS advises no entry. It might be a good idea to take that advice to heart.

Last, but not least, is the bacteria part of the study. This work was not designed to find the pathogen responsible for last summer's illness. That will be studied intensively this summer by Coconino County. The bacteria portion of the study sampled for fecal coliform, which is the bacteria most correlated with human contamination, and fecal streptococcus (strep.), which is more correlated with wildlife contamination.

Conclusions can be split into two separate categories: 1) tributaries that showed high bacteria during periods of high turbidity and/or discharge, and, 2) tributaries that showed high bacteria during periods of low turbidity and/or discharge.

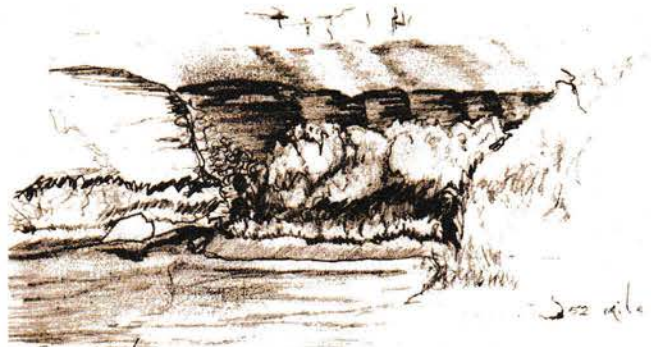
In the first category we find the LCR, Tapeats, Havasu, Kanab, Saddle, Deer, Kwagunt and Nankoweap Creeks. Of note, neither the LCR nor Havasu produced high concentrations of either Fecal coliform or strep. bacteria over the eight times they were sampled. Concentrations did increase during higher turbidity, but no results came close to health standard exceedances. Again, this would probably change under a major flood. Tapeats Creek was probably the cleanest of all tributaries with very little bacteria, except once during a fall flash flood when concentrations most likely exceeded health standards. One can assume the bacteria was harbored in streamside sediments from past upstream recreational use. Kanab and Saddle creeks exhibited this same pattern of high fecal coliform during turbid or flood events.

The tributaries falling under category 2 were Bright Angel and Shinumo creeks. Both streams experienced high recreational use at the time of sampling but did not have high turbidity (possibly due to bigger flows and high velocity waters to flush out suspended sediments), yet exhibited high fecal coliform concentrations. When turbidity was high, though, fecal strep. tended to be higher meaning wildlife bacterial concentrations were being captured in surface run-off while no recreational use because of dangerous velocities (during spring run-off primarily) took place.

In the case of Deer Creek, high clarity occurred moments before swimming or extensive wading. These activities quickly caused turbidity with sediments tending to settle approximately one hour after no use. During the high turbidity episodes, bacteria concentrations skyrocketed. A 24-hour sampling series was completed which showed this pattern of bacteria change. Concentrations dropped to almost zero as the water became clear again.

Other tributaries did not exhibit such distinct patterns in turbidity or discharge. Royal Arch did not exhibit high fecal coliform concentrations, which one would think, but did have high fecal strep. levels. Crystal, Monument, Clear, Spring Canyon, Three Springs, Vasey's, National, Stone and Hermit Creeks all

followed somewhat of a pattern of high fecal strep. levels under most flows and turbidities. Matkatamiba fluctuated between high fecal coliform and high fecal strep. at different samplings with no change in discharge or turbidity. Warm Springs and Lava Chuar never exhibited any type of high bacteria concentrations (but remember that these streams had high TDS).



So, what can one conclude from this study? First of all, it is obvious that Grand Canyon's water quality varies greatly when it comes to bacteria. But the real take home message is that most of the tributaries were found to have bacteria at sometimes high levels at least some of the time. This bacteria may not have been of human origin, but it does not have to be to cause illnesses. Animals can carry pathogens just as well as humans. My personal theory is that any stream exhibiting high fecal strep. characteristics (which was just about all of them at one time or another) may carry giardia as well. Unfortunately due to the sampling requirements necessary, I was not able to sample for giardia.

Secondly, a good portion of Grand Canyon's tributaries contain dissolved elements that, while most likely natural, can still be a problem to some folks who may drink them. These concentrations did not fluctuate as much as bacteria, but no matter how clear the water may be, the dissolved components are always present.

The recommendation that I have made to the National Park Service is that all tributaries should be treated, filtration being the best method. Even tributaries running clear should be filtered because the simple act of filling a water bottle can stir-up the sediments that are obviously the culprit to holding bacteria. Care should be taken during heavy use/water play. Folks should be told to try not to ingest the water; they may want to consider any significant open wounds before entering. Having contracted giardia in the Canyon myself, I can attest that one does not want to experience it, if possible.

I also recommended avoiding any water with high TDS, since these constituents cannot be removed through filtration. If you really must collect water at Warm Springs, for instance, at least let folks know that the high dissolved solids may not sit well with them.

Every person is going to react differently to waters like

Warm Springs and that ingesting bacteria is pretty much a luck of the draw, so some level of awareness needs to be passed on to folks.

What I can say with confidence is that Grand Canyon National Park now has a current baseline of information on the majority of its tributaries which can be used as a basis for a long term monitoring program. Following trends in these tributaries for such a time period as a decade, for instance, will really allow us to understand the range of natural conditions in the tributaries and to pinpoint any unnatural inputs that may be occurring upstream. I have recommended such a program to the NPS and can only hope that such a long term program will be instituted and the enormous amount of data collected for this study won't be filed away to collect dust.

Linda Mazzu

is now working as a botanist and enjoying the rivers in southwestern Oregon

Down the Great Unknown

Since 1989, actor Earl Kingston has taken summer visitors at South Rim Village on an imaginary trip down the Colorado River. After sundown the lights go up in the Shrine of the Ages Auditorium and Kingston takes center stage for his portrayal of John Wesley Powell. For six summers, visitors have settled down to watch and listen while a fascinating character comes to life. In *Down The Great Unknown*, Kingston portrays Powell as a man of enormous energy, intelligence, irascibility, humor and charm. The nineteenth century scientist and adventurer was a man of ideas who was also man of action, and both aspects of the character come to light on stage through Kingston's interpretation.

The one-person play takes its setting from an historic event. The time is 1893, and Powell is preparing to present an address to the International Irrigation Congress. He is dressed in formal attire rather than his river-running garb. During the hour-long performance the audience finds itself not only present with Powell at that conference, where he was shamed from the stage, but also reliving this first expedition down the Colorado in 1869.

Sponsored by Grand Canyon Natural History Association, the National Park Service and Environmental Experiences, *Down The Great Unknown* will run from June 13 to August 26, Tuesday through Saturday evenings.

Carolyn Hunter

The Bug That Changed History

Surprise Valley. July. You're running sweep on the Tapeats/Thunder River/Deer Creek hike. Conversation at the back of the pack is running something like this: "We're surprised all right. We're surprised how hot and dry and stupid it is up here!" Yep, they're suffering from heat frustration, and you're still miles away from the boats at Deer Creek. Resting at the Big Shade Rock, the glum crunching of a granola bar is the only sound. You think: "I need to divert attention away from blistered feet, achy joints, and sunburns. I need a long, entertaining story." Tell them the tale of the cochineal insect, a bug that changed world history.

The cochineal is found in many Colorado River side canyons, appearing on prickly pear cactus pads inside matchhead-sized white fuzzballs. When you find some of these, carefully pull one off. Go ahead and mash it. The brilliant red insect bodies now staining your fingertips have been processed by New World cultures for thousands of years, and used to color everything from warriors' shields to their own bodies. By the 14th century, the Incas and Aztecs both had whole agricultural systems based on cochineal, and apparently valued the dye as much as gold.

At the same time in Europe, the best red colorings were made from another insect, a pest of oak trees called kermes, which was dried, ground up and dissolved in water. Neolithic cave paintings in France, the Dead Sea Scrolls, and the wrappings of Egyptian mummies were all tinted with this dye. Compared to cochineal however, kermes tints look dull and faded. So when Cortes invaded Mexico in 1519, he was amazed to find Montezuma and other nobles dressed in robes dyed a brilliant, vivid red. He was also amazed to see the native women's hands and breasts painted the same intense color. In Tenochtitlan (now Mexico City) he found bags of dried cochineal sent as tribute to Montezuma, which were promptly shipped back to Spain. The dye was so much brighter than kermes it was almost instantly in high demand. By 1600, cochineal was second only to silver as the most valuable import from Mexico.

Around 1630, it was discovered that treating cochineal with an acidic tin solution made it bind much better to fabric and even brighter in color, the first scarlet as we now know it. Because of its expense and scarcity, scarlet cloth quickly became associated with money and power. Roman Catholic Card Cardinals robes were made from it as were the jackets of the British military.

The Revolutionary War in which American colonists fought against these "Redcoats" was brought on not only by British taxes on tea, but also by heavy

taxes on cochineal, which could easily have been imported directly from Mexico by the Colonies.

In addition to dye for fabric, cochineal became widely used as a food coloring. Cakes, cookies, beverages, jam, jelly, ice cream, sausages, pies, dried fish, yogurt, cider, maraschino cherries and tomato products were brightened with it as were chewing gum, pills and cough drops. Cosmetic rouge was developed with cochineal as the main ingredient. But while ever more diverse uses were found for cochineal, its origin remained a mystery.

Most Europeans thought it was extracted from berries or cereals because the dried insects looked like grains of wheat. This misconception was promoted by the Spanish, who had launched a brutal cover-up of the dye making process as soon as they realized cochineal's potential. Many New World natives unfortunate enough to have chosen a career in red dye production were simply put to death. Access to cochineal farms was tightly controlled, but eventually French and Dutch adventurers succeeded in smuggling out live cactus pads covered with the insects. Cochineal "ranches" were started in dozens of countries in North Africa, the Mediterranean and the Caribbean. Prickly pear and cochineal did particularly well in the Canary Islands where whole farms and vineyards were cleared and converted to cactus plantations. In 1868, the Canaries exported six million pounds of cochineal, equivalent to 420 billion insects.

This time period proved to be the peak of the cochineal industry as new synthetic dyes in a variety of fade-resistant colors rapidly superseded it. By the 1880s cochineal production was in steep decline. A major crisis in Spanish financial markets ensued, as a key 250 year-old industry failed within the span of a couple of decades.

Though not in high demand today, cochineal is used in medical tracers, artists' paints and microscopy stains. It is currently the only natural red food coloring authorized by the FDA. Unfortunately, workers harvesting cochineal now are not much safer than those laboring under the Spanish 200 years ago. The world's primary growing area, Peru, is threatened by ongoing political instability and violence. Conditions are so sketchy that the insects are usually gathered at night. Revealing where his concerns lay, one cochineal importer noted: "There's high mortality in working staff right now, so supplies are a bit tight."

By now, if you've dragged the story out adequately, the boats should be in sight. If so, wrap up your tale on this note: as food producers continue to switch back to natural colorings, more and more of the stuff we eat and drink will be dyed with dead bugs. But at least the red color won't have originated as some awful synthetic brew in a General Foods chemistry lab. 🐛

Jeff Behan

U. S. Coast Guard, National Park

Round Three, and all contenders are still on their feet. As most of you know, the U.S. Coast Guard is under direction to regulate guide licensing and vessel inspection in Grand Canyon. GCRG has been trying to reduce the effects of this move to little or nothing. At the Spring GCRG meeting, Commander George Wright and Captain Ed Page explained how they were doing their damndest to mitigate effects and expenses. While we appreciate and support their good will and efforts, we feel that action must also be taken at higher levels. Below are two responses we have received from letters to the

Dear Mr. Murphy:

On behalf of Secretary Peña, I am responding to your letter of March 14, 1995, regarding Coast Guard inspection of river rafts and licensing of operators on the Colorado River within the Grand Canyon.

In 1993 a realignment of Coast Guard inspection zones placed jurisdiction for the waters of the Grand Canyon within Marine Safety Office (MSO) San Diego. In November 1993 MSO San Diego identified several operations not in compliance with Coast Guard vessel inspection and licensing regulations. MSO San Diego's identification of these operations and the passage of the Passenger Vessel Safety Act (PVSA) in December 1993, was coincidental. This may have led to a misunderstanding that the PVSA was the driving force behind the Coast Guard's regulation of these vessels, it was not.

The PVSA did not change the inspection or licensing requirements for river rafting vessels. The main purpose of the PVSA was to bring bareboat chartered vessels carrying more than 12 passengers under inspection for certification. The PVSA also amended or added several statutory definitions. The governing laws and Coast Guard policy regarding river rafts remained unchanged by the PVSA.

All vessels carrying more than six passengers (including at least one passenger for hire) are required to be inspected and the operator licensed. As a matter of Coast Guard policy, non-self propelled white water rafts are not subject to inspection and licensing. Self-propelled white water rafts have been, and remain, subject to inspection and licensing regulations. Those vessels which carry passengers for hire fall within the purview of Title 46, United States Code, Chapter 33, and consequently, the regulations in Title 46, Code of Federal Regulations, Subchapter T, Small Passenger Vessels.

You expressed concern that the regulations may not be appropriate for vessels engaged in river rafting. Fortunately, the vessel inspection regulations were designed to cover a multitude of vessel types and are based on the length, route, and special operating considerations of the vessel. Subchapter T in particular, allows for great flexibility to ensure that the standards applied are appropriate to small vessels on restricted routes operating under special conditions. For many years the Coast Guard has inspected commercial rafting operations with an eye toward remaining flexible in our enforcement, provided that the basic tenants of the law are met.

MSO San Diego recognizes that the operations on the Colorado River within the Grand Canyon have gone unregulated by the Coast Guard for some time. MSO San Diego has developed a team approach to bring this industry into compliance, improve the inspection and licensing program, while attempting to avoid duplication of effort. The Coast Guard is currently examining the use of a Memorandum of Agreement with the National Park Service to achieve this. In order to facilitate agreements such as this, the Coast Guard has proposed legislation which would provide us greater latitude in the use of alternative compliance programs for the inspection of vessels and licensing of operators.

MSO San Diego is planning for a reasonable implementation time line that provides you the flexibility to plan for any new requirements and/or expenses that may occur. Their initiative is aimed squarely at bringing the industry into compliance with the law by using the most efficient streamlined process possible and focused on forming partnerships to ensure safety of life and protection of the environment. The goal is to do this with the active participation of the National Park Service, outfitters, guides and the Coast Guard, all working to add value without duplication of effort.

I trust this is responsive to your concerns.

Sincerely,

G. M. Williams
Captain, U.S. Coast Guard
Chief, Merchant Vessel Inspection and Documentation
By direction of the Commandant

Service and Rafting Grand Canyon

Secretaries of Transportation and Interior. On the following pages are some interesting directives from President Clinton and an Action Alert from GCRG to you. Please take the time to peruse these pages and write a few letters. We are now in a unique position: the entire government is bent on reducing waste and over-regulation. If enough of us can present well reasoned opposition to the increased bureaucratization of the wilderness, we might, just might, change things around. Like it or not, the ball is in our court. We can shrug and grumble, or we can pick up a pencil and get to work.

Dear Mr. Murphy:

Thank you for your letter of March 6 to Secretary of the Interior Babbitt concerning implementation of United States Coast Guard (USCG) regulations at Grand Canyon National Park. Your letter has been forwarded to this office since it involves National Park Service (NPS) issues within the Western Region.

We appreciate your association's concern pertaining to unnecessary duplication of regulations and the unjustified layering of government bureaucracies. We realize that the professional river guides provide a valuable service to commercial passengers visiting the Colorado River within Grand Canyon National Park.

The USCG is vested with the authority to regulate the inland and coastal waterways of the United States through a system of licenses and inspections. You are correct in stating that the intention of PL 103-206 was not to specifically deal with commercial river operations within Grand Canyon National Park; however, in the broader scope of the law and in light of the USCG jurisdiction within Grand Canyon National Park, the mandates of PL 103-206 are applicable. The management of commercial operations and visitor safety within areas of the National Park Service represents problematic issues of significant concern to park managers. It is with this in mind that the National Park Service strives to develop advantageous agreements with cooperating agencies offering expert advice.

It is the intention of the NPS in this region to establish a positive, beneficial, working relationship with the USCG. It is further our intention to develop a Memorandum of Agreement (MOA) with the USCG specific to Grand Canyon National Park and its unique operations. It is of great concern to us that this MOA avoids the general nature and vagaries inherent in PL 103-206 and clearly outlines our status and our needs in the regulatory process. While a general MOA applicable to all NPS areas may be beneficial in the overall management of boating activities, it is our intention to carefully craft agreements specific to each NPS area.

To date our communications with the USCG have been positive and cooperative in nature. The USCG has developed a great understanding of our program needs and has demonstrated tremendous flexibility in the accommodation of our system. We are confident that we are working towards a mutual goal which will eventually allow for the continuance of our established licensing/inspection program with modifications as required. We are also confident that we can satisfy the requirements of PL 103-206 with a minimum of additional regulation, bureaucracy, and cost. It is our intention to continue with our negotiations with the USCG. As in the past, we will seek your counsel and opinions prior to the development of any programs. You may not agree with the decisions we may make; however, you will not be denied opportunities for input, direction, and criticism.

It is the intention of our cooperative efforts with the USCG to avoid the burden of duplicate agency functions and unnecessary documentation. We will not develop any program which places an undue financial burden on any applicant. We believe that portions of the USCG program which you have identified as unnecessary obstacles, such as physical examinations and drug testing, are extremely beneficial to the local industry. These proposed requirements are necessary for any industry engaged in potentially dangerous operations that require vigorous physical exertion from its labor force. We believe there are ways to mitigate the cost of any special licensing requirements.

We will continue to provide you with information concerning our progress in developing a formal relationship with the USCG. We value your input and look forward to working with you.

Sincerely,

Stanley T. Albright
Regional Director, Western Region
National Park Service
Department of the Interior

March 4, 1995

MEMORANDUM FOR HEADS OF DEPARTMENTS AND AGENCIES [excerpted]
SUBJECT: Regulatory Reinvention Initiative

...All Americans want the benefits of effective regulation: clean water, safe workplaces, wholesome food, sound financial institutions. But, too often the rules are drafted with such detailed lists of dos and don'ts that the objectives they seek to achieve are undermined. Clear goals and cooperation would work better. Too often, businesses, especially small ones, face a profusion of overlapping and sometimes conflicting rules...

Accordingly, I direct you to focus on the following four steps, which are part of our ongoing Regulatory Reform Initiative.

1. Cut obsolete regulations.

I direct you to conduct a page-by-page review of all of your agency regulations now in force and eliminate or revise those that are outdated or otherwise in need of reform.. Your review should include careful consideration of at least the following issues:

- Is this regulation obsolete?
- Could its intended goal be achieved in more efficient, less intrusive ways?
- Are there better private sector alternatives, such as market mechanisms, that can better achieve the public good envisioned by the regulation?
- Could private business, setting its own standards and being subject to public accountability, do the job as well?
- Could the states or local governments do the job, making federal regulation unnecessary?

2. Reward results, not red tape.

...focus on results, not process and punishment... First you should identify appropriate performance measures and prepare a draft in clear, understandable terms, of the results you are seeking to achieve through your regulatory program.

3. Get out of Washington and create grassroots partnerships.

I direct you to promptly convene groups consisting of front-line regulators and the people affected by their regulations. These conversations should take place around the country...

4. Negotiate, don't dictate.

It is time to move from a process where lawyers and bureaucrats write volumes of regulations to one where people work in partnership to issue sensible regulations that impose the least burden without sacrificing rational and necessary protections.

I direct you to review all of your administrative ex-parts rules and eliminate any that restrict communication prior to the publication of a proposed rule... I also ask you to think about other ways to promote better communication, consensus building, and a less adversarial environment. ...you are to make regulatory reform a top priority. Good government demands it and your full cooperation is crucial.

William J. Clinton

Stress these points in your letter:

- Whitewater rafting, guide licensing and vessel inspection in Grand Canyon are now very adequately regulated by the National Park Service. There is no problem to solve.
- Coast Guard does not have the personnel or funding to adequately learn the intricacies of an entirely new, distant, industry. Nor does NPS have the personnel or funding to administer and enforce an additional layer of bureaucracy.
- The river-running public can ill-afford the added expense and loss of diversity that will be brought on by an additional layer in the already deep regulatory quagmire.
- This entire issue can be easily settled by allowing the Coast Guard to sanction current NPS regulation, inspection and guide licensing in Grand Canyon and other federal waterways.
- Cite President Clinton's Regulatory Reform Initiative. (above)

Coast Guard Action Alert

A short time ago someone way up in the government got to thinking that the Coast Guard should regulate whitewater rafting. So the Coast Guard arrived, a few months ago, at Grand Canyon National Park with a mandate to inspect vessels and license boatman. And not just Grand Canyon—their directive includes every whitewater river in the country.

Every Coast Guard official we've talked to agrees with the fact that they know little about whitewater rafting, that the National Park Service has been doing an excellent job of regulating the whitewater business, that there really is no problem, and that—and this is really important—they *don't want to do this!* They have no funding for it, they live far away in San Diego, they have a long coastline to deal with already. The reason they're coming: *it's the law.*

Everyone we've talked to at Grand Canyon is unsettled by the arrival of the Coast Guard. No one sees a need for one more layer of bureaucracy—all agree that the Park Service, who has spent fifty years learning and growing with the whitewater industry, has a pretty good handle on what's appropriate and what's not. Furthermore, NPS, operating on a shoestring budget, has neither the time, money nor personnel to administer yet another layer of regulation and bureaucracy. But they seem resigned to its inevitability—after all, *it's the law.*

Outfitters are dismayed with the prospect of implementing and satisfying one more layer of costly, time-consuming regulation. In Grand Canyon, vessel inspection, according to the 1995 Coast Guard Schedule, could run over \$100,000 *annually*. One outfitter rattled off a list of eight government agencies he's dealing with already, each with its own rules, permits and fees. "It used to be different," he said. "I used to be able to think about the river once in a while."

Boatmen, of course, are in shock. The list of fees and guidelines now being imposed in for rafting in Black Canyon, below Hoover Dam, are restrictive, inconvenient, time consuming and very costly; and they are, without exception, redundant, irrelevant or just plain silly. Maritime regulations are no more applicable to Grand Canyon than knowledge of piloting an oil tanker will help to run a raft through Lava Falls. Tests, inspections, physicals and certifications could cost over \$300 per guide. Even if you only run a trip or two a year. We foresee the elimination of some of our most valuable human resources—boatmen. It hasn't been determined whether licensing requirements would apply to *all* boatmen or only motor boatmen—that's not the point. The point is that we are doing just fine without the additional \$100,000 outfitters and guides could have to shell out to license the boatmen.

Passengers, too, will have cause to be outraged.

Increased cost, combined with a loss in diversity and freshness of guides, doesn't add up to any bargain for the American public.

If no-one involved in the implementation, on any side of this issue, wants to see this happen, why is it happening? Is it really the law? Probably not.

In the sixties and seventies, when the Coast Guard considered regulating Grand Canyon, those in charge of both the Coast Guard and NPS took a long look at the situation and decided to leave regulation to those who could best handle it. The situation today is no different. Although any number of laws could *conceivably* be construed as sanctioning Coast Guard regulation of whitewater rafting, *nowhere, in any law, is it specifically mandated.*

The laws *could* be interpreted in such a way that the Coast Guard could sanction existing NPS regulation, inspection and licensing. In fact, that's the only interpretation that makes sense. It is up to us, you and me, to get that message to the highest levels of the responsible agencies. We need to make them well aware of the problem, (which is the *lack* of a problem) and let them know how they can rectify the situation. And we need to tell them that, in a political sense, there could be no poorer time to initiate another costly and redundant layer of bureaucracy. Another Department of Redundancy Department.

There is only one solution where everyone wins. The Coast Guard, The National Park Service, Grand Canyon Outfitters, Guides, and the American public all come out best by leaving regulation, inspection and licensing in the hands of the agency that has their finger on the pulse of the situation. That's NPS. Period.

Please write today. Stress the points listed at the bottom of the opposite page.

Honorable Federico Peña
Secretary of Transportation
400 7th Street, SW
Washington, DC 20590

Honorable Newt Gingrich
Speaker of the House
US House of Representatives
Washington, DC 20515

Your Congressmen and Senators

Urge those in Congress to request action from Secretary Peña. And while you've got the copy machine going, send us a copy too. Thanks. 🐾

New Debris Flow at Lava Falls

Lava Falls Rapid is, at all water levels, the most severe rapid in Grand Canyon. Its severity increased markedly in the early morning hours of March 6, 1995, when a debris flow from Prospect Creek constricted the Colorado River by approximately 50 percent. For Prospect Creek, the debris flow is the first since 1963 and the largest debris flow since 1955. The changes in Lava Falls Rapid are

others thought the sound lasted much longer.

At about 2:30AM, Bob Grusy got up to find rising water and put extra lines on his boat. At about 4AM, Mimi Murov rose to take down the wash table that was threatened by the rising Colorado River. The rainfall had stopped by this time. Murov thought the eddy was pooled up and calm; she thought at the time that the high water was not from a Colorado River flood but instead resulted from an increased constriction downstream.



Trip members rose at 6AM to clear skies and a river that was 3 to 4

photo
montages
by
Bob
Grusy

the most significant in Grand Canyon since the 1966 debris flow in Crystal Creek.

The debris flow was witnessed by members of our Glen Canyon Environmental Studies (GCES) research trip that were, ironically, monitoring past debris flows in Grand Canyon. Our GCES trip arrived at Lava Falls during the morning of March 4 and camped at the sand bar about a quarter mile above the rapid on river left. Work began immediately on repeat photography of historic photographs of the rapid. Although it had been cloudy with sporadic rain for nearly a week, March 4 was clear by noon. Rainfall began at midnight March 5. Light rainfall continued steadily the following day, but scientists matched photographs and collected data on the rapid and the source areas of historic debris flows. The storm culminated in steady hard rainfall that began about 6PM and continued until after midnight. No thunder was heard.

Between 1AM and 1:30, at least three members of the trip were startled by a roaring sound that came from the direction of Lava Falls Rapid. Part of the noise was identified as distinct rockfalls. Some were concerned that the river was rising with storm runoff and that boats or the camp would be threatened. Bob Webb remembers that the noise lasted 3-5 minutes and then subsided, but

feet higher than the previous night. The discharge in the river was about 18,000 cubic feet per second. The water appeared ponded, with little movement. After cleaning up the wind strewn equipment in the kitchen area, trip members hiked to the left scout of Lava Falls to view what we thought would be high water flowing through the rapid. Instead, at 7AM, we saw the new debris fan and recessional flood waters in Prospect Creek. Despite the passage of about 6 hours, the new debris fan was still changing, being reworked by the Colorado River and recessional flow in Prospect Creek.

A 1,000-foot dark brown waterfall at the upper end of Prospect Canyon was jetting about 500-1,000 cubic feet per second of water into the creek channel. This waterfall sent a fine brown mist into the canyon. Flow in the creek was a dark chocolate brown, and boulders and cobbles could be distinctly heard rolling along the creekbed. The creek channel was too high to cross until about 3PM, and flow in Prospect Creek stopped after dark on March 6. Storm runoff lasted 18-20 hours.

When we first saw it, the new debris fan extended into the river to about the left edge of the Ledge Hole. The new fan extended about 100-150 feet into the river over a distance of 600 feet. The fan sloped continuously

into the river with no sign of a cutbank on its edge. Photographic monitoring of the debris fan began immediately because floodwaters prevented us from getting on the new debris fan. As the morning progressed, the edge of the debris flow was cut away by about 20-24 feet, leaving an 8-foot high cutbank on the left side of the rapid. Photographers on the left side of the rapid saw large sections of the new fan fall into the rapid. Recessional flow in Prospect Creek cut two channels through the debris fan, further reducing its size.

The rapid appeared markedly different. The entry water was extremely fast. Some well-known hydraulic features, such as the Ledge Hole and the V Wave, were still present but greatly increased in size. The right lateral of the V-Wave became much stronger than the left wave. The Ledge Hole had a different shape, a sharper drop, and a stronger hydraulic than before; the slot run was not apparent. Marker rocks, such as the Domer Rock (also known as Big Bertha, the Chub...) and the Meteor Rock, and their identifying waves and holes were not visible. The large waves that used to form between the V-Wave and the Black Rock initially were very large but disappeared by the end of the day. A large, continuously breaking wave formed off of the Black Rock, and large whirlpools formed to the right of and behind the Black Rock. Floodwaters entering on the left eliminated any possibility of running left of the Ledge Hole. Boulders were heard rolling along the bottom



above the sound of the rapid. Kenton Grua and Bob Grusy thought initially that the rapid was unrunnable.

Downstream, the former eddies on river left and right were replaced by fast-moving water. A secondary rapid formed at the Warm Springs, but its waves subsided to riffle size as the day progressed. We interpreted the secondary riffle as water flowing around and over a new island where the pool used to be; the size of the riffle probably changed as a grave/cobble bar migrated downstream into Lower Lava Rapid. By the afternoon on March 6, a run developed just to the left of the Ledge Hole.

On March 7, we had full access to both sides of the rapid and Prospect Canyon. We had a peak of 16,300 cubic feet per second in the rapid, but the rapid looked

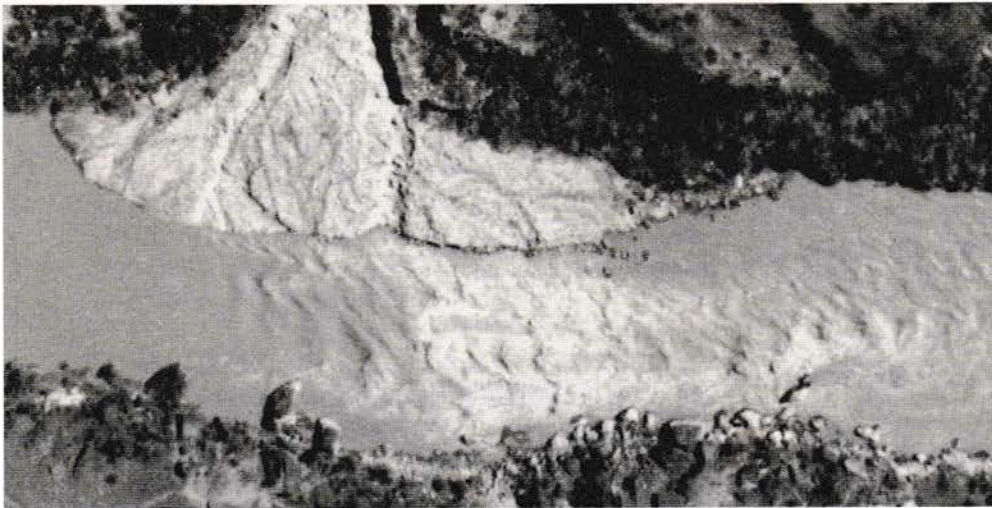
much larger. The debris fan did not change during the day. Most of the familiar features of the rapid, such as the slot run and the marker rocks, reappeared. The Ledge Hole remained slightly different and stronger than before. The breaking wave off the Black Rock was still present, and the secondary riffle remained small. The left run continued to develop and remained in a condition judged runnable. The rapid appeared much more energized than before; the former right run appeared more than likely to flip oar boats, and the wave off the Black Rock was strong enough to potentially flip motor rigs.

On March 8 and 9, normal fluctuating flows were observed in the rapid. The entire rapid had a much higher velocity. Both Grua and Grusy felt that the right side appeared as if the discharge were 6,000 cubic feet per second higher than it actually was. The entry to the right run was much faster, the right side of the V-Wave was much larger. Several large waves that previously formed between the V-Wave and the Black Rock were no longer present, but the continuously breaking wave off the Black Rock persisted. On March 9, we ran the rapid on 11,000cfs. Grusy took his 37-foot motorboat through the right run and stated the rapid was faster but may have been easier because the Big Wave did not exist. The left run consisted of passing close to the left side of the Ledge Hole and then running a haystack wave and left of the Domer Rock and hole. Grua made the trip easily in a 22-foot motor snout, although the speed of the water entering the run was measured to be 15 feet per second. Both boats

easily missed it.

The debris-flow project had previously identified Lava Falls Rapid as the most unstable in Grand Canyon and was finalizing work on a paper on historic changes in the rapid. Because of the previously collected information, the new debris flow was easily interpreted in terms of size and recurrence interval. The most recent debris flow at Lava Falls was in 1963; the 1995 debris fan exceeded the depositional area of the 1963 flow, and eroded all the terraces deposited in 1963. The 1955 debris flow was larger; the 1995 debris flow did not exceed the stage of 1955 and created a smaller constriction. Therefore, the 1995 debris flow in Prospect Creek is the largest debris flow in 40 years and the first in 32 years.

The 1995 debris flow in Prospect Creek set several



Lava from 9,00 feet, March 9, 1995



Lava, 1890, Stanton Survey



Lava, 1995

benchmarks in Grand Canyon history. The storm that spawned it was only the second winter storm since 1872 that is known to have created a debris flow (after December 1966). This debris flow is the second largest in Grand Canyon since closure of Glen Canyon Dam (after the Crystal Creek debris flow of 1966). Changes to Lava Falls Rapid are less than changes to Crystal Rapid in 1966 but are comparable with other recent events such as House Rock Rapid in 1966-1971 and Specter, 24 Mile, and Bedrock

Rapids in 1989.

One other potentially significant change we observed was at 209-Mile Rapid. Granite Park Canyon had a flash flood that closed off the left channel around the island. The left lateral on the entry to 209-Mile Rapid is now stronger, which makes missing the hole on the right more difficult.



Bob Webb

The Quartzite Falls Gang

The March 27th sentencing of the group convicted of destroying Quartzite Falls on Arizona's Salt River did not go quite as expected. Although sentences for 6 of the conspirators ranged from probation for some of the more peripheral participants to 18 months in prison and a \$20,000 fine for Richard Scott, who procured the explosives, "Taz" Stoner, the overall ringleader, failed to show up. Apparently he fled the country rather than face a sentence of 18 months and fines that could have exceeded \$300,000. By adding international flight to his rap sheet, of course, he has upped his ante substantially.

"He should have been here," said one of Stoner's fellow bombers. "He said the Forest Service would be happy that we did it. Now he's left us holding the bag."



Endangered Species Issues along the Colorado River

As you undoubtedly know, there are several threatened and endangered species that call the Colorado River their home for at least part of the year. They include the Bald Eagle, Peregrine Falcon, Kanab Ambersnail, Southwestern Willow Flycatcher, Humpback Chub, and possibly the Razorback Sucker. These species are all at potential risk from human recreation impacts associated with camping, river running, fishing, hiking, and exploration. Grand Canyon river guides play a very important role in educating visitors and protecting natural and cultural resources along the river. Because of your important role, I thought it would be a good idea to give you some background information about some of these species and also present you with a summary of measures that Grand Canyon National Park is recommending to eliminate negative impacts from human visitation.

The regulation to protect humpback chub remains in place at the LCR; it prohibits fishing and camping within 1/2 mile of the mouth. The following restrictions on visitation and recreation are also in place to protect two other endangered species that occur along the Colorado River, the Kanab Ambersnail and the Southwestern Willow Flycatcher.

Southwestern Willow Flycatcher (*Empidonax trailii extimus*)

This small brownish flycatcher species was listed by the U.S. Fish and Wildlife Service as an endangered species in February, 1995. It nests in tamarisk and willow dominated riparian vegetation below the old high water mark along the Colorado River. Most nests are placed in branches less than 20 feet in height and are therefore at risk from disturbances associated with hiking and camping within the riparian zone. Camping restrictions were put in place along the river during past years to protect these sites from human disturbance during the breeding season. The following areas will be closed to all recreational use between May 1 and July 15, 1995:

Mile 50-52 river left (above Little Nankoweap)
Mile 71 river left (Cardenas Marsh)

These sites and closure intervals are based on nesting monitoring surveys that have been conducted for Southwestern Willow Flycatchers between mid-May and Mid-July in 1993 and 1994, and represent places where breeding birds were found. Surveys will be conducted again in 1995 and, if additional birds are found at other sites this year, additional use restrictions will be put in place until the breeding season ends in July. When camping or stopping in other places along the river, please use care when moving through tamarisk/willow vegetation to avoid damaging nests or disturbing nesting flycatchers and other birds.

Thank you for the very important role you play in protecting resources along the river.

Kanab Ambersnails (*Oxyloma haydeni kanabensis*)

Kanab Ambersnails are currently known to exist only at Vasey's Paradise and one other site in Southern Utah. The snails occur within the poison ivy/monkeyflower vegetated area at Vasey's among dead plant matter, but do not seem to use the bare rock habitats. The shell is a mottled gray and light amber color, about 1" in length, and easily overlooked in the field. Population numbers are not known definitively and will be determined more precisely this year, but are thought to number less than 2,000 individuals at Vasey's.

The park is requesting that guides restrict human use at Vasey's Paradise only to the narrow zone of bare rocks that lies between the water's edge and upwards to within 5 feet of the vegetated area below the Redwall spring outpours (i.e. no person should approach the vegetated area closer than 5 feet). This is aimed at preventing people from inadvertently stepping on snails while tromping into the vegetated area. The vegetated area represents habitat that is critical to the snail's survival. If people stay at the water's edge to collect drinking water and photograph the site, it is anticipated that human-snail conflicts will be avoided. The park will be monitoring the voluntary compliance this year and, if it works, it will not be necessary to close the site to visitation altogether.

Jim Petterson
Wildlife Biologist
Grand Canyon National Park

"Fish Eyes" Runs His Last Rapid

Frank E. Masland, Jr., one of the tribal elders of Grand Canyon river runners, ran his last rapid on July 30, 1994. Just short of 99 years of age, "Fish-Eyes" Masland made the Marston list of the first 100 people on their first complete traverse of the Grand Canyon of the Colorado River. With Norm Nevills in 1948, "Fish-Eyes" joined veteran Colorado River runners Garth and Dock Marston and young Frank Wright, also on his his first trip.

As most Grand Canyon river runners know, Nevills' cataract boats had no seats for passengers, thus requiring them to perch on the decks. Running the "Roaring 20s" on July 13th, Frank's "...companions started calling me 'Fish-Eyes.' It seems the usual way for the person riding the stern of the boat to go through a rapid is sitting up, but being blissfully ignorant of the approved technique, I stretched out face down with my head overhanging the stern. Since the boats go through the rapids stern first, I was under water most of the way. The first time I went through, Norm, who was waiting at the foot, wondered what happened to me, since most of the time I had been out of sight. After two or three trips in this submerged position, they began talking about the fish-eye view I had of the water, and soon 'Fish-Eyes' was the name. I kept on riding that way, since it added greatly to the sport. It was like diving through ocean breakers along the seacoast."

Frank made quite a few other river trips and wrote self published pamphlets and journal articles about them and other excursions into the canyon and arch country.

Francis P. Farquhar's annotated *Selective Bibliography of The Books of the Colorado River and the Grand Canyon* lists two of Frank's works in this elite compilation: *By the Rim of Time: Being the Diary and Impressions of Frank E. Masland, Jr., a Member of Norman Nevills' 1948 Colorado River Expedition*; and *The Goat Run*, a San Juan river trip that ended at Lees Ferry. Special Collections and Archives, Cline Library, Northern Arizona University, has copies of most, if not all, of Frank's publications. A few hours reading them would be time well spent.

Also instrumental in establishing and protecting areas of the National Park System, Frank "received the National Parks and Conservation Association's Marjory Stoneman Douglas Award for his 'awesome' contributions over a period of 50 years to the national park system." He was also honored by having an arch he discovered named after him while he was still alive, contrary to rules of the Board of Geographic names. To bypass the rule disallowing the use of the name of a living person for a geographical feature, the euphemism "Fisheye Arch" was suggested. Today the roar of the Colorado may be implied in the name of this delightful arch in the south end of Canyonlands National Park.

On behalf of the entire Grand Canyon river running community, our condolences are extended to the family of Frank E. Masland Jr., 'Fish-Eyes.' His river running style will oft' be remembered around the campfires of our lives and minds.



C. V. Abyssus

When I went to bed that night I lay there quite a while thinking about the trip that was fast drawing to a close. As I looked up at the stars I realized that nothing had given me more pleasure than sleeping, with the canyon walls the headboard and the footboard of my bed and my covering the star-spangled blue sky above me. The utterly inexpressible peacefulness of those few moments before sleep came to a tired body and a mind at ease, were among the choicest of them all. The ease with which a person slips back into such a life, accents the artificiality of that which we consider normal existence. The sun and moon govern our hours. We went to bed by the sun and got up by the sun. Frequently during the night, the moon, as it came suddenly over the Canyon's rim, would flood our camp site with such light that we would awaken thinking day had come. Usually the beauty of the moonlight on the Canyon walls, on the temples and the peaks above, was so soul-stirring that we would fight sleep until we had our fill of it or until sleep won the battle. The elements were the most important factors in our lives—the wind that blew the sand and caused discomfort, or that blew up stream and made it necessary for us to row through the quiet stretches. The sun that beat so mercilessly upon our naked, tanned bodies—the heat that caused us to drop in and out of the water as effortlessly as beavers and to lie on the deck while the evaporating water cooled our bodies. The storms that we would watch above us, wondering whether they belonged to us or to those who lived on the rim in another world. Many times we could see it raining high up on the Canyon wall with no rain falling where we were. Sometimes a cloud would pass over high above and from it just a few hard-hitting heavy drops would fall. At other times the storm would really be ours, lightning flashed, thunder rolled back and forth echoing everlastingly, and we would huddle under a cliff or try to make ourselves as small as possible in the boat, for the rain was cold and chilling against our super-heated bodies. The elements were the important factors and, above all, the water—always the water—that filled our thoughts all day long and whose roar sang us to sleep and greeted us as we awakened at sunrise. Always the water, the water we had eagerly greeted at the beginning, on which for miles we had lazily drifted, in which we had swum and played, with which we had fought and battled and which had given us adventure, thrills, experiences and memories that would be ours for ever. Always the elements, and only the elements.

from *By the Rim of Time*

How's the Weather Down There?

Have you ever rowed furiously against phenomenal winds that wanted to take you back to Lees Ferry? Have you ever seen lightning strikes in the Canyon or rounded a bend only to float right into a dense wet fog bank? Wonderful! I would love to hear from you.

My name is Molly Pohl and I'm a graduate student in Geography at Arizona State University. I am writing an article on "Anecdotal Evidence of the Climate in Grand Canyon" (e.g. what the people who know the river have noticed about the weather and climate along the Colorado River.) This work is part of a larger effort being made by the Arizona State University Geography Department to conduct the first detailed investigation of the climate and weather of the Grand Canyon. I suspect that few people are more familiar with the changing weather conditions in the canyon than river guides. Your knowledge of the Canyon would be a great asset to this study. I will gladly acknowledge you for your contribution. I am excited to put this all together, but it can't be done without your help. Thank you!

The goal of this questionnaire is to collect anecdotal information on climate of the Grand Canyon, focusing on wind patterns and changes in temperature and humidity both over time and as you move downriver. For 'downriver' questions, you might want to discuss particular downriver reaches such as: Marble Canyon (approx. mi. 0-60), Inner Gorge or Upper Granite Gorge (approx. mi. 60-115), the Isles (approx. mi. 115-140), Muav Gorge (approx. mi. 140-180), and below Lava Falls (after mi. 180). Or, if this division doesn't capture the weather differences downriver, tell me which reaches you think distinguish areas of different weather conditions. I'm open to ideas!

So, what specific questions do I have for you?

Grand Canyon Winds: What are your impressions of the general character of the winds in Grand Canyon?

1. What are the wind directions during the day? At night? Note: 'Wind direction' refers to where the wind is coming from.
2. Are they consistent or on-again-off-again?
3. When are the wind speeds the strongest? How strong are they?
4. Are there any differences in the winds with different seasons?

5. Are there any differences in the winds as you go downriver?
6. Do you notice any changes in the winds at major confluences such as the LCR?

Visibility in Grand Canyon: Have you noticed any changes in visibility associated with changes in wind direction or wind speed? What wind speed and wind direction is associated with (1) the best visibility? (2) the worst visibility? Is there a particular month/season when visibility is best or worst? Comments?

Air Temperature and Humidity in Grand Canyon: Considering the seasons you have been in the Canyon (please indicate them), have you noticed any clear downriver trends in air temperature and/or humidity during a particular season? Which season has the most

noticeable (e.g. strongest) downriver change in (1) temperature? (2) humidity? Which season has the least noticeable downriver change in (1) temperature? (2) humidity?

Have you noticed

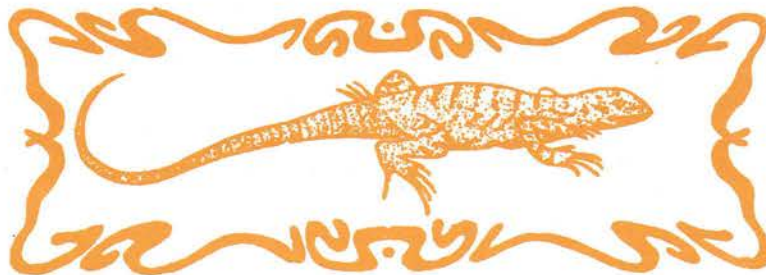
local variations in the temperature and/or humidity on beaches (up to 100 vertical feet above the river)? Please describe these variations (at particular reaches or in general) and include site characteristics such as topography, vegetation quantity and type, and Canyon wall geometry. Further comments?

Unusual Weather Events: Have you noticed any 'unusual weather events' in the Canyon such as temperature inversions, fog or low clouds, snow at river level, lightning striking the bottom of the Canyon, hail, dew, or extremely strong gusting winds? What about particularly dry or wet or hot or cold (etc.) years? Please describe the event(s) and, if possible, put a date on the event(s).

Please send me a letter or call me at: Molly Pohl, Dept. of Geography, Arizona State University, Tempe, AZ 85287-0104. Phone: (602) 965-7533. If you are sending a letter, please indicate how long you've been a river guide and what months you are usually on the river. You can write anonymously. However, if you would like to be interviewed, please provide your name and daytime phone number.

Thanks for your interest and for your responses!

Molly Pohl



The sky is not falling. At least not on our heads. Since the Final EIS was released a number of very positive signs have appeared. They are the result of good faith efforts by the Commissioner and other members of the Bureau of Reclamation and the many letters that came from those who cared enough about Grand Canyon to write. As a result, a scientific assessment of the proposed flow changes and their impacts to downstream resources is being compiled. This sets a strong precedent for an open, science driven, Adaptive Management Program: if flow changes don't meet the mandates of the Grand Canyon Protection Act, they will not be implemented. Also, at the urging of the Secretary's office, Reclamation, Upper Basin States, and environmental groups are working toward an acceptable long range strategy for

Point

Yes, it is true, the preferred alternative for the Glen Canyon Dam draft environmental impact statement (EIS) was modified for the final EIS. Increased maximum flows and an increase in upramping have been added to the final document. These changes will allow for increased power marketability for electricity generated at Glen Canyon Dam. Yes, this does favor power resources, but the EIS has to evaluate all resources affected by its alternatives. In addition to the operational changes in maximum flows and upramp rates, the Adaptive Management Program will include endangered fish research flows as requested by the U.S. Fish and Wildlife Service in its biological opinion. Reclamation will be requesting funds to expeditiously complete the needed studies to move forward with selective withdrawal structures at Glen Canyon Dam.

The flow modifications to the preferred alternative include an increase from 20,000 to 25,000 cubic feet per second (cfs) maximum flow and an upramp increase from 2,500 to 4,000 cfs per hour. These changes were reviewed and agreed upon by the cooperating agencies, other interested parties, and the GCES senior scientist and his advisory panel, made up of experts from each discipline currently conducting research in the Grand Canyon.

On March 1, 1993, the GCES senior scientist and the advisory group met to determine the potential impacts from these modifications. Their goal was to evaluate the original interim operating criteria recommendations made in April 1991, current interim operating criteria, data from the research period of June 1990 to July 1991, and other pertinent data collected during monitoring of the interim operations of Glen Canyon Dam. Their findings determined that there would be no significant impact to downstream resources if the maximum flow was raised to 25,000 cfs and the upramp to 4,000 cfs per hour.

A consultation meeting, as required by the Grand Canyon Protection Act, was held on August 26, 1993, to discuss the proposal to change operations. This meeting was open to the cooperating agencies, power interests, recreation and environmental groups, and the general public. An entire morning session was dedicated to the discussion of impacts to natural resources, economic resources, and compliance with the National Environmental Policy Act. The GCES senior scientist presented data concluding that resource impacts to

aquatic resources would be minimal to none below the Lees Ferry reach, and there may be some slight impacts during maximum flow releases above Lees Ferry.

The scientists concluded that increasing the maximum releases to 25,000 cfs may provide for benefits to some Grand Canyon resources. Riparian vegetation would likely benefit from the infrequent inundation by the 25,000 cfs maximums. This flooding may encourage growth of mature vegetation and may also benefit young seedlings. During moderate and high volume months, the more frequent higher maximum flows could rebuild beaches to higher elevations, create and maintain backwater habitats for young native fishes, and reduce financial impacts to power consumers.

The maximum flows under this new preferred alternative will rarely be used because of monthly release volumes dictated by the Annual Operating Plan and maximum daily fluctuating constraints. During minimum release years (8.23 million acre-feet), flows are expected to exceed 20,000 cfs less than 1 percent of the time. These minimum release years may occur 50 percent of the time. Only during months with release volumes between .9 and 1.5 million acre-feet will the maximum release exceed 20,000 cfs. With monthly release volumes greater than 1.5 million acre-feet, the flows would be steady at 25,000 cfs or more, regardless of the alternative chosen. Simply put, in only 3 of the past 38 months of interim operations have the flows exceeded .9 million acre-feet, with no months over .925 million acre-feet.

Reclamation has produced a computer model that is very user friendly (even Shane can run it by himself), to demonstrate how infrequently the 25,000 maximum will actually be reached. It includes input variable like monthly release volumes, lake elevation, max and min flows, ramp rates etc. I have worked with this program and found flows over 20,000 cfs occur infrequently and flows of 25,000 cfs very rarely. This model is available for viewing at the GCRG office for anyone interested.

With the small amount of time that the maximum flows would actually be released under the preferred alternative, no measurable difference in impacts would be realized from the original preferred alternative in the draft EIS which did not contain these increases.

No impacts from increasing upramps to 4,000 cfs per hour have been identified by the researchers working in the Grand Canyon.

Bill Leibfried

Habitat/Beach Building flows. We expect these negotiations will lead to the first spike flow in the spring of 1996.

A lot of trust has been gained in the past 10 years, but occasionally we stumble. Its important that when we do we get back up and go to work again. Many things can be accomplished when traditional adversaries work together. The fact that each stays vigilant to his own goals is what keeps the process honest and on track. Our thanks to everyone who took the time to write.

*What follows are 7 pages of comments on the Final EIS. If you feel the Final EIS is missing the mark, it is **imperative** that you write Bruce Babbitt, Department of Interior, 1849 C Street NW, Washington DC 20240. It is he that will make the final decision and he needs to hear from you, pro, con or sideways. And bear in mind that he is going to hear a lot from water and power interests. Be vocal. Let him know.*

Counterpoint

Reclamation and Cooperating Agencies, and especially the efforts of Science, are to be complimented for the enormous amount of honest work gone into a search for a balance between environmental, recreational, political and power interests at Glen Canyon. Thank you for making the best of an enormously complex process. Without the work of everyone involved we wouldn't have this FEIS, or the understanding and personal/group growth that has gone with it.

Grand Canyon is a World Heritage Site; there is not another place on earth like it. To this end I direct my comments. Put in simplest terms, we cannot return to the past, to the days before Glen Canyon Dam. But, to a reasonable extent, we must recognize the river's need to replenish itself, it's habitats, backwaters and beaches and honor an historic, breathtakingly wondrous, past. We must also think of the future. And while we're doing that, we should realize that power, environmental, and political realities, have changed a thousandfold since 1963. They will continue to change from here on in.

Because of political weather patterns at play I feel this FEIS—any FEIS would leave me feeling the same—almost accomplished what it set out to do. It's like stuffing 10 pounds of potatoes into a 5-pound cook kettle. Viewed historically, all the spuds didn't fit. Not at first. But they had to. So they were individually paired down, shaved here and there, and then they got all squeezed in. Today, there are only a few chunks of food left on the beach. And there's not much space left in the cooker.

Again I say it would be the same with any FEIS, in any canyon on any river. This is due to the press of humanities physical demand on natural places, if not from one 'impact sector' then from, or to, another. But beyond this, it's how we pack the spuds, for it will determine what we eat. That's the real question here. For the future it's my hope that Draft EIS flows can be maintained until the Adaptive Management Program (AMP) is funded and put in place. I don't worry about the upramps so much as the auspices under which they are seemingly to be implemented. I honestly don't understand why the changes were made. And I question changing two parameters at once; I wonder if that is scientifically advisable procedure. For the present I feel Reclamation has established a good baseline on which

to build, but that research results are not yet thoroughly understood; more time may be needed to best establish further operating criteria. The AMP supplies the proper mechanism to deal with the future. Dealing with Grand Canyon's past is different. Spring floods were, before the dam, quintessential events to Grand Canyon's ecosystem. They gave life to that place; floods defined the Colorado's dynamic character. Let's remember that. Whenever possible. I feel 'flood flows' are the pivotal issue just now, driven by a political past I do not pretend to understand. But I do think the EIS process is in jeopardy: 'flood flows' have not been forthcoming; they are a Common Element. I also feel, sincerely, that 'flood flow' issues should be addressed and resolved before the ROD is signed. I'm not saying we can, or should, have such an event by then. I'm saying its time to establish their precedence—and to then get on with the AMP. I don't feel this is a power or environmental issue. I believe 'flood flows' should be conducted as an act of faith, a celebration of the past. Call it a birthday. This, of all things, is deserved. And make it official, on proper paper. Otherwise it's my feeling environmental groups may always be at odds with power interests. That is not where we want to be. Its not in line for the 21st Century.

Also, in what I feel to be an important side matter, I think the Science Center should be housed at Grand Canyon's South Rim Village, or perhaps Tusayan. If placed in the proper building/location, with substantial floorspace given to scientific exhibits, interactive displays, dioramas, a science library, simulation models, Native American displays, dances and whatnot, don't you think such a place could pay for itself? It's important the Science Center be at Grand Canyon because it is even more important the people who are peeling the potatoes be sitting on the rim while they do it. They must not forget the place they are serving.

I further ask Secretary Babbitt to sign the Record of Decision before the end of 1995. I understand this is contingent upon a General Accounting Office (GAO) audit and for this reason request the GAO process move ahead at utmost efficiency.

Shane Murphy

This is Grand Canyon we're talking about

Excerpted from an interview with Martin Litton, September, 1994

The thing about Glen Canyon Dam is that when the Elliot Porter book, *The Place No One Knew*, came out, the concern was what would be drowned—not what the downstream effects would be. People didn't stop to think about what it would do to the Grand Canyon to have the Colorado River stopped up there and released in surges, the way it's been ever since Glen Canyon Dam was built. So that wasn't an issue.

The government doesn't really give a hoot what happens down here. That's the problem; we don't elect the people who will take care of the Earth that we love. I spoke with the then regional director for the Upper Basin of the Bureau of Reclamation, David Crandall, a man I respected, a man I'd had a lot to do with in the years when we were first talking about this surge and these ups and downs that have destroyed the beaches and hurt the river in so many ways. We talked about putting the peaking power at Hoover Dam—where it should be—could cut down a lot of wires and save a lot of copper, because not as much of the power would have to go so far. And he said, "Well, from the standpoint of the federal taxpayer, and the rate payer, and the nation at large, and the people who care about our national parks, that's the way it should be done." He openly stated that to me. And my question was, "Then why don't you do it that way?!" And he looked rather shocked. His region is centered in Salt Lake City—that's the Upper Basin. And his answer to me was, "Well, if we did that, Boulder City would get the credit." That's the *only reason* that they see in the Upper Basin for not letting this dam produce steady power, which is now being done by the Navajo Power Plant that pollutes the air so you can see the smoke cloud from outer space and so forth. Glen Canyon Dam could still be doing that.

The favorite alternative, the preferred alternative of all the different programs and plans they have, involves 5,000 lows and 2[5],000 highs. It states it very clearly. That's what we're headed for. Once they've numbed the river community, or people who care about this national park, who care about anything, they've worn us down, they've gotten us so we don't care any more, then here come the lows and the highs, and what's left of these camps, and what's left of nature down here that took centuries to produce, is forgotten. And their hope is that by that time nobody will care very much. People will be so tired of fighting this that they won't bother, they won't go to court and get the results that we should get. The Bureau of Reclamation wants to appear not only

indomitable, but infallible.

But all they have to do to correct one big mistake is to let that water come out, seasonally adjusted, going up as the summer approaches, and gradually going down with the fall, being at its lowest point of 5,000 feet or so in the middle of winter, and then coming up again in the spring. There would then be ample water all through the river-running season to give us something more than this trickle we've got out here now, and to produce a decent experience for Americans and others who want to come down here and really savor the soul of the Grand Canyon. We'll never do that until we have the water go up and down seasonally. Nature can adapt to that—it always did. The plants came and went and the fish came and went, and they could spawn and so forth and so on. But now, nothing is normal.

This interim flow period, who knows how long that's going to last? That's intended to kind of quiet you down. You don't notice that things are so bad. They *are* bad! But they'll *really* be bad when they drop this thing to half of what it is now, or less, every day, and raise it to three times what it is now every day. And we'll be right back where we were, and yet people who come down here and run this river, who make a living at it, are giving in to this, just surrendering to this. We don't have to surrender! It's our canyon, it's our national park. We need to straighten out this situation, let that dam work—who cares—but let it send out the flows.

Therefore, being realistic, and being reasonable, and very reasonable, we say, "Okay, we won't tear down the dam, as long as the dam is operated for the maximum benefit of Grand Canyon National Park." Hoover Dam can take care of everybody below there.

The Secretary of the Interior will listen. It only takes one paragraph to explain to him where we are. But is that ever going to be forthcoming? Not that I know of. He can fix it. Will he? Does he care enough? Does he know enough? He's been told, but unfortunately he seems to be rather political too. He will do what is right, though, if the newspapers and television, radio, books, people—*anyone!*—if only enough people stand up and fight for it. But people are not fighting for it. It's like a lot of cattle being led to the slaughter—they don't know where they're going and they don't care.

There are several reasons why the river should be natural. One is the joy of running on a natural river, and knowing that you're as close to nature as you can be. And the other is, whether we run it or not, nature has its right. It has a right to be here untrammelled, unfettered. Man doesn't have to screw everything up, and yet

we go out of our way to do so.

The West was open for grabs. After Powell, everybody was going to start irrigating and doing all kinds of things in the West, and those things can't be done, of course, but greed was the motive. We're all greedy for one thing or another, but some of our desires, I think are on a higher plane than some of those of others. And we have no right to change this place, even though our change is only very temporary. In the long run, as Pat Reilly used to say, you'll never know those dams were there. In a hundred thousand years, there won't be a trace of 'em. And there won't be a trace of us either. But do we have a right even to interrupt nature, even for a short time? To exterminate species? To kill the last fly? That's not really our right.

We're the aberration on Earth—humans are what's wrong with the world. And it shouldn't show down here. We should be as close to what creation brought us, as we can be. And we need to be sensitive to it, aware of it, and appreciative of the fact that we have this place to enjoy because of natural processes, which we had no control over, and couldn't have changed, but just the same, we're off on the edge of nature, and we ought to show appreciation. It's the same thing about throwing garbage around and so forth. Those are things that are so obvious and we can easily control. But when we're here, we should stop and think that we as a people, we as a race, we're controlling the present, as we have the past of this place, and the future of the Grand Canyon. And as an experience, which is a soulful experience, a really deep experience, this canyon can be for people who are attuned to it, we should make it the best possible experience.

It's been said that those who ignore history are doomed to repeat it. You can't repeat what we've done here, because once it's done, it's done.

It's not important that we physically enjoy being here. What's important is that *it's* here. And I think a lot of satisfaction, a lot of pleasure in wilderness is experienced by people who never go to the wilderness, or who rarely do, or maybe can't or may someday, or may have in the past, can't do it any more—because it's knowing it's there, that's where the real satisfaction is.

Grand Canyon National Park had a line drawn around it, and that's why it has some measure of protection. Every national park, every wilderness, every national monument, every state park—it's got a line drawn around it and there are things you cannot do inside that line, and that's what the protection is. But to think that you're going to convert people into ecologists overnight, the way some of these idealists seem to think we can do, that's the fallacy. Better get those lines drawn, and then hang onto them, and eventually they'll coalesce, eventually we will care.

So we'd better draw some lines, and we'd better do it in a hurry before we think that we've converted our people to the point where they're going to take care of nature.

Another Point...

I've learned over the years of fishing that it's real easy to sit on the bank in a white shirt and look pretty. It's another thing get into the water, retrieve the net, and pull some fish out of a muddy, torrential river. I support Seasonally Adjusted Steady Flows (SASF). It is the closest mimic to predam flows of any alternative. Ultimately, it is to the benefit of the resources to remain as closely attuned to the natural hydrograph as is possible. In the long run, the river will prevail.

SASF is supported by the United States Fish & Wildlife Service, whose mission is to protect and enhance fish and wildlife populations. The Biological Opinion should be viewed as professional advice. Support for SASF was also shown by the National Research Council (who reviewed the draft EIS), and by a number of fish researchers and managers in Grand Canyon.

SASF offers a wide range of benefits to the resources compared to the Modified Low Fluctuating Flow alternative (MLFF), including benefits to endangered fishes, sport fishes, conservation of riverbed sand, boating and angling safety, available area for beach camping, recreational economics, and to the aesthetic and wilderness values of Grand Canyon. These advantages are spelled out in the EIS. The advantages over MLFF are very likely even more dramatic given the latest incorporation of higher peak flows and upramp rates in MLFF.

SASF offers a safe strategy for the protection of the humpback chub, and should be fully implemented before experimentation with warm-water releases via selective withdrawal. It has been argued that SASF should not be implemented because it may result in increased trout abundance, which could be detrimental to the chub. The rationale continues that warming the water through selective withdrawal will far outweigh any benefits to the chub, that may accrue through SASF. In my opinion, this is a thinly veiled attempt to dodge SASF by those interests wishing to maintain the status quo of fluctuating flows.

Chub are safe from cold-water predators in the Little Colorado River (LCR). Unlike other tributaries in Grand Canyon, the LCR is exceedingly inhospitable to trout. While warming the water does provide potential for mainstem spawning of chub, it also opens the door for invasion of additional warm-water predators, to which LCR is not immune. If SASF is not implemented, warming the water will be one of the next options available to try and improve the humpback chub situation, and it is a much riskier strategy.

SASF has the clear potential to increase survivorship

of chub fry in the mainstem over fluctuating flow alternatives. It is common knowledge among field investigators that flood events do transport small chub downriver. Flood events in the Little Colorado River transport very young chub out into the mainstem. Fluctuating flows in the mainstem are daily flood events, and can be expected to strongly compound the problem of mortality through displacement, wash-down, and predation of young chub.

The faster the upramp rate, the quicker a fish needs to respond. It can be expected that higher upramp rates will result in less successful response and greater mortality, especially to small fish that have just undergone cold-water temperature shock.

With increased survivorship of young chub in the mainstem, SASF could lead to LCR reaching its full carrying capacity for chub (no one knows whether or not LCR is at full capacity or not), and could even lead to colonization of chub into other tributaries. I strongly doubt that these potentials would be realized through sporadic, steady flow experiments, but will require full implementation of Seasonally Adjusted Steady Flows.

I urge supporting the SASF alternative now. Waiting until steady flow experiments are done through Adaptive Management is uncertain, and risky. At present, AMP is neither chartered nor appropriated. With the present national budget crunch, I would expect some difficulty getting Adaptive Management funded.

Reclamation and Western could both be expected to push strongly for AMP funding with SASF in place. Naturally, they'll want to experiment to see if they can get fluctuating flows back without harming the resources. However, they are not likely to push Adaptive Management to see if steady flow experiments are better for the chub, or other natural resources.

Ultimately, a level of power resource available for marketing will be reached in the Operations of Glen Canyon Dam EIS (GCDEIS). The GCDEIS will be followed two other EISs being prepared by Western. One is the Salt Lake City Area Integrated Projects Electric Power Marketing EIS (SCLA/IP EIS), and the other is an Energy Planning and Management Program EIS (EPAMP EIS). The SCLA/IP EIS will "establish its commitment level for sales of long term firm electrical capacity and energy to its SCLA/LP customers". The EPAMP EIS will place power under contract. Basically, it will bind utilities to comply with stipulations set by Western, or penalties can be placed on the utilities. It will also set a time frame on how often power contracts will be renewed. This can be from 5-35 years, depending on which alternative is chosen.

The concern is that once power commitment levels are established, and the contracts are drawn up, Grand Canyon will be "locked in" to delivery of a power

resource, potentially for a very long time. It is to the benefit of Grand Canyon National Park to support an alternative that offers a low power resource, and offers the most advantages to the natural resources and recreational aspects in Grand Canyon. SASF offers this exact choice.

If a higher power resource is chosen, such as the "new" MLFF alternative, it is doubtful that any return to a lower power resource, such as SASF, would ever occur. I would expect that even experimental steady flow experiments would be subject to cancellation, much like the beach flows were this year.

The National Academy of Science suggested incorporation of "non-use values" in 1987. Despite this, non-use values were not incorporated into the final EIS, but will be published in a separate document. I suspect this is because non users would likely care most about the natural resources and Native Americans, rather than power marketing. The answer we continually hear is that the cooperating agencies broadly support the preferred alternative. As we've all read, the purpose of the EIS "is to determine specific options that could be implemented-consistent with law-to minimize adverse impacts on the downstream environmental and cultural resources and Native American interests in Glen and Grand Canyons". I don't see anything in that sentence about minimizing adverse impacts to power marketing. I do agree that the cultural resources of Native American interests were addressed professionally, and the people involved in the Programmatic Agreement should be recognized for a job well done. However, power politics again enters the picture. One of the concerns of the Navajo Nation (and I assume other Native American interests) is economics. The Navajo Tribal Utility Authority purchases about a fourth of its power from Western. As such, it is a high reliance utility subject to increased power rates under SASF. Despite these facts, there is no mitigation in the EIS to insure Native American economic interests are met. This leads me to believe that the real interests being protected are those of high reliance Salt Lake City area power utilities, and not Native American interests. Under any operational scenario at Glen Canyon Dam, Native American interests should be guaranteed the same stable, long-term firm power rates. Maybe Salt Lake City should be looking at Hoover dam for peak power, give the base power load of SASF to the Tribes, and give the natural resources in Grand Canyon National Park back to the American public.

Chubs and cheers,

David R. Van Haverbeke

One More...

The Grand Canyon Trust would like to once again thank the Bureau for conducting an open and responsible process, one that included many parties: environmental, recreational, water and power interests, Native Americans, and other resource managers. We commend the Cooperating Agencies for their efforts as well.

The Preferred Alternative Final Environmental Impact Statement should, above all, meet the mandate of the Grand Canyon Protection Act to operate Glen Canyon Dam "...in such a manner as to protect, mitigate adverse impacts to, and improve the value for which Grand Canyon National Park and Glen Canyon National Recreation Area were established, including, but not limited to natural and cultural resources and visitor use."

Now that this important document is completed, it is in the best interest of us all to move quickly ahead. We urge the Secretary of the Interior to call for an efficient and timely audit by the General Accounting Office as mandated by the Grand Canyon Protection Act and to issue a Record of Decision well before the end of 1996.

We would like to make the following specific comments on the Final EIS.

Preferred Alternative Flows

The Grand Canyon Trust supports the limits on minimum flows, downramp rates, and daily fluctuations as described in the preferred alternative. We cannot, however, support the increase in upramp rates or maximum releases without credible proof, based on the testing of a specific scientific hypothesis, that these alterations in operating procedures at Glen Canyon Dam follow the spirit and intent of the Grand Canyon Protection Act. At the very least, the implementation of two parameters at once sacrifices the ability to scientifically monitor future impacts.

Four years of monitoring flows similar to those described in the draft EIS have shown these flows to be beneficial to the river's downstream resources. We suggest that a more formal assessment be made of the benefits and impacts of any changes to these flows before they be implemented. We suggest that they be treated in the same manner in which changes will be addressed under adaptive management and that a thorough assessment be produced similar to that envisioned in annual reports from the Adaptive Management Work Group to the Secretary of the Interior. This assessment should, as a minimum, include the following:

- 1) The background and assumptions under which the changes are being proposed,
- 2) Specific resources that could be impacted posi-

tively or negatively,

3) Specific studies already completed that best address these impacts and paraphrase the arguments pro and con,

4) Identify resources and resource systems to which long-term impacts might be expected to occur,

5) Identify the monitoring criteria necessary to measure the success or failure of the proposed changes,

6) A peer-reviewed final recommendation for: a) further research before implementation, b) trial implementation with specific monitoring goals, and/or c) implementation with long-term monitoring.

Habitat Maintenance and Beach Building Flows

We support the annual habitat maintenance flows designed to maintain the critical habitats and the dynamics of the natural system and habitat/beach building flows designed to redeposit sediment and reshape the river's topography much like the Canyon's historic floods. We are disappointed in the recent postponement of the spike flow scheduled for this spring and urge Reclamation, in conjunction with the scientists, the upper basin states, and environmental groups, to work toward implementation of an experimental habitat/beach building flow for spring 1996. A critical evaluation of its flow size, timing, impact on fisheries, and a comprehensive research and monitoring plan should be completed prior to implementation.

Endangered Fish Research

We support experimental steady flows to benefit endangered fish species, subject to the results of a risk/benefit analysis now in progress. We recognize that there are inherent risks in any change to the present system. Efforts to help the humpback chub risk helping non native predators as well. This possibility and clearly defined standards by which to measure the success or failure of the experiment must be considered and identified in the final research plan.

Flood Frequency Reduction

While we applaud the recognition of the need to apply the NEPA process to any decision to raise the level of the spillways at Glen Canyon Dam, we urge that the Secretary instead achieve the same flood frequency reduction by reserving greater reservoir storage. According to the EIS it would not measurably increase the likelihood for future water shortages in the upper basin States, would cost nothing, would result in a net gain in water by reducing losses to evaporation and bank storage, and would not further impact natural and cultural sites on and around Lake Powell.

Adaptive Management and Management Objectives

We support the proposed Adaptive Management Program (AMP) and agree that the Adaptive

Management Work Group should be set up as a Federal Advisory Committee chaired by a representative of the Secretary of Interior with membership from the Cooperating Agencies and members of the environmental, recreation, and power-user groups.

The AMP should be funded and implemented immediately. Several important issues remain and it provides the most appropriate forum in which to address them. One unresolved issue is agreement on the priority of management objectives and a clear set of substantive resource-based standards by which to measure the adequacy, as a legal and policy matter, of Glen Canyon Dam operations. Without these to provide guidance, Adaptive Management will be frustrating and ineffective.

The Grand Canyon Protection Act requires, among other things, that the Secretary of the Interior operate Glen Canyon Dam to protect, mitigate adverse impacts to, and improve downstream natural and cultural resources. These broad goals can be achieved only if the Secretary defines with specificity the character and desired condition of those resources. In other words, the Secretary needs resource standards—something to manage dam operations for, a defineable goal. A set of guidelines or criteria should be developed, consistent with the environmental goals of the Grand Canyon Protection Act, the Endangered Species Act, the Clean Water Act, and others, and integrated, to the maximum extent possible, with the administration of those goals by the managing agencies. The Adaptive Management Program should use, whenever possible, the natural processes of the Colorado River to achieve specific objectives. The decision document should either set specific downstream resource standards or mandate a process by which those standards will be set. If the first course is selected, we recommend that the Secretary adopt standards such as, but not limited to, the following:

Beaches, backwaters, and sediment transport: A positive sediment budget should be maintained on a rolling ten-year basis. Surface area and volume of beaches and backwaters shall be maintained at or above amounts observed on average over the last ten years, and shall be measured on a rolling ten-year average. Separate minimum criteria shall be established and maintained for each geomorphic river reach. Critical emphasis shall be placed on maintenance and improvement of beaches and backwaters in those areas of the river corridor that provide habitat for threatened or endangered native species.

Threatened and Endangered Species: Native species and populations thereof shall be maintained at or above levels observed on average over the last ten years, and shall be measured on a rolling ten-year average.

Water Quality: The quality of water released from Glen Canyon Dam shall comply with applicable standards established by the Administrator of the Environmental Protection Agency. The individual qualitative attributes of

water released from Glen Canyon Dam (e.g., temperature, turbidity, nutrient load) will be maintained at levels no less favorable to the survival and recruitment of threatened or endangered native species than the levels observed on average over the past ten years.

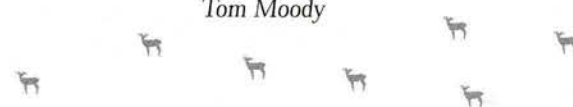
Cultural Resources: Cultural resource sites and values will be maintained in accord with the inter agency agreement executed by the Advisory Council on Historic Preservation, Arizona State Historic Preservation Officer, Reclamation, National Park Service, and Indian Tribes.

If the secretary chooses not to identify specific resource standards and criteria as a part of the record of decision, he should instruct the Adaptive Management Working Group to develop and submit for the secretary's review within 90 days of the groups' designation the following items:

- Quantifiable standards for evaluating the condition of downstream natural and cultural resources;
- Procedures for reviewing and, if necessary, revising those standards on a periodic basis;
- Procedures for integrating compliance with the natural and cultural resource standards with other Glen Canyon Dam operational criteria;
- General administrative procedures and protocols for the working groups and panel, including dispute resolution procedures; and,
- Procedures for responding to environmental or cultural resource emergencies.

Thank you for entering our thoughts into the public record.

Tom Moody



Bat Towers: Legacy or Litter?

Yeah, they're old and weird, but how do they really differ from the toxic mine tailings that litter the mountains of Colorado—the trash that the exploiters never bothered to pick up? How can GCRC campaign relentlessly against the USGS cable crossings yet revere the bat towers? There's something incredibly egocentric about thinking our species' garbage is special, that it deserves to be preserved as a part of Grand Canyon. Teddy Roosevelt was right when he said "Mankind can only mar it."

Take out the towers, drain the lake, blow the dams. And take those bridges at Phantom out too. Viva Wilderness.

Bruce Wayne

Guano

GUANO! The call of the river that the "young-timers" on the "Legends" trip last fall learned from Bob Rigg. Bob would shout it out, and from wherever Tad Nichols was, a responding call would follow. Soon, many of us joined the shouts, and some still continue to do it. Jim Rigg evidently started the call, possibly in reference to the Bat Cave and its potent supply. At the spring GTS, Katie Lee added a few more details. Whenever one of the Rigg brothers was not on a trip, he would head to Navajo Bridge to greet the river party passing underneath. The greeting consisted of the largest flat rock one person could toss off the bridge, the act of tossing, and the shout of "GUANO!" just before the rock hit the river in front of the first boat. Also at the GTS, Lois Jotter Cutter presented a river guide with a commemorative bag of bat guano, albeit not from the Bat Cave.



GUANO! has other connotations, however. On January 13, 1995, Grand Canyon National Park issued a "Draft Environmental Assessment: Bat Cave Restoration, Grand Canyon National Park," that caught many people off-guard. The comment period originally ended February 10. Due to unexpected concern for the project, GCNP extended the public comment period through April 24.

The Park Service proposes to remove the three derelict tram towers of the bat guano mining operation at the Bat Cave, Colorado River Mile 266 (right bank only), in order to: provide optimal conditions for Mexican free-tailed bat restoration; protect the visiting public; and regain wilderness values. (see Kim Crumbo. 1994. *Bat Cave Restoration Project Proposed*, bqr. 8:1.

Two alternatives are discussed in the DEA: the proposed action, remove the towers and rehabilitate the impacted area; and no action, do not change current administrative actions for the area. Two other alternatives were considered and rejected: remove the towers on site with the use of a cutting torch; and close area to visitation and rehabilitate multiple trailing.

Most folks in the River/Canyon community are probably bogged-down with their involvement and interest in the EIS process involving Glen Canyon Dam and the Park General Management Plan, and probably do not want every proposal for action in the Park to be overly EISed. The Bat Cave DEA, however, is lacking in some regards: biological information on the Mexican free-tailed bat is sketchy, at best, with no dates given for habitation, mating, maternity, or occupancy in the cave, and little information given to population impacts; visitation, accident, and injury statistics are not given; and no definite time-table for proposed action was noted,

except for the statement "late winter."

The Grand Canyon National Park Enlargement Act of 1975, included the Bat Cave area within GCNP. It, and other legislation, also mandated wilderness provisions for this area and also most of the Park. While many may be in agreement with the wilderness idea and proposals for Grand Canyon, the Wilderness Act of 1964 states that wilderness "may also contain ecological, geological, or other features of scientific, scenic, or historical value." (Sec. 2(c).) This appears to mean that the Bat Cave guano mining operation may be left as a historical enclave within the wilderness area.

Currently the guano mining operation relics associated with the Bat Cave do not meet the criterion of age of 50 years or more for historical designation. Even if the relics met this criterion, and all the other criterion for designation, and was designated a historic site under the National Historic Preservation Act, destruction or alteration of this site, or any other designated site, could still occur. As long as the Park Service documented the site in written and/or photographic form, the towers and other materials could be removed. NPS is willing to document, as stated in the DEA: "The towers do not meet the requirements for preservation as historic structures, however, in the interest of archival documentation, the Park Service will conduct an extensive mapping and photo documentation of the features prior to removal. The demolition phase will be recorded in detail using still photography and video."

What recourse does that leave for those who wish the relics of the guano mining operation to remain? Ann Howard, of the State Historic Preservation Office in Phoenix, has suggested that since NPS is doing everything legally required and still may remove the towers, a viable alternative is public input and concern. Enough comments from concerned individuals and organizations might sway the EA towards another alternative. So far, comments from the first input period have delayed the proposal long enough so that another round of input has been allotted. From some NPS statements it seems that the tower removal may not now occur this winter, though it might next.

Although the official comment period has ended, you can still send any comments you may have to Kim Crumbo, Bat Cave Restoration, GCNP, P.O. Box 129, Grand Canyon AZ 86023-0129. Copies of the EA may also be obtained from Kim.

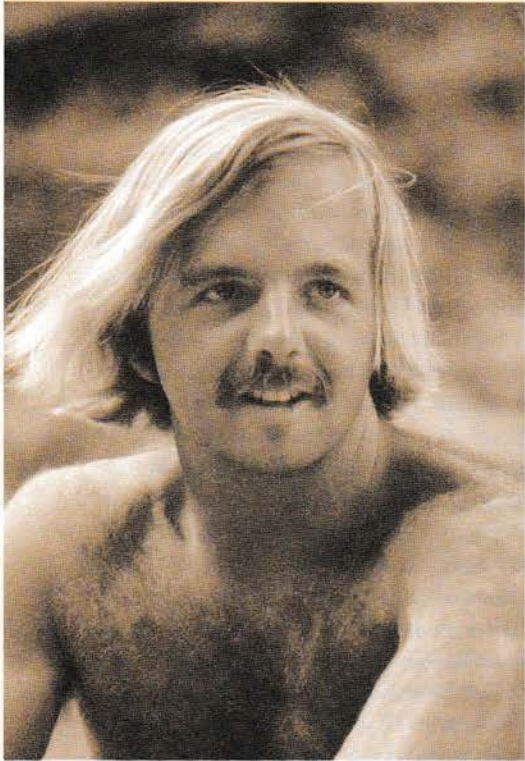
GUANO!!

C. V. Abyssus

Gloeckler and Winter continued from page 1

What possessed Henry to get into the business?

Well, Hank had already run rivers with Jack Curry. A particular fella named Paul Thevenin was the boatman for Curry up in Idaho ... and it just really stirred him, and he wanted to get somethin' going. I think he ran in probably 1964, and then again in 1965, and by that next



The springtime of Bruce Winter

year he was ready to run rivers. And Henry was not, by any means, an old guy. At the time he was twenty-one himself, so he was all fired up about it, "I'm gonna be a riverman and be in business all at the same time!" (laughs) So that's what got him going. He got himself a little chicken coop there in Turlock, California, and that was the warehouse. Truck that wouldn't run, just like everybody else's,

and some basket boats, and called it a river company. But he came around, he did okay for himself, from meager beginnings.

(pause) Bruce's turn.

WINTER: That first trip I ran a boat, which was my fourth trip, we'd sit back there with the River Guide, keep lookin' through it, and I remember standin' up one time and tellin' somebody, "Well, hold on, here comes Ruby," and we motor, and we motor and motor, and pretty soon one of the passengers who had a guidebook said, "You know, I think we went through that about twenty minutes ago." (laughter) I also remember I had heard just enough about geology to be dangerous (laughter) and we got down there below the Little Colorado and I'd heard them talk about the great unconformity—this happened to be a geology group—and I stood up on this trip and said, "You know, this is a special area. This is called the great unconformity," and somebody asked the dreaded question, "Why do they

call it that?" and I told them, "Well, it was because this is the only part of the canyon where it widens out like this and you can see from rim to rim, and it's like twelve miles apart. It's different, it's an unconformity, a difference." (laughter) Well, nobody said anything, but they all had this blank stare. We got to camp that night and one of the ladies on the trip who had been at the geology classes came up to me and said, "You know, Bruce, I don't think you really want to tell that too often," (laughter) and proceeded to tell the true story.

Bill Gloeckler, Bruce Winter. As outfitters, they're a boatman's dream. Great to work for, kind of like big brothers: real boatmen who learned it all the hard way but hung in there, worked at it ferociously, paid attention, and in the end got extremely good at it.

Their company today, ARR, may be a textbook example of American industry at its best. Big, but lean and mean too. Efficient as hell, but constantly humorous, constantly human. The money has been rolling in for a couple, three years now, but an amazing amount of it has rolled right back out—poured relentlessly into wages, benefits, better equipment, resource management trips, special population trips, training trips, quiet motor research, Wilderness First Responder courses, and an unbelievably slick system for getting river trips on and off the water (from "labor's" perspective). You look at the overall setup today and it's a little scary, just how slick it really is. Look again, at where these guys started thirty years ago, and it becomes something else altogether...

WINTER: I grew up in Phoenix, and 1970 our family took a commercial trip with Sanderson. I just graduated from college that year and we did an eight-day trip down to Diamond Creek. I got to know the guide, Larry Zurker, pretty well on the trip, and he called me about a month later and asked if I'd like to come back and swamp. I said, "Yeah! I'd love to!" So I went back and ran my second trip as a swamper for Sanderson that summer, and it was an interesting trip. It was all stew-ardesses from TWA. (chuckles) I remember that. (laughter)

GLOECKLER: Funny you remembered that!

WINTER: And I said to Larry, is this a normal trip? (laughter) It wasn't, but it still seemed like a good thing to do. So I'd kind of set my mind to try and get a job doing it. That was the end of the summer and the opportunity came up to go to Europe. I had a couple of friends who'd saved up their money and were just going to go hitchhike around. This was the seventies and everybody was doing Europe on five dollars a day. And we tried to do Europe on two-and-a-half dollars a day, instead of the five dollars a day, which you actually could do. (laughter) You really could. And the funny part is, actually that's where I met Bill, in Innsbruck, Austria, in the train station. Went into the train station to get a map to find the youth hostel, and one of the

guys started talking to Bill and found out he was from Arizona, and up came the river, and pretty soon Bill got us a place to stay at a little hotel there, a little frau rented us a little place.

GLOECKLER: In a home there.

WINTER: We spent a month there. We got student tickets and all the things, and we learned how to ski. And it was cheap. It was cheap: we'd ride the trolley up there for fifteen cents and get a student ski pass for pretty much nothing and go skiing every day. And ended up, we were leavin' there and Bill said, "Sure, I'll go," and so he joined on with us and we traveled for three or four more months through Yugoslavia and Turkey, Bulgaria, Greece.

Came back to the States that May and tried to get hired on somewhere, and the only thing I could do is, I got a trip with Canyoneers. Gaylord put me on the river for one trip, and I never really got hired on until the next summer. Bill talked to Henry, got me a job full-time in the summer of 1972. Got up there the first trip out they needed a boatman. Well, I had three trips: one as a passenger and two as a swamper, and had driven the motor at least twenty-thirty minutes, total. (laughter)

GLOECKLER: So he was an expert!

WINTER: Right, I was qualified! (laughter) I met the Park Service minimum. (laughter) And actually, Henry was smart enough to put Stan Jantz, who had one trip, but had worked in Idaho, put him on the boat too and said, "Well, between the two of you, I think you can make it down." (laughter) And we actually did.

GLOECKLER: It was fun to watch.

WINTER: That was a wild trip—it was very low water, if I remember right.

GLOECKLER: Very low. (chuckles)

WINTER: And we'd trade off running rapids. I'd run one, he'd run the next one. I think I remember especially, we got to Hance and it was so low, we stood on the shore and Bill talked to us about—well, it was impossible to run, we'd never make it through. (laughter) But he was gonna try, and if he makes it, Bruce, you come next.

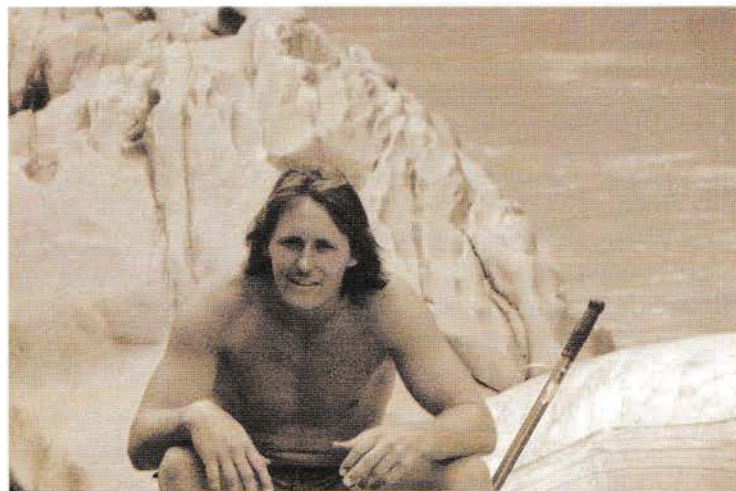
We had this great plan. We'd come in this spot, then I knew to go left and right and left and right, and I had this all planned out in my mind after standing on the beach for two hours, looking at this thing. Bill went through and ran this great run, and we went back to the boat and I was scared to death. In fact, it was the first time I'd ever noticed that syndrome when you look at the water for a long time, and then you finally look away, the walls are moving in the canyon. And I was so scared I thought that was because I was ready to pass out—the canyon was kind of movin.' (laughter) So I got on the boat and came in far right, tried to go left, hit the first hole sideways. It threw me down on the floorboard. And we were so inexperienced, we were runnin' six-

gallon Johnson cans. We had three of 'em tied together on each side, and we had tied a rope to the frame, and then through all the Johnson cans and tied it on the last can—but we hadn't tied it back down to the frame. So it threw me on the floor and all six of these Johnson cans bopped up in the air and landed on me. Stan ran back and was trying to take the Johnson cans off to get me up, and I still had my hand up in the air, throttling, thinking, "Okay, now if I just go left fifty feet and then right..." We made the worst run in the world, but that was my fourth trip, and that kind of started me out. Actually, that also was the year that Bill and gosh, who were all the guys that went and started Relco?

GLOECKLER: John Foster, Dennis Prescott, Rick Hilsammer.

WINTER: Yeah, they were all working for Henry and that was the year they were all leaving to go start their own thing. So it moved me from the bottom of the list to the top of the list almost instantaneously. My fourth trip was that trip, and my sixth trip I had two people following me down—I was the lead boatman. With them all gone, Henry went, "Well, you've got five trips, you're my lead guy now." (laughter)

GLOECKLER: That's right. That season, they had actually left. I got left as the sacrifice to Henry, because everybody else was leaving, and we didn't have a lot of trips with Relco, we were just gettin' that goin'. We'd just built the equipment, made the investment, and were goin' for it, moving to Flagstaff and all that... But one of the more interesting parts of that season was that that was the year the Park Service had decided they were going to use the amount of use each company went



Bill Gloeckler

through the canyon with as a base . . .

WINTER: That was the year.

GLOECKLER: Right. . . for their user days. And they were going to cut 'em off there. So some of the trips that we had to pull off that year—it was a fairly impressive season. I remember twelve-day trips, sold out at \$125 a

head, probably. Inexpensive, just get a lot of people and let's go down there. And of course we only had one set of equipment (laughter) and one truck. So if it was a twelve-day, and then the next one was a ten-day and it had to be on that next day, you just. . . . We did a lot of this, actually, back-to-back. We would get to Pierce's and we would de-rig and we'd throw it on a truck and we'd drive all night, and we'd rig in the early morning hours and we'd leave that day. We had a lot of college/university groups.

WINTER: A lot of university groups—geology groups. And they were getting credit for this course.

GLOECKLER: Sonoma, University of Las Vegas, Nevada. . . . Reno.

WINTER: In fact, I can think of . . . three-fourths of the trips I ran that summer were college groups.

GLOECKLER: They were. When you ran a trip that was made up of individuals signing up, then it would be back to a six-day to Diamond. You know, it would be crankin' through there. And he'd throw those in the middle. But we were back-to-back-to-back-to-back. There was just no gettin' off the river. Which, you know, of course for a river guy, that's a good thing—you like that river time.

The thing about Henry Falany and the heydey of Whitewater Expeditions was, everything old Hank did was BIG, and that included the boats. Which were huge. As were the frames, and the boxes, and the motors, all of it. . . double-tough, double-big, double-heavy. You could have put out to sea in those boats, and they did too, later on down in Belize. But back in Grand Canyon, not only was it true that, fully loaded, they were just about the trickiest, scariest things on Earth to run when the water got low, also, every time you rigged and de-rigged em, sad but true, you had to manually levitate each individual item in and out of the truck.

Actually, they manually levitated crazy stuff all through that canyon. They backpacked lower units down the north Kaibab more than once, during the dog-days of low water; one time a slight oversight in the rig-out caused them to send two guys on a twilight run to Phantom Ranch and up the trail, where next morning they packed down an entire trip's worth of frozen meat (for sixty) purchased under emergency conditions from Babbitt's grocery store in the dead of night.

WINTER: I think Bill probably remembers the trip—there were times when it was impossible to make it back in time. I mean, it was just logistically impossible. We had a trip where we arrived at Lee's Ferry to rig at four in the afternoon, and the people had been there—it was a college group—the people had been there since about eleven. And by the time we got rigged, it was absolutely pitch dark. Henry drove down in his truck and said, "Well, if you don't shove off, they'll ask for a day's worth of money back. I'll drive down to. . . ."

GLOECKLER: "So you're leavin' tonight!" (laughter)

WINTER: "I'll drive down to the Paria and I'll turn my lights on and you pull down there and we'll camp at the Paria." And at that time, the Paria beach was huge. I mean, it was a huge sand beach, lots bigger than it is now. And we did a night watch where you'd be up for an hour, and then at two o'clock you'd wake the next guy, and he'd go from two to three, and you'd wake the next guy. And Robin Falany went to sleep on about the two to three watch, and we woke up in the morning a hundred feet or more from the water. There was no way we could get the boats back in. That was when they still had the trailers and a little store there at Lee's Ferry. In fact, I walked back up and had lunch at the store.

GLOECKLER: Still had the restaurant there. You could set and have breakfast or lunch or whatever, which we did.

WINTER: Yeah. So our second day, we had lunch at the store there. I think all the trips that launched that day were going by us, so somewhere about three, three-thirty, we got back in the water and we went down to Soap Creek, (GLOECKLER: Uh-huh) and we knew the water was goin' down, so we did another night watch, and don't blame that one on Robin, but somebody fell asleep again. We woke up in the morning, all the boats just draped over rocks. And we said, "We've got to dismantle 'em and get 'em in the water." I think we got back in the water—it was lunchtime or later on our third day and we were at Soap Creek. (laughter)

GLOECKLER: It was a rough start.

WINTER: But that was not that unusual that summer.

GLOECKLER: No, it was not. That was the typical summer. I think one of the best ones was pullin' in about two, three a.m. from a solid de-rig and drive around there, and then—riggin'—just reachin' a point where people were fallin' all over themselves. They used to have those little mobile units that were like a motel where you could get a room right there at the Ferry. For some reason, Henry had sprung for that, and we knew we had a room. Finally at one point I said, "Let's go sleep for two hours and then we'll come back and finish this" and then the people will be there. So we all did, and there was about six of us. And Bruce and I were the guides, so we got a bed and everybody else was on the floor. Not too much time went by and everybody was sleepin'. All of a sudden (chuckles) Bruce is layin' over there, jumps up off the bed and goes, "The boats! The boats! We gotta get to the boats! The boats are floatin' away!" And everybody on the floor jumps up and gets into it, thinkin' "Okay we gotta get to the boats!" but we're in a motel room, the boats are on the beach, they're not goin' anywhere, they're not rigged yet. (laughs) So that was a pretty restful night. Bag that idea of sleepin'! We just went and did the work, and sure enough, people showed up and away we went. That's all I can really remember of that season. It was just keep

rolling and get 'em down there. And it was fun too, to look back on it.

WINTER: Yeah, it was a wild season, because it definitely ... it was, it was just constant. You got off at the end, and like Bill said, you drove all night.

GLOECKLER: Absolutely, and it kind of fit Henry's mold up to that point. Because Henry had permits all over. Even by 1967, we were haulin' between California, Idaho, and Utah: By 1968, between those three and Arizona. You had one truck and you had a load of equipment, and you would just haul from state-to-state. Henry would line up trips accordingly. That was the way a lot of companies were building up then, and it made sense.

WINTER: The trips were different, too, I think, because the expectations of the people were so different. They still thought they were taking their lives in their own hands. (GLOECKLER: And they were.) (laughter) And they were! They thought, actually, if they came off unhurt, it was successful.

GLOECKLER: It was an adventure travel business. They weren't "tourists," per se. They knew a little bit about it—they were fearful for what they were gettin' into, and they should have been. (WINTER: Yeah.) But it's changed a heck of a lot from that.

So it was pretty adventurous, huh?

GLOECKLER: Well sure! You know, you're still in high school, you don't know nuthin'. You're thrown out there on a river with a bunch of people and going', "Uh-oh," and the equipment was (WINTER: Oh, Lord.) Oh, everything would break. You know? I mean everything. It was just those days. Everybody had to go through that. That was part of the deal then. (WINTER: No water.) No water. (WINTER: 15,000 was. . . .) Actually, they were still filling the lake, so they didn't give you a lot. We used to talk about 3,000 cfs and I think that's pretty fair. I think it was down there. (chuckles) A lot of big rocks in that river!

WINTER: Oh yeah, if somebody talked about 15,000, that was scary, (GLOECKLER: Yeah.) because none of us. . . That was too much water.

WINTER: The Whitewater equipment at that time was—I mean, it was absolutely the best we could do, the best probably that Henry could do. (GLOECKLER: That's honest, yeah.) But it was pretty poor equipment, and we spent a lot of time patchin' and repairin' motors and also, like you said, we had a lot of big trips, and you'd be out there the fifth day and somebody'd walk up to you, and you'd go, "Are they on our trip?" (GLOECKLER: Are you with us?) (laughter) And when you had sixty, seventy people, you hadn't even seen 'em all. And it was hard to guide trips like that when you had five people following you. You were kind of a traffic director, trying to always count and make sure there was still five boats back there.

GLOECKLER: You were constantly looking back,

wondering "What now?" basically.

I guarantee, we never thought of it as a grind, though. The road was probably the hardest part, of course. But we never really thought about it. I don't think any of the guys. . . . Dennis Prescott was a guy that I kind of grew up with in this business, and he doesn't know what a grind is, that guy. (chuckles) Wouldn't know one if he saw one. He's just always had that attitude. His thing I always loved about him is we'd be still working at about one a.m., trying to get somethin' done, he'd say, "Oh, we'll be alright in the morning." And sure enough, everything was okay in the morning. Another day, the sun came up, you moved on. And he was real good at that. We did some serious stuff together, he and I, pullin' off some trips for Henry. But I don't think either of us ever regretted it or thought of it as a grind. It just was, you always looked forward to it. I guess that's really the thing. You always look forward to that next river trip, and that's what that was, hauling around. You get off one, and heck, you're anxious to get to the next one.

By the time the boys—Gloeckler, Prescott, and Foster, etc. were Henry's age when he'd started, they were itching to go it alone too; and somehow they wormed things around to where they sort of had themselves a little company, called Relco. It was actually a subcontractual arrangement that would cause them untold grief later on, but they didn't know



Hank's big boat

that yet and for several years there, ignorance was bliss and life was sweet.

WINTER: I was never one of the partners. I came over after I worked for Whitewater a while, which was a good, like I said earlier, it was a good deal, because when they all left, I kind of went to the top right away. And I enjoyed working for Whitewater. I think, if I remember the reason I left, it was all over payroll, over how much I

got paid. At one time I got paid by the trip. . . .

GLOECKLER: Well, that would be the same reason everyone else left. (laughter)

WINTER: And since I'd do an eight-day, Sunday to Sunday, and then I'd come back and do a six-day, Monday to Saturday, I was pretty much. . . . I'd get off the river one day, and start the next day, or a couple of times we would get off the river and fly back. They'd take us up to Peach Springs and we'd fly back and start the trip that day. And in fact, kind of a funny story, Paul Thevenin who was the warehouse manager at the time had the gift for gab, and he didn't know how long it would take us or when we'd get in, so ... (laughter) He would do the orientation and it could be anywhere from a half-hour to two hours, plus. We'd land up at Marble Canyon, and there'd be a car waiting for us. We'd jump in the car and drive down, park the car and walk down the ramp, and when he saw us coming down the ramp, he'd wrap up his orientation and turn and say, "Here are your boatmen. This is your lead boatman, and here's your other boatman, and I think we're ready to go. Let's pack up." (laughter)

GLOECKLER: He was good!

WINTER: And it was! I don't think people knew whether they got the half-hour or the two-hour version. (laughter) ...So anyway, [after Henry decided to pay by the month] I talked to Bill and went over. And I just worked for Relco. I was just a guide. In fact, they had, I think, an eight-day trip—a nine-day trip.

GLOECKLER: We had a nine-day.

WINTER: And nobody wanted to do the nine-day trip. You guys did the seven-day trip.

GLOECKLER: Our mainstay, for the duration, really, was the eight days to Diamond. That was the thing that most of us ran year-in/year-out. Then they started experimenting with different settings, and some were seven, some were nine. They stuck with the eight-day, and most of us liked that—that schedule was real nice, eight days to Diamond, and it worked out real well... Running a business, early on in those days, it was tough. You were trying to make ends meet too. It's hard for anybody startin' out. But we changed up the rig some. I looked at the Relco years as the years of really kind of comin' around to interpretation and hiking being much more the focus of the trips rather than, "Let's just get us all

outta here alive," you know, kind of a thing. (laughter) And so we really pushed that a lot ourselves. We changed the rigs around and lightened 'em up —something that fit our needs a little better, trying to design 'em to exactly the warehouse and the truck and what-not that we had. You do some things operationally that you can, but we were pretty limited on funds, so there's only so much you can do. Our main focus was to run a trip that was well interpreted, and just hike their butts off—you know, show people this place. And that's what I relish the most about those years.

WINTER: You know, one of the most fun things we did [in those old Whitewater years] that you could never do now with passengers, but I remember being—it was either the best part of the trip or the worst —we would get down below Separation, or sometimes even above Separation, and we'd pull over and have dinner and repack the boats, and we always had at least four boats, so we tied two boats together, and then we'd tie the bow lines together, so you'd have kind of two boats and a hundred feet away you'd have two more. We'd shove out, and one set would be the party boat, and the other

set would be ... (laughter) The ones that just wanted to go to bed!

GLOECKLER: Go to bed and sleep—as if they could! (laughter)

WINTER: Really, a hundred feet away wasn't enough. You couldn't go to sleep on the other one. So the people on the party boat thought it was the best part of the trip, and the people on the sleeping boat thought it was the worst part. And we'd kind of pinball down the river, all night long.



And if you got stuck in an eddy, pretty soon the other boats would float by and the tow line would tighten up and you'd get pulled out. I can remember one night we were comin' down to Separation, and the lake was pretty low, and the rapid actually had started to appear a little bit. There was somebody camped there, had come upstream, and was camped there, and it was a pitch-black night and they couldn't see anything and they could hear this singing and yelling and everything coming down the river. And the guy ran out to the beach and he was waving a lantern yelling, "Rapid ahead, rapid ahead." And we floated up on the sandbar right near him, but we couldn't see him. It was still too dark. But you could hear our boats slide up on the rocks and get stuck. Pretty soon the other two boats went by, the line tightened, it pulled us off, away we went, and this poor guy was still swinging the lantern, yellin'. I

don't think he even knew what went by. (laughter) He had no clue what had just floated by, but he was sure it was danger.

GLOECKLER: Oh, that was truly a treat. I dare you to do it nowadays.

WINTER: No, you couldn't, but it was a unique part of the adventure (GLOECKLER: Very unique.) to float all night with your passengers out there, having a party.

It was a hell of a party, for everybody down there those days. Relco was a sweet little company for awhile, small, low-key, clean and simple. But one day the hammer fell and the subcontract was over. After a serious round of drinking in the VC Bar, there was nothing to do but say goodbye to the river business and get up to face the new day.

GLOECKLER: It's over, I went back to school. It was twenty years, I had twenty years in, and I was thinkin', "Alright, well I guess maybe. . . ." I was rationalizing it, of course, and saying. . . . At that point, you know, I have children. I have a family and I needed to do something. (chuckles) Can't just sit around and worry about that. So I went back to school and still ran what was left of the business. I had boats up in Utah that we ran, and I had a bus that was left out of Relco that I ran. And it kept paying some bills until I could get through school. Thank God for Georgia—she went back to work and took care of the kids and we went through that about two-three year period, and then at the end of that, that was at the end of twenty years, I said, "Okay." I kind of felt like I'd rationalized it and I was going to walk away. "God it was great. It was wonderful runnin' all those years. Now I'm gonna have to go do something else." And that's right when Bruce and I hooked up, and had already been talking, but there wasn't something else out there, in terms, especially, of a Grand permit, or the means to do it, of course, which is (chuckles) a whole 'nother big part of the problem when you're a couple of guides and been travelin' around the world and skiing and boating and havin' a real good life, but you don't have a lot of money! And so you have to have somethin' else help you out there.

WINTER: We envisioned getting a San Juan maybe, or Cataract at our best hope, and (GLOECKLER: Yeah, small-time.) just maybe doing it in the summer, staying with it, and seeing what developed. But I think we had both, at that point, decided that with families, we had to do something else, and I think we were pretty much out of the river business at that point—I was.

GLOECKLER: I had already gotten an offer from the Flag School District, I was going to go to work. And I'd just finished up a season, in December I had gotten a job offer with the Flag School District, and by April we were back in the river business.

Bruce had called and said, "Let's go down the San Juan." I said, "Great!" I had a couple of kayaks at the time. I said, "We'll just take the kayaks, go up there and

run down there and see that." Because we hadn't done it yet, and thought, "Well, gosh, that's crazy, we should have done that by now." He said, "Okay!" Next phone call, "You know, I got a friend that wants to go along." I said, "Okay, well, we'll just get a raft." The next call (chuckles), "I got twenty-two friends that want to go run the San Juan."

And I said, "Well, no problem, we'll get five boats and we'll go run this trip," which we did. And Bruce at the time was saying, "You know, San Juan permits are out there, and we ought to think about gettin' into the river business and doing some San Juan trips." And lo and behold, in getting to talk about it, somewhere, Bruce's brother-in-law, Ron Stegall, was talkin' with Bruce, and they got talkin' about the river business too, and thought, "Well, heck, that's a great idea." Bruce and I talked about it again, and it was a great idea, and it turns out that there were some canyon permits out there that were being talked about being sold, and Arizona River Runners was one of 'em. Bruce worked somethin' out there with Mr. Burke and eventually the three of us all sat down in Phoenix with the lawyers and I would say "hacked out" a deal. (laughter) (WINTER: That's a good term.) Yeah, I think it is. And there we were, and here we are.

I remember hearin'. . . . That those first years were pretty hard.

GLOECKLER: I would call that first year, in particular, a rough transition. The sales were slow. They weren't pushin' it. The first couple of weeks then were pretty much hell on wheels for me, trying to figure out things. And having been in it twenty years at that point, I thought I knew everything, and of course I didn't know anything.

WINTER: We went up to Vermilion Cliffs about April and kind of walked in the door, and everybody else walked out. (laughter) And we had a river company.

GLOECKLER: It's all yours! (laughter) Yeah.

WINTER: I think the funniest thing about that is, while both of us had obviously been around it for a number of years at this point, and knew exactly—if we had Whitewater, we knew exactly what we would have done differently, but I don't think we really had any clue how much was involved running, actually, the company from start to finish, because our original plan was that Bill would teach school in the wintertime, and then he would just run the warehouse in the summertime, and that I would just do the marketing in the wintertime and then I'd have summers off. (laughter) So for Bill, he figured it was about a four-month job, and he'd teach school, and for me, I thought it was about three or four months, and then I'd have the summers off to add a couple of other things that I was trying to make a living doing at the time, and I could do those. So we thought it'd be a part-time job. (laughter)

GLOECKLER: Didn't work out like that, exactly.

Nope, not exactly. Turned out to be pretty much full-time from there on. Bruce and his wife and infant daughter camped out in the two-room trailer that served as the office all that first season, working the phones practically around the clock. Gloeckler commuted from Flagstaff because Georgia'd gotten sick that year and couldn't leave the kids. It wasn't exactly fun for a couple years, but somehow they got through it. Meanwhile the old guard was changing everywhere you looked... Henry Falany had sold out and started himself a church back in California. Ron Smith sold. Sandersons sold. And Tony Sparks. And Martin Litton. About the time they got the original ARR under control, Tony Heaton found himself in a tight spot with the Cross's old company and Bruce went up there, and next thing you knew, ARR was a big company, running a lot of trips. And one by one, more of those old "what I'd do's" actually started happening. Little by little. The weird thing was, they kept on happening every single year. The boats now are as far apart from Henry's as Henry's were from Galloway's. They're more comfortable, safer, tougher, lighter, cleaner, quicker, and above all else quieter. They stay rigged all the time, and at the warehouse an ingeniously streamlined system assures that nobody lifts anything they don't have to all summer. The boatmen are treated like royalty, compared with old standards. Rooms and a restaurant dinner at the put-in. Big meal after the takeout and a sleeper car to ride home in; professional driver at the wheel who—company policy—got a good night's sleep halfway into the drive ... just a little thing Bruce and Bill have about driving. They're touchy about it in their old age. And touchy about other things too, like top wages, health care, pension plan, company bonus if they had a good year. And the same consideration applied to all their passengers, too. Don't bullshit 'em, be there early, treat 'em like you'd want somebody treating you.

WINTER: I think not only just us, but the changes, if you look back over the industry, there's been tremendous changes for everybody in ten years. I don't think it's one day you wake up and decide we're going to do this great plan—it's every day you wake up and say "How can I do this a little better? How can I do this a little easier?"

GLOECKLER: The hoops, there's just more of 'em. Some of 'em are bigger even. But the evolution, in many regards is a good thing, because it can allow the industry to grow, it can allow guides to do this for a lifetime and make it a profession. It allows you to put in those benefits, it allows you to build those systems ... and educate our own selves to the care and the need of the Canyon itself. One day you start thinkin' in terms of, "Hey, I ought to be involved in that, I ought to be doin' my share for the place too." Which is a give-back thing that really we all should be concerned about. Because we're there, we're causing that, so we need to be a part of mitigating it too.

Is that why you guys started helping Crumbo out with his resource management trips?

GLOECKLER: Well yeah, that was just one of those great ideas whose time had come. But once we ran one, from the git-go on this, there was no question that this was a whole new look at an education to our own selves, now thirty years down the road thinkin', "Now, for sure we know it all." Well, maybe not—maybe not again. It's an education, again. I was associated in the seventies with a lot of the Sierra Club trips, and a lot of the "clean-up" trips, as they called them, where you'd go down and you'd clean a beach. And you felt pretty wonderful about that, and they were good, they were fun. But that's not what this is. This is doing "bust ass" work to mitigate impact that is there because we are there, because there is a dam there, because there are species not indigenous in the plant world that are being introduced by various means, beyond everyone's control—and those things need to be addressed. Now it's taking care of archaeological sites, it's revegetation projects, it's beach stabilization, it's trail maintenance, and the list goes on. Those certainly are impacts that we can see and can educate ourselves about, and that we can, in fact, mitigate. So it was an easy one. And the Park was more than willing, and Crumbo was more than happy. Now that he's seeing the results and able to produce paper on them, I think it's starting to develop its own life. Everybody's contributing their dollars and boats and trucks. And we're happy the guides are donating their time. It's a wonderful trip, it's lots of fun, but it's bustin' your ass too, man. You get on a rock litter with Crumbo, you'll wonder why the heck did we allow him to choose the rock?! (laughter) That's the first thing you think of: Next time, I'm pickin' the rock, Crumbo.

I have this theory about commercial trips. There's a lot of things that we can do, but the main thing is, if you can just get people out there, I mean, without making too big of a deal of it. (laughs) You know what I mean? (WINTER: I agree 100 percent with that.) If you can just get 'em where they can make their own little connection. (GLOECKLER: Their own, yeah.) But, you know, the funny thing is, watching the business kind of grow up. . . . You know, you look at how much a part of it the adventure was, in the olden days. And now, I mean, we are gettin' so good at it, (WINTER: The equipment's so much better.) the equipment's a million times better, which makes it easier, but also, the training. We've actually learned more how to run the boats, we know the runs that work better. (GLOECKLER: That's come light years, yeah.) And it's only natural that we would strive for that, and all the interpretation and all that stuff. But you wonder how you keep that other. Is there a point where you just smooth it out too much?

WINTER: I'll address that! We've debated this (GLOECKLER: Yeah, we have.) many a time. Let's face it,

I don't think you can go backwards. I don't know we'll ever tell our guides to run a rapid real poorly, just to see what happens! (laughter) So, you know, life changes, and it's a different world. I laugh about this, because Bill and I have debated it quite a bit, and it comes down to, especially when we get into equipment: should we provide a cot so people get off the sand and bugs don't crawl on 'em. Or should we just stay with sleeping on the ground? Should we put that pad where they sit? Or is that kind of too cushy? Should we let 'em rough it? And I don't think there's a good answer to it, but I think every company, as long as they keep addressing that question, which we are, then I think we'll be OK.

GLOECKLER: Let me just jump in on the answer of What's too far? Part of the connection is a little bit of the pain that goes along with the place. And I don't mean it to be painful, painful—I just mean that connection that says, "It's you and it's Mother Nature, and guess who wins in a fight?" You know, that's her lesson, that's her gift to us is to make us say, "Whew! Okay, you're the big guy (chuckles), we're humans and we need to respect you. We need to learn from you." And that kind of connection is something that may take us. . . . That may be backin' up. You know, I'm not talkin' about livin' in caves again, but it's that connection that takes us back there and says, "Ah, yeah, there was a primeval time back there that we grew up in too." And that's important for humans to realize. It's there, it's even biological in nature.

WINTER: We might not fit into the guidelines of the Wilderness Act, or what the Park Service believes is a wilderness experience, but I believe these people, for the most part, feel it is. You're taking people out there that some of 'em have never even have slept in a sleeping bag. And for those people, I think they get more out of this trip in some ways, than the person who might even be what I'd call a hardened wilderness person. This person that's lived in Chicago all their life, never slept in a sleeping bag, goes out on this trip. I think if you give them that opportunity, they can come away with a . . . They've gained more than someone who's done this a lot.

GLOECKLER: I would agree with that. I think they have more distance to travel there, and so therefore they have more to gain.

WINTER: And, looking back on the whole thing, it's easy to say, "We should have done this," or "things aren't changing fast enough; why didn't we think of that twenty years ago?" But it's an evolutionary process. Quiet motors became an interest of one of our guides . . . Tom Vail took an interest in it. You know, he had some ideas and had actually met a passenger on a trip that worked for Johnson who had some ideas. We were at the stage where we were willing to commit some dollars to it, because we thought it was somethin' that could make

a difference. But we looked at it not so much from a standpoint of . . . that it's long overdue for the industry—I looked at it as "Hey, this would be nice if we could communicate with our passengers better." And it would just be nice for the boat itself, that it was quiet in the boat. And then the fact that it was quiet for other boats we were passin' was important, but, you know, our goal originally was to improve our own trip. Nothing happens overnight. We're not going to ever see anything that's ideal, but we can mitigate impacts, we can make a better trip, and we can constantly try to make that improvement. I think that's the commitment we've made, I really feel like that. We could have run this thing a different way and still be droppin' those boats out the back of Old Blue.

Oh, absolutely, and not puttin' a dime into it, just run what you got, take the money and run.

GLOECKLER: Yeah, that's one approach.

If you guys would have done that, that would have made this whole next little hump a lot easier. (laughter)

WINTER: Well, from some perspectives, yes.

No, I mean everybody just gets fed up and goes "Yeah, hell, let's give this whole thing to the private guys." (laughter)

GLOECKLER: Yeah, that's the next one comin' up.

It's weird how when we started in the commercial sector, all those people needed us. And I felt like . . . there was no private sector. You were either a boatman or not, but the whole rest of the world needed the boatmen to get down the river, or they weren't even going to be there.

GLOECKLER: That's true. Even the private sector then was boatmen who were doing private trips, more likely, than people who just decided one day, "That's it, I'm going down the Grand Canyon." You know, all of this question is a part of that changing world we've been living in, and the education that's been going on on rivers everywhere, and more people becoming better suited and better equipped to get on any river anywhere, and to take on that challenge. Of course we happen to be working in the one that has the most focus, politically and naturally so, because it's the Grand Canyon and everybody wants to be there. The place will have demand—no question about it. I think one of the truths that everybody has to face here is that the commercial sector demand cannot be met either. The demand is there. Everybody wants to have this experience. So what we have to do is realize that from both the private sector and the commercial sector, and then come up with something to work with within the parameters of the use ceiling that is there. And I don't think that's been addressed yet. I think maybe the private system is broken. Sure. Then if so, let's fix that first. Let's address it and let's talk about spreading the season. And that

goes commercially and privately, as far as I'm concerned. If you think that double launches in June are a good thing, and you're a private boater, you might be wrong, you might need to rethink that. I'm not sure that's the best experience you can attain here. In fact, I am sure that if you go in April or November or October or any month like that, that you will probably enhance your experience. Part of the educational process is to say, "Well, if there's such a demand and the list is so long, then why are some people going every year, and two and three times a year, when the list continues to grow? What's the management process that's going on there that's allowing that to occur while you're feeling the pressure of this demand?" I just think there's areas to explore that might do several things: One, increase the value of the experience because you will have less people contacts—ultimately, that's what you're after. And two, what it will do, it will spread out impact on the canyon and hopefully programs that are in place and starting to be put in place, will help mitigate those in an easier fashion. And I think we all have to address it. I don't think it's just the privates, I think it's commercials too when you're talking congestion.

We're involved with a trip now that we'll put on in spring of 1995. This is a cooperative effort between several different companies on a training trip basis, to get down there and interact between the guides of the different companies, to look at different campsites, look at different hike sites, and try to come to terms with this issue ourselves, and try to address it ourselves. It's one more of those things that's evolved. We're here, we're tryin' to deal with the answer, and it's gonna take some time to figure that out. But it's on the table, and now we're gonna have to come to terms with it.

Well, one reason I'm really proud of the commercial sector is—like you say, we get those people out of the urban areas, those people that there's no way in hell they're goin' on their own—and, if you grow up in that environment or are living there, it's all "run, run, run; do, do, do." And so much of it, because of just the way life is these days, so much of it is just about ... Well, you keep score by how much money you got, how much stuff you got, and it's not like it's that blatant, but that's the message you're bombarded with every time you turn around. You gotta have this cool car or you're not cool, or this cool house or this whatever it is... and the neat thing about these trips is it makes people take a second look at all that hype.

GLOECKLER: (laughter) You must have seen our trucks when we pulled in. Oh, we've got cool cars!

Yeah, you guys are driving little black Porsches? (laughter)

GLOECKLER: Not really! (laughter) Not quite. But they start!

WINTER: He's got a 1981—it's newer than mine!

GLOECKLER: Yup.

Those were your trucks?! (uproarious laughter) Holy shit.

GLOECKLER: Exactly my point!

WINTER: I think if you really ... If we took the thought that how many people out there in this world want to go down the Grand Canyon—and I think it's a lot. I mean, it's a huge amount who have heard about the trips and want to go down the Grand Canyon. And then you say, "What percentage of those people have the expertise and equipment to go on their own?" And then say, "That's the breakdown that should be between the commercial and private," that it'd be a whole lot different even than it is now. (*The other way?*) The other way. And I'm not sayin' that's what it should be, but I think when we talk about demand, I think we have to say, "The commercial demand is the people out there that have heard about the canyon and want to go down at some point in their life, they feel this is a once-in-a-lifetime experience, they want to do it sometime in their lifetime—that's basically who we're serving. And they don't have the equipment or the expertise to do it." Percentage-wise, that's a huge percentage compared to the people who have their own equipment and expertise.

This flow chart you guys are lookin' at, or Sue's [Susan Cherry] chart, that you guys are workin' with—I'm really excited about the possibility. I think that's a really hip tool. If you didn't have any computers, how would you ever figure the thing out? I wonder if that could be applied to the private situation?

GLOECKLER: I think that it can. My feeling is that it can, and this is born of the feeling that even if the demand were the same for one side or the other, that certainly the right that's there to have this experience is equivalent on each side. And since it's a given that the demand is there, and that access will be limited, then the choices will be difficult either way. But we all have to play in that game. We all have to play by rules, and try to create rules that are as fair as possible for everyone to get that opportunity.

WINTER: I think given all the issues and how fast they're comin' at us nowadays, and how fast things are changin'... there's a lot of change going on, even in the Park Service itself. I think they feel it too. And the outfitters right now, as a group, given all these things comin' at 'em, have had to get involved and organized and know that they have to play a role, far more than they could have in years past. In the past, some of these issues came at you one at a time, and you just took 'em and sometimes you just said, "No, we're not gonna do it, we're gonna fight, fight, fight against that. That might have been the mentality at certain times. But I don't think it is any more. I think everybody's willing to look at the issues and say, you know, "Is it legitimate? And if it is, how legitimate? And if there is something, then what are we gonna do about it, and how can we play a role and help?" But the issues are comin' at us at light-

ening speed, and every time I think, "Gosh, we cleared one up," thinking it might ease up, there's two more that have appeared. Maybe that's just the wave of the future. Population pressures, you know, allocation pressures, it's a limited resource. And I think we're actually, overall—and I'm not just saying us, but I think all the companies—are really doing a good job right now in trying to deal with these issues in a way that's constructive.

GLOECKLER: Beautiful.

WINTER: I do, I really believe that.

GLOECKLER: Good ending. (all talking at once)

We're not inviting them. We wish they'd stop, but. . . . (laughter) But I think they will keep coming.

My whole idea was, well, we'll just do a little bit of good here, a few good works, and then sail off into the sunset.

WINTER: Happily ever after.

GLOECKLER: Yeah. (laughter) Yeah, I've been wishin' that too.

WINTER: Actually, I think we've ruled that out as an ending. We've looked at it like we're in for the long haul. That doesn't mean to say that, you know, there's not other people that could do this business, or there shouldn't be other people ... I'm not saying that, but we're in it for the long haul, which means that what we get out of it, and what we put into it, we're not looking for returns tomorrow or the next two, three years. We're trying to look at what's best for our company, what's best for the industry, and the Canyon, ten, twenty years from now. And if everybody takes that approach, hey, that's what the whole idea was founded on, somebody years ago said, "Hey, we've gotta protect this for future generations." If we take all these issues and look for the best thing for the long haul, we'll come up with the right solutions.

Okay, sounds pretty good to me. One last question. When you guys were growing up, like when you were going to school and all that, what were you going to be when you grew up? Did you have any thoughts toward that?

GLOECKLER: Oh gosh, yes. The parents always have the biggest grand plan for their kids. I was going to be a doctor, they thought. Of course they didn't realize I was never going to make it to college! I don't know how they thought I was going to be that. Actually, I did eventually graduate (chuckles), but it wasn't quite the plan that everybody had in mind. But I'd never, really ... when I first ran the river, I loved it. I thought, "Shoot, I don't want to do anything else—this is it!" And I was only sixteen at the time and I never missed a season, and we're comin' up on thirty years, this one. And I feel very lucky to have made a choice like that early on.

(long pause) And, who knows, maybe it's gonna work out? (laughter) It's possible. 🐾

Lew Steiger

Savage Scenery

Does this place look familiar? I'm trying to identify the location in this photograph, which is actually taken from a stereograph, in order to verify if it was actually taken, as claimed, by Charles Roscoe Savage, Utah's premier photographer. Here's the story: I was at a lecture about Savage when the lecturer showed the above stereograph and claimed it was taken in Grand Canyon by Savage in the 1880s. But archivist and river runner that I am, I noticed that in the bottom of the

photo, barely visible, is a boat. A boat with a steering oar, if you look close. Now it struck me that a little skiff used by Hance or Bass or someone to go back and forth across the river to gather tourists/firewood/supplies wouldn't have a steering oar. In fact, this thing looks suspiciously like one of Powell's boats.

Now Savage, who worked in Salt Lake City and

all around Utah from 1862 until his death in 1909, is supposed to have been around the Grand Canyon. Sometime. Somewhere. But no biography of Savage exists (coming out next year, though) so I can't verify this vital fact. So here's my thought: if we can place the location in this photo, and if it turns out to be somewhere in the Canyon that you can only get to by boat i.e. not the bottom of Bass trail, Bright Angel, so on) then I'll assume that it was in fact not taken by Savage but is from a negative he bought (a common enough practice at the time) from someone else. If it turns out that this isn't a Savage, I can go back to the folks at the LDS church history department and say "nyah nyah nyah na na." Very professionally, you understand.

Thanks very much for any assistance you, the most knowledgeable folks about the Canyon, can give me.



Roy Webb (write c/o GCRG, ATTN: Roy Webb)



GRAND CANYON RIVER GUIDES

Kent Frost, Grand Canyon Boatman • First Grand Canyon Trip, 1947

GUIDES TRAINING SEMINAR




CONTRIBUTORS: PHOTOGRAPHS: DUGALD BREMNER © 1995 • DESIGN: JULIE SULLIVAN, DUGALD BREMNER • ELECTRONIC: PAUL BERG • PRINTING: ASPEN PRINTING

GTS Posters Still on Sale

We still have some of this year's GTS poster. Kent Frost, this year's poster boy, ran trips with Nevills in the '40s and explored every square inch of Canyonlands by foot, jeep and makeshift raft.

The photo was donated by Dugald Bremner. Poster Design and production were donated by Julie Sullivan, Duotone work by Paul Berg, film from Northland Graphics and printing by Aspen Avenue were also donated. Thanks, y'all.

They cost \$10 plus \$3 tubing and mailing. That's 13 bucks. Proceeds go to the further exploits of GCRG. 

Public Announcements

River Ranger Jim Traub has departed for Olympic National Park. Bye, Jim, and thanks for all the good will and good work. Come back and do a trip some time.

MAYDAY—MAYDAY ... Copy 1995 C-O-R page C dash three-three Commercial Air Traffic Denver Center at 134.15Mhz Copy Misprint. Copy Misprint. Dial 127.55Mhz instead. Read back ...

Though they're not required, not yet, food handlers classes for river guides will be offered in Flagstaff by the Coconino County Health Department. Each four hour class will run from from 1 - 5 in the afternoon. The dates are May 22, June 28, August 16, September 22 and October 20. The cost is \$20. Call (520) 779-5164 for more info. Ask for Marlene.

Blu Picard reminds us to throw a generator into the truck before heading to Lees. The launch ramp circuit breakers keep blowing because they're not rated for the amperage required to run an inflator.

Hey! Hey! Have you got any humorous, fantastic, or tragic photo stories about the Canyon? I'm writing a piece for my new picture book on the photographers and photography of the Grand Canyon. The first, the last, the best, the worst, hardships, equipment, broken cameras, professionals and amateurs. If you have a good story please call or write. I'm also compiling a data base of people who have photographed in the Canyon. If you have taken more than two pictures there and would like to be included, please send me the following information:

Name, address, phone, status (amateur/semi-pro/pro), format used, film used (print, transparency, color, b/w) where (rim, river, both), boatman (yes or no), and whether your pictures are for sale (stock or art). Reply to: C. C. Lockwood, Box 14876, Baton Rouge, LA. 70898. (504)387-3704. Thanks.

If Lake Mead drops below 1176' MSL and Pierce Ferry closes off this summer, you might be in trouble. Not because of the mud flats or lack of current or excitement or whatever, but because you can't get there from here. South Cove will be closed for construction starting in June! That leaves Temple Bar, 32 miles downstream from Pearce Ferry, as the only take-out. Think about it. Have a nice trip.

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>Cliff Dwellers Lodge 355-2228 Cliff Dwellers AZ 10 % off meals to 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>Dr. Jim Marzolf, DDS 779-2393 1419 N. Beaver Street Flagstaff, AZ 10% of dental work to boatman members</p> <p>Dr. Mark Falcon, Chiropractor 779-2742 1515 N.Main, Flagstaff \$10 adjustments for GCRG members</p> <p>Laughing Bird Adventures 800/238-4467 10% discount to members on sea kayaking tours Belize, Honduras and the Caribbean.</p>		<p>Yacht True Love 809/775-6547 Bill Beer, Skipper Virgin Island Champagne Cruises 10% discount to members</p> <p>Canyon R.E.O. 774-3377 Box 3493, Flagstaff, AZ 86003 10% discount on equipment rental to members</p> <p>Professional River Outfitters 779-1512 Box 635 Flagstaff, AZ 86002 10% discount on equipment rental for members</p> <p>Sunrise Leather, Paul Harris 800/999-2575 15% off Birkenstock sandals. Call for catalog.</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>Fran Rohrig 526-5340 Swedish, Deep Tissue & Reiki Massage 10% discount to members</p> <p>Dave Hellyer, 5 Quail Books 507/498-3346 10% discount on rare and endangered Grand Canyon books</p>
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Thanks to everyone who made this issue possible...to Lisa Kearsley, Mary Williams, Fred Dellenbaugh, and Bob Grusy for the artwork... to Bob Webb, Dave Edwards, Roy Webb, Bruce Winter, Bob Grusy and Brad Dimock for photos... to Diane Grua at special collections for the *Doggerel Log*... and to everyone whose submissions are in here and to the rest of you who haven't made it to print yet. Thanks, and keep that great stuff.

Care to join us?

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

<p><input type="checkbox"/> General Member Must love the Grand Canyon Been on a trip? _____ With whom? _____</p> <p><input type="checkbox"/> Guide Member Must have worked in the River Industry Company? _____ Year Began? _____ Experience? _____</p> <p>Name _____ Address _____ City _____ State _____ Zip _____ Phone _____</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"/> \$ _____ 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 style="text-align: center;">Total enclosed _____</p>
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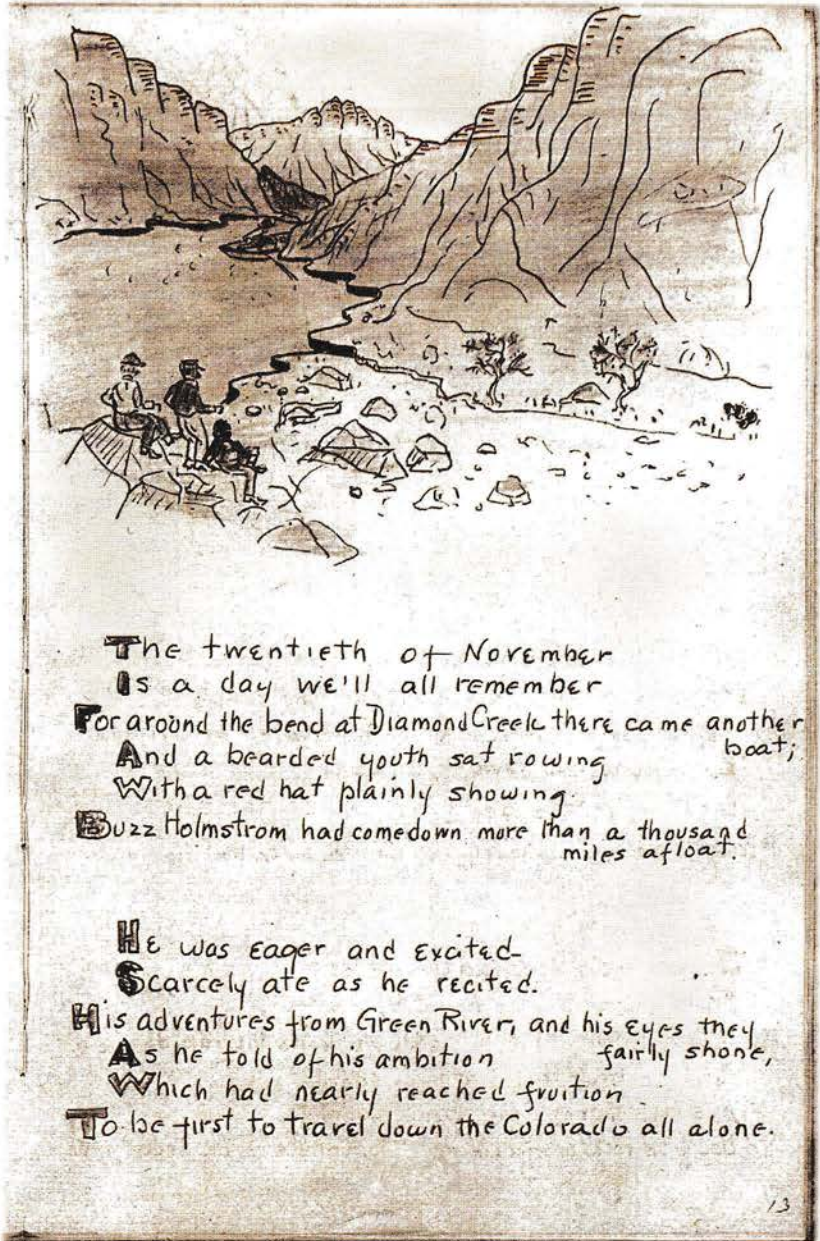
A Page From the Doggerel Log

In 1937, Frank Dodge contracted to take four scientists through Grand Canyon. Two were from Pittsburg Institute of Technology, the other two from CalTech. One of them, Bob Sharp, went on to become a world authority on geomorphology. At Bright Angel they picked up another budding authority—Edwin McKee, of the National Park Service—later to become the Grand Canyon geologist.

They took nearly two months, pausing often to study the hard rocks in Granite Gorges, running some rapids, and lining their heavy mahogany boats around others. At Diamond Creek they had a visitor—Buzz Holmstrom, who had been hoping to catch them ever since Wyoming. Dodge wrote: *When Campbell asked him, "Buzz, weren't you ever afraid?" he replied, "Mr., I've been afraid ever since I left Green River, Wyoming." ...Something shone out of his eyes, something of wonderment and relief that the worst lay behind him and he was with friends and only a little more to go. I think if one man can love another that we all loved Buzz from that moment on.*

Bob Sharp created a 16-page hand colored log in verse of that trip, one page of which is reproduced here. The full color version is in Special Collections at NAU. Check it out sometime soon. See also bqr 7:1.

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



The twentieth of November
Is a day we'll all remember
For around the bend at Diamond Creek there came another boat;
And a bearded youth sat rowing
With a red hat plainly showing
Buzz Holmstrom had come down more than a thousand miles afloat.

He was eager and excited
Scarcely ate as he recited.
His adventures from Green River, and his eyes they fairly shone,
As he told of his ambition
Which had nearly reached fruition
To be first to travel down the Colorado all alone.



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