



boatman's quarterly review

the journal of Grand Canyon River Guides, Inc.

volume 10 number 4 fall 1997

Gene Shoemaker

Kwagunt

Scoping the CRMP

Sciences Rebutts

New Board

Bye Bye Jeri

Whither Lake Powell

Havaspewage

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Then and Now

Guide Survey

Poems

Fall Meeting

Haunted by Waters

Lois Jotter Cutter



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Oral history begins on page 30. Lois Jotter Cutter compares 1938 to 1994, page 38

boatman's quarterly review

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

Grand Canyon River Guides
is a nonprofit organization dedicated to

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

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

Officers

President	Andre Potochnik
Vice President	Christa Sadler
Secretary/Treasurer	Lynn Hamilton
Directors	Mary Ellen Arndorfer
	Jon Hirsh
	Bert Jones
	Bob Grusy
	Larry Stevens
	Jon Stoner

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 less than 1500 words
and, if possible, be sent on a computer disk, PC or MAC
format; Microsoft Word files are best but we can translate
most programs. Include postpaid return envelope if you
want your disk or submission returned.

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

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Changing of the Guard

As of September 1 Jeri Ledbetter stepped down
as President and Andre Potochnik assumed
the position. Christa Sadler became the Vice
President/ President Elect.

Kim Crumbo and Tim Whitney stepped down from
the Board, Bert Jones was re-elected to another term, and
Mary Ellen Arndorfer and Jon Hirsh joined the Board.

These are the folks you have nominated and elected
to represent you. Keep them informed, support them, and
think about signing up to follow them when they're done.



The Ship of State

Many ask; what's up, what can I do, where
can I plug in? Well, your imagination
is the limit. Here are some things that
GCRG's got going these days. Our plate is pretty
full, but there's always room for more. It's like a river
trip, you know, showing-up is half the job. Swampers,
rookies, motorheads, wannabees, and ol' fixtures...we
want you to get involved!

Protecting Grand Canyon

The Adaptive Management Program was fully
underway with the first meeting of the Adaptive
Management Work Group, Sept 10. The AMWG is
a Federal Advisory Committee appointed by Bruce
Babbitt whose purpose is to advise the Secretary on
how to best operate Glen Canyon Dam to protect
the natural, cultural, and recreational resources of the
river. I represent recreational interests on the AMWG,
so don't hesitate to tell me what you think or ask me
questions.

You can join our Resource Advisory Group
(RAG), a group of guides interested in resource issues
on the river: camelthorn eradication, trail mainte-
nance, beach monitoring, and the like. Carve out your
niche.

Setting the highest standards for the river profession

We're excited to begin planning the 1998 Guides
Training Seminar. General Chairman Bob Grusy,
assisted by Larry Stevens, is stewing-up plans for that
hallmark annual event. As before, we will be working
in conjunction with the river outfitters and the Park
Service to develop the program. Education is a great
way to keep us moving forward in our river-running
careers. Jump in there and help out.

Celebrating the unique spirit of the river community

The *boatman's quarterly review* is the main way we
talk to each other. It continues to get rave reviews
from everybody. We're always looking for more
submissions— writing, opinions, art, photos— help
with proof-reading, and so forth.

The Whale Foundation continues to be a great
concept still searching for its wings. The idea is this.
Every river guide takes care of his or her passengers.
We serve as medics, cooks, guides, boatmen, coun-
selors, whatever it takes to do the job. But, who takes
care of us when the going gets tough? Some of the
outfitters do a pretty good job with wages, benefits, and
working conditions but, it's kind-of spotty. The Whale
Foundation is a program designed to pick up the slack,

so good people don't fall through the cracks.

Haunted by Waters is the art exposition soon to open that will display a diversity of artistic talent in the river community. Dedicated to Dugald Bremner, it will start off with a big Halloween party at the Coconino Center for the Arts in Flagstaff, which will set the tone for our annual fall meeting Nov. 1. Same time, same station, be there. Get with Grusy for details.

Providing the best possible river experience

The new Colorado River Management Plan is a real hot topic. It will govern how we will run the river in Grand Canyon for many years to come. Science Center Director, Dave Haskell and his team have set up general guidelines and principles. It's up to the rest of us to flesh-out the details. No one knows better than you what constitutes a quality river experience, so make yourself heard! Christa Sadler and a few others are pulling together the GCRG stance. So, get with one of them if you want to have your say. The NPS is still taking public comments at least until Nov. 30 (see articles, pages 22-25).

Remember this, please: GCRG is your organization. It's a wide-open avenue for you to do something else for the Canyon and its people. So, make yourself heard. Attend a Board meeting. Run for office. Shake and bake!

Thanks for your support.



Andre Potochnik

Farewell Jeri - Hello Andre

Jeri Ledbetter moved on from her role as President of GCRG on Sept. 1. For some six or seven years now, Jeri has worked to turn GCRG into a well-oiled non-profit organization that plays a central role in what happens on the Colorado River in Grand Canyon. We can't thank her enough for doing that. Whether you agree or disagree with her stances on issues, we can't deny the pivotal role she volunteered to take; to bring this organization from a rag-tag outfit into a smoothly running organization.

Jeri continues to take bold positions on divisive and controversial issues, never shrinking from what she has feels to be the right path. Like many former Board members and officers, we hope she will continue to help direct GCRG in the future.



Andre Potochnik

El Niño Cometh "when it rains, it pours"

It's an exciting time to be alive in canyon country, that is, if you can just stay alive. Summer monsoons and lightning have been roaring through the canyons, sweeping away and zapping unwary tourists. Ma Nature reminded us of who's in charge as Hurricane Linda and her sister Nora whipped across the region. And then there's that bad little boy in the Pacific, El Niño, who's turning the tropical rain forests of Malaysia into a fiery wasteland and is poised to inundate the southwest this winter. Lake Mead and Lake Powell are both near full. The dam managers at the Bureau of Reclamation are getting a little edgy, and rightfully so... caught between an electric power industry bent on maximizing revenues from our dam... and the specter of a 1983-style flood in Grand Canyon.

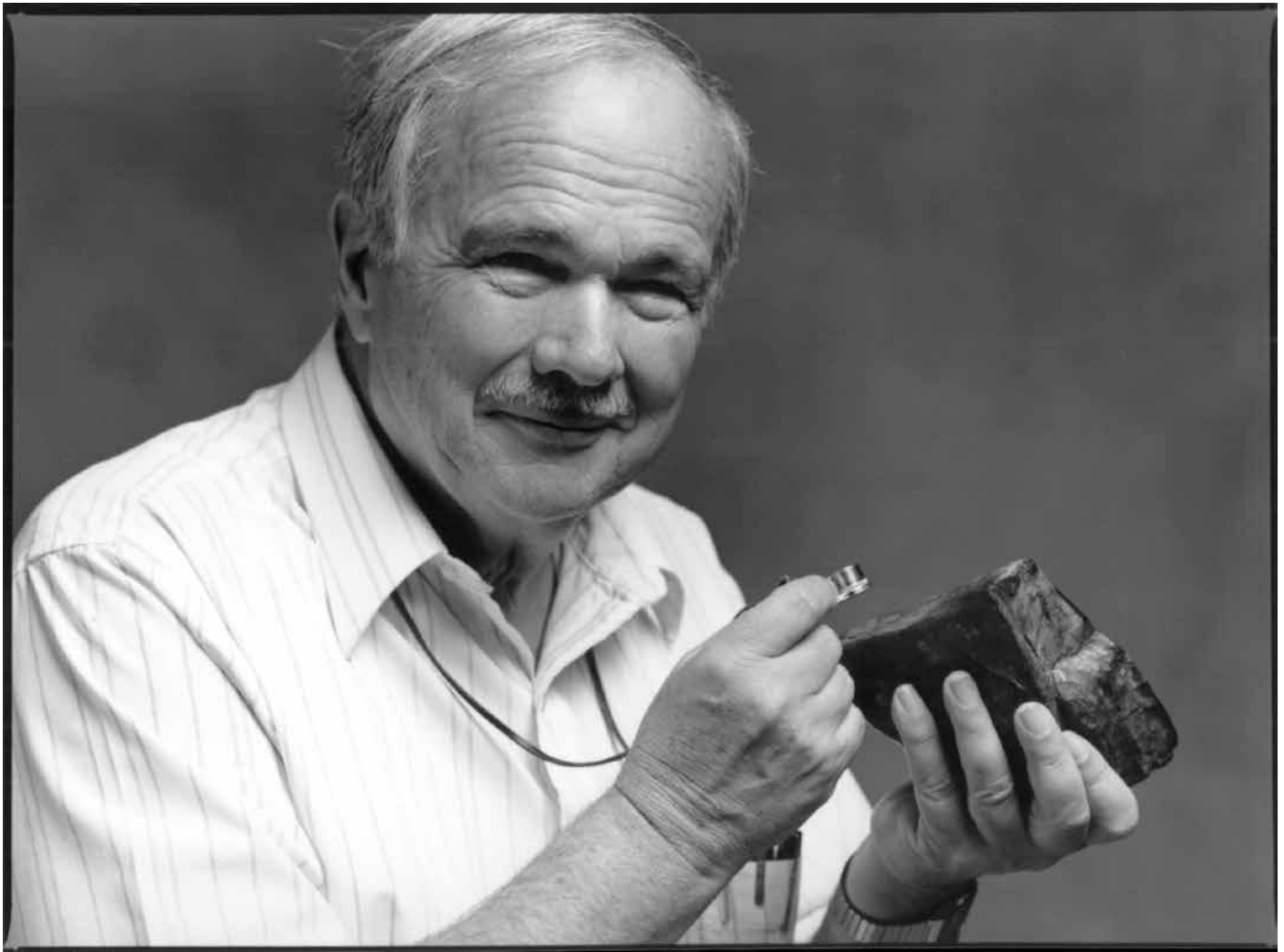
Institutional memory is short, though, and greed often prevails. Bureaucrats continue to punch numbers on their calculators, while the rest of us smell a flood coming. Nobody's saying much, though, just quietly smiling at the prospect of another deluge. Besides, after 1983, the Bureau's engineers fixed the problem in Glen Canyon dam's spillways and they could use a good test... right? And, none of those 22,000 people scheduled to run the river next year will be in danger like 1983... right?

Just last week, the Senate hearings on the Sierra Club's proposal to drain Lake Powell attempted to lay that "silly idea" to rest, once and for all. But the fanfare also served to focus the public's attention on the nagging realities of a growing environmental time bomb slowly ticking away beneath the beautiful blue waters of the sediment trap called "Powell". If the citizens of Page are far-sighted, they will begin to develop a transition economy, to sustain themselves through the "boom and bust" cycle that inevitably happens to western towns dependent upon an unsustainable resource.

On the other hand, if we just keep our heads in the sand, maybe these sticky problems will magically go away...poof! (did anybody else just hear John Wesley Powell just roll over in his grave?). Soon, like an angry prairie dog, we might expect Powell's ghost to come popping out of the sand, reprimanding us for our short-sighted views. Then, when El Niño arrives, we all may be coming-up for air. Prepare yourself, because Ma Nature is at the controls and we had best shut up and listen. Keep your life jackets buckled, pee in the river, and pick up your trash. Hold on tight...here we go!



Andre



© 1994 Dugald Bremner photo

Gene Shoemaker

The river community lost another charter member in July when geologist Gene Shoemaker was killed in an automobile accident in the field in Australia.

On his first river trip, in Glen Canyon, he was passed by none other than Bert Loper—on his last trip, in 1994, he swam Sockdolager with Bob Rigg and an upside-down cataract boat. Between those trips he was tireless in his research from Grand Canyon to the depths of space. Along with Hal Stevens he devised the first re-photography project, *In Powell's Footsteps*, re-shooting Powell's 1871 photographs. In speaking of the results before fellow geologists, he pointed out that in 85 percent of the photos there was no perceptible change over that 100 years; in the remaining 15 % catastrophic change. All or nothing. "Uniformitarianism," (a treasured geological principle implying slow, steady geologic change everywhere through all time)

Shoemaker concluded, "is bunk."

Gazing skyward Shoemaker helped found the Flagstaff USGS operation, map the moon and help prepare astronauts for lunar exploration. Looking even further aloft, along with his wife (and fellow geologist) Carolyn, asteroids came under his scrutiny. Comet Shoemaker-Levy, one of their better known discoveries, gained world attention as it devastated the face of Jupiter.

[Kelly- could you come up with a line in here about his voice of down-to-earth ego-less reason and hearty laugh at the USGS?]

The Shoemakers' search for asteroids was still in progress when Gene was killed. Carolyn, still recovering from injuries suffered in the accident said, "Gene died as he would have wanted it—with his field boots on."



Brad Dimock

Excerpts from an Oral History of Gene Shoemaker

Our very first trip [in 1949] when we went down Glen Canyon, there were just two other companions with me. One was a young lady geologist, Doris Blackman. And another was a draftsman by the name of Ken Gardner. We all worked in the USGS offices in Grand Junction where the Uranium exploration program was being carried out. We came down in Ken Gardner's home made car, made out of various pieces and parts of other vehicles. We called it the Gardner-Mobile. In fact there was a Gardner car— he actually had hubcaps that said Gardner on them. [laughs] And drove very slowly down North Wash and in those days didn't have much of a road. Camped over night in the wash, and ended up down at Hite at the ferry that was run by Chaffin— which was an interesting thing in itself, that old ferry. We got down there and we got there fairly early in the day. So we had these two dinky little river boats from Sears Roebuck that we tied end to end. And Gardner was going to go along behind in the one boat, cause he only had one hand— he had sawed off his hand in a sawmill as a young man. He'd made his own hook and he could paddle that with a kayak paddle. With his hand and his hook. Doris and I were going to paddle up front, and that's the way we were going to go down this river. Well, Doris and I had paddled around a little on the Gunnison River. We had a pretty good idea how to do it. But we had never put these boats together and paddled with Gardner. We put the boats together and said "Well, let's take a little spin out in the river, out by the Ferry." And we dang near didn't make it back to shore. Because we were not coordinated. Well we knew... Doris and I knew, a few hundred yards down the river and we'd get coordinated all right. But it scared the daylight out of Gardner, because his density was actually greater than water and he couldn't swim a stroke. And he was deathly afraid of the water. So there we were, trying to persuade Ken that it was ok to go. And we went to bed that night thinking "Well, the river trip is over. Because Gardner isn't going to go with us."

We woke up the next morning and here comes a row boat, down the river. Turned out there had been a party that camped at the mouth of North Wash about five miles upstream that night, unbeknownst to us. This fellow pulls in at the Ferry to talk to Chaffin, and we go out to find out who it is. And it's Bert Loper. Turns out he is leading a whole troop of boy scouts- about fifty boy scouts -coming down the river. They weren't there yet. They were coming behind him. When Gardner found out who it was and we learned what he was going to do, we persuaded Ken that if we got the boats packed up and got ahead of Loper, that he would be safe. So that's what we did. [laughs] We packed up and got out there on the river ahead of Loper and the boy scouts. And that's how we got launched on the river. We pretty much stayed ahead of Loper until we got down

to Rainbow Bottom, at the mouth of Aztec Creek, where you used to hike up to Rainbow Bridge. We were hiking up then and we had a pretty good visit with Loper there. Then we learned that his plans were to join his friends at Lee's Ferry, and continue on down the Grand at that time.

* * *

Were you running a boat? [...on the 1968 Powell re-photography trip through Grand Canyon]

Sure, running my own boat. In fact I had George Andermann with me. He and I jointly owned this boat for years, and boated together. Yeah, we looked over Lava, it looked pretty scary—not having run it before. In fact a couple of guys lined their boats down—elected not to run. And I was glad they did. Bruce Julian, who had actually flipped one of the boats up at Soap Creek, knew a good line through Lava. And he ran it perfectly. We watched him go and I thought I could hit that line too. But it was very hard to see that exact spot upstream as you know. Don't know exactly where to go and it drops off so fast. I missed it by about four or five feet. It dropped right into a hole. Got trapped in this hole, boat just stopped. I lost Andermann instantly, he hung on with all his might onto the rowing frame, he just peeled right off into the rapid. There I was, and the boat was just slamming around and all my bags that I had tied down carefully were starting to come lose. The oars were flailing around at that point. I thought I better get out of this boat before I got pinned in. I just worried that if it flipped over I might get stuck in the boat. So I got out. And just about that time the boat popped out of the hole. Boat never did flip over. It went over the big wave down at the bottom. Stayed upright all the way and I went through in my life preserver. Which is a non-recommended way to run Lava.

* * *

What turned you toward astronomy?

I got into astronomy through the back door. I was interested in the idea of going to the moon. In fact this idea came to me rather suddenly in 1948, shortly after I joined the Geological Survey. I had been a student at Cal Tech and was familiar with the development of rockets that had been going on at the jet propulsion laboratory... and that they were flying these rockets as upper stages on the captured German V-2s. I just got to thinking about that. "You know, they're going to go to the moon in my professional lifetime. They are going to send human beings to the moon." I made up my mind right then and there that I was going to be standing at the head of the line when the time came for scientists to be chosen as lunar explorers.

This was ten years before NASA was founded. I just, simply took those turns in the road that I thought would lead me to being the best prepared field geologist to go study the moon. I had an opportunity to go study Meteor Crater, Arizona. I had been working on Volcanic Craters at the Hopi Buttes. Which in fact have forms that are rather similar to some of the smaller lunar craters. I thought I ought to be working on impact craters as well, so I did seize that opportunity. Having worked on an impact crater the first question a geologist asks is, "Well, how often does this kind of thing happen? What is out there? What kind of bullets are out there that hit the earth that make craters?" I immediately made it my business to find out what was known about earth-crossing asteroids at the time. There wasn't a lot. In fact there were about eight of them known at the time I worked out at Meteor Crater. In fact, most of them had been lost. Only a few of them had well determined orbits. In the meantime the lunar program did come along. As it turned out, I didn't become an astronaut because my adrenal cortex failed just a couple years before scientists were chosen. I ended up chairing the National Academy's ad hoc selection committee instead of being one of the guys standing in line.

* * *

It's hard to fathom all that stuff going on out there. Just to think about... trying to figure out what's going on as far as out there as Jupiter. Did your comet really make a big bang when it hit? [Refers to the Shoemaker-Levy Comet (named after its discoverers) which collided with Jupiter in July of 1994.]

The comet did its thing at Jupiter. All these years, you know I've kind of had a daydream... it would sure be fun to see a real impact in my lifetime. They are rare enough that the odds of that weren't very high. Of course I rather imagined, maybe, it'd be a small asteroid that would hit the earth maybe deep in the outback of Australia where nobody would get hurt, and I'd rush over and map the crater. If I'd really thought about it I would've realized that if I were going to see any impact of a comet or an asteroid during my lifetime, the most likely case would be Jupiter. Because the frequency of impact on Jupiter exceeds the frequency on any other planet. Partly because it's bigger. It has a very large gravitational field of influence. So it focuses the flux of comets onto it.

But I hadn't really gone through that calculation. This was really a daydream. So it was a matter of extraordinary good fortune that we actually discovered a comet in 1993, in March. First of all it was broken up. It had gotten so close to Jupiter, it had been pulled apart in Jupiter's gravitational field. Then we learned, with further tracking by many observatories around the world, that this object was in orbit around Jupiter. And finally it became clear it was going to actually hit Jupiter when it came back to its closest approach to Jupiter. That was all just an incredible

series of surprises. Then of course, we're trying to figure out, "Well, what's really going to happen?" Many people worked on this problem. There was a wide range of opinions. Some people said "Oh, we're not going to see anything at all. Those comets are going to disappear without a trace." I was pretty sure we were going to see some results that we could resolve with the telescope. In fact with colleagues, we obtained calculations of the plume that's produced by the hot fireball generated by the impact- how high it would rise, how long it would take, how far it would spread out. Those calculations were finished only about a week before the first impact. It would've been sooner but we had trouble getting the funding to do the work. [laughs] Finally National Science Foundation decided, well, I'd been co-discoverer of the comet... it was kind of a shame if they didn't give us a little funding to work on it too. So we finally got our calculations done late. But I was absolutely delighted because the first nucleus that hit Jupiter produced a plume that we could see on the edge of the planet. With a Hubble Space Telescope. It was very close to the plume that we'd calculated. So, at that point I knew we were going to really see something!

* * *

I used to be really kinda proud of being a boatman and living down here and being tapped into all this cosmic awareness that you get, just from contemplating the canyon and the amount of time that's involved here. But it wasn't until I took some astronomers down that it really jerked my head up, to think of these people who are looking way, way out there. Where does boating fit into a life as varied as yours? Where do this river and river running fit in?

The world's a tremendously interesting place. There are so many interesting problems. But for me, I really cut my professional geological teeth on the Colorado Plateau. It's been my geological backyard for forty five years. And it's a geologist's paradise. There is no other way to describe it. Rocks are exposed here in a way that, you just rarely find anywhere else in the world; a tremendous variety of things to work on; and fantastic scenery to go with it. So it's an old love that keeps tugging me back. While I may have my head off in the stars somewhere or the planets and comets, moons, asteroids. It's important to come back and bang on rocks. I still consider myself a rock-knocking geologist. Fact, I'm still doing regular field work in Australia, mapping impact craters there. Coming back to the canyon country and especially the Grand Canyon is just sort of a rejuvenation, gets your geological juices flowing again. There are a whole series of problems down here that have not been solved. I look at them as I go down, and a couple of them I've actually started to work on. But I've got so many irons in the fire, it's hard to finish them.

Lew Steiger



Update on User Fees

Just before the Phoenix CRMP meeting was a pre-meeting on Fees. Chaired by Jim Northup and Linda Jalbert from NPS and attended by about a dozen folk representing the Grand Canyon Private Boaters Association (GCPBA), GCRG, Grand Canyon River Outfitters Association (GCROA), interested private boaters, backpackers, and a couple of folk who came in looking for the free dinner some of the outfitters were putting on for their commercial passengers. Oops, wrong room. Jim showed us a laundry list of projects, both Fee Demo and Colorado River Fund funded. Projects include Nankoweap wall stabilization, site restoration, increased law enforcement by one seasonal ranger, interpretive center at Lees Ferry, water line to Phantom Ranch boat beach, trail work, and Pearce Ferry road improvement among other things.

As NPS 53 is under review, we did not spend a lot of time on cost recovery fees. Boating and back-country use may not be classified as a special use, upon completion of this study, which would cut the fee burden by over 50%. Jim hinted that the \$25 per year filing fee may be dropped, but the \$4/night impact fee would remain. GCPBA board member Byron Hayes presented a cost sharing arrangement to reflect allocation, which was well received. Jim encourages all interested folk to continue to send the Park your suggestions as to how to spend \$160,000 discretionary funding as yet not spent. One thought on this matter was that the funds could be used for immediate improvement in the staff of the river operations office. Send your comments to your congress folk, cc Jim Northup, District Ranger, Grand Canyon National Park, PO Box 129, Grand Canyon, AZ 86023. GCPBA representatives encouraged the park to immediately turn some of this money over to the ongoing CRMP planning project. At this time funding for the CRMP is coming from the Park's base funding, and, as this is a costly process, the additional funding would be welcome to insure a comprehensive and complete job.

*Tom Martin and Richard Martin,
gcpba Newswire*



Faced with changing one's mind and proving that there is no need to do so, almost everybody gets busy on the proff.

John Kenneth Galbraith

The Whale Foundation

The Whale Foundation is up and running! The Whale Foundation is a non-profit service that hooks up guides in need of help with people who can help them. We have established a hotline that offers information on substance abuse and depression, as well as referrals to counselors in the Flagstaff area who have agreed to work with us. If you or someone you care about is in need of a sympathetic ear or some advice, please give us a call at our hotline 520/773-0773. All calls will be answered by a counseling professional, and will be kept confidential.

Also, we are hoping to extend our operations in the future to include financial planning assistance and possibly health insurance options and information. If you are interested in giving us a hand or have experience in these areas please contact Sarah Hatch at 520/355-2217 or Bob Grusy at 520/774-4172.



Dugald Bremner Fund

A fund has been established through Grand Canyon River Guides in memory of Dugald Bremner. Recovery efforts were paid with initial donations. Generous contributions continue to pour in and will be used towards a photography scholarship through Prescott College and publishing his work. The fund is being managed in cooperation with the Bremner family, Dugald's colleagues and his friends.



Wilderness Medical Guide

An 80-page waterproof field guide has been published by Wilderness Medical Associates. This helps to fill the most obvious gap in the Wilderness Medical training—a way to help remember all the critical things you learned in Wafa, WFR and WEMT courses. Although it's no substitute for the training it will be invaluable in the field. \$19.95 from WMA, 189 Dudley Road, Bryant Pond, ME 04219-6503; 207/665-2707; fax: 207/665-2747; e-mail: wildmed@nxi.com



Several years ago we initiated a project to survey working Grand Canyon river guides. The goal was to provide this information so guides can see where they stand in relation to the rest of the community. Also, this project stems from a frustration that the National Park Service's recent prospectus process gave absolutely no credit to outfitters who take better care of their crew, pay a reasonable wage, don't expect crew to work for no pay (and therefore no workman's compensation insurance), and offer benefits both tangible and intangible. Those outfitters who do right by their crew should be lauded. With fares being regulated by the NPS while concession fees climb and bureaucrats add layer upon layer of costly

Company Description, # user days	Charge Per User Day by Company	* % Crew Response	Salary per Day	Trip Lead Pay per Day	Other Extra Pay per Day?	Bonus Offered?	Required to Work Unpaid Days?	Retirement Plan Offered?	Health Insurance Offered?
Oar only, 2960	\$154-187	82%	Support \$0; Guide \$80-100	\$20	Paddle \$10; Food org \$5	No	Yes, baggage boat & pre-trip	No	\$30/trip for some
Oar only, 4821	\$181-207	67%	Support \$0; Guide \$75-121	\$20	Paddle \$10	Yes, some crew	Yes, baggage boat & pre-trip	No	Yes, some crew
Mostly motor, 2848	\$209-242	43%	Guide \$90-100	?	None	Yes, some crew	No	No	No
Oar only, 3890	\$187-259	54%	Support \$0; Guide \$85-130	\$20	Adv med \$5; Exchange 1 day pay	No	Yes, baggage boat & pre-trip	Yes	Yes, few crew
Motor and oar, 3323	\$175-204	67%	Support \$75; Motor \$110-120; Oar \$80-95	\$10	None	No	No	No	Yes, some crew
Motor and oar, 3693	\$159-184	50%	Oar \$75-91; Motor \$100-110	\$10-15	None	No	No	No	No
Oar only, 4063	\$164-184	55%	Cook \$85; Guide \$85-\$115	\$15	None	Yes, some crew	Yes, pre-trip, training, drug test	No	No
Motor only, 4403	\$195-235	47%	Guide \$50-\$105	\$35-50	Advanced medic \$5	Yes, some crew	No	No	Yes, some crew
Oar only, 3465	\$171-282	52%	Support \$0; Cook \$80; Guide \$80-\$95	\$20	Adv med \$5 Exchange 1 day's pay	No	Yes, baggage boat, others pre-trip	Yes	Yes, few crew
Mostly motor, 4823	\$170-266	26%	Guide \$80-\$105	\$10-15	None	No	Yes, rig/clean-up	No	No
Mostly motor, 7203	\$134-167	24%	Support \$65; Guide \$85-\$110	\$5	None	Yes, Christmas	No	Yes	Yes, for some
Mostly motor, 9546	\$187-254	28%	Guide \$80-\$135	?	Exchange 1/2 day's pay	Yes, safety bonus	No	Yes	No?
Mostly oar, 10,368	\$156-194	48%	Support \$60-80; Motor \$138; Oar \$100-110	\$25	Paddle \$20; Head cook \$20	Yes, equipment bonus	No	Yes; profit sharing	Yes; pays 20-30%
Mostly motor, 10,400	\$157-225	11%	Support \$60; Guide \$120	\$10	None	Yes	No	Yes; 401K & profit sharing	Yes; 6 trip minimum
Motor only, 11,027	\$263-233	17%	Guide \$95-104	\$10	None	No	No	No	No
Mostly motor, 14,001	\$197-280	54%	Support \$55; Guide \$70-140	\$5-10	Adv med \$5; Exchange 1 day's pay;	No	No	No	Yes, very few
Mostly motor, 13,967	\$177-217	43%	Support \$0; Interp \$90; Guide \$100-150	\$5	NPS ride-along bonus	Yes, some crew	Yes, support & pre-trip	No	No
All Guides		45%							

regulation, those programs not recognized by the NPS as having value toward contract renewal, such as reasonable pay and employee benefits, are the most vulnerable to being scrapped.

In all fairness, part of the reckoning must be those intangible benefits which come from working with particular outfitters and crew. The survey was mailed out last winter to nearly 400 guides, cooks and swampers, both full and part time. Outfitters are listed in no particular order.

* Some companies had a very low percentage of guides who responded; data for those outfitters will tend to be less accurate.



Percent of crew with Health Insurance/IRA	Intangible Benefits A=working environment, B=great crews, C=quality equipment, D=low passenger/crew ratio, E=flexible scheduling, F=few (or no) exchanges	Other tangible benefits G=Guest position
100%/33%	A;B;E; "old school" owner lets us run our kind of trip; kayak trips; small company politics; direct communication with owner	G; Not much - Okay, a nice truck; discounts at company store up to 40%; warehouse pay for some
100%/50%	A;B;C;D;E; relaxed atmosphere; mgmt open to suggestion; seniority scheduling; organized rig/derig system; 22-ft baggage boat so <i>our</i> loads are reasonable; safe equipment, easy on backs	Guide quarters w/kitchen, bath & beds; 3 put-in meals; talk of retirement plan in '97; owner loyal almost to a fault; Marble Canyon room pre-trip
100%/100%	Boss 300 miles away; mom & pop atmosphere; opportunity to run variety of rivers; lots of freedom with menus & schedule, but lots of responsibility; choose our own swampers	Offers charity trips if you organize it; all the cool t-shirts; paid leave
85%/69%	A;B;C;D; Good area manager; office with a view; seniority scheduling; prestigious outfitter	10% commission for bookings
80%/60%	A;B;D;E; good relations & guide input with owner/manager; seniority scheduling; reasonable loads; small company; working relationship with other guides; 1-boat motor trips; easy rig	Offers first aid training & pays for class; free drug testing; meals during trip; commission for bookings
100%/75%	Owner is full time boatman & knows what goes on; communication with management - you might not always agree, but you get a straight forward answer; good crew/outfitter relations	Excellent warehouse & crew accommodations; meals
63%/50%	A;B;C;D;E;F; Smooth system; cooks; unloaded paddle boat; long trips, paddle/oar only; good mgmt relations; full time warehouse staff; safety awareness; part time guides okay; good food	G; compensation for training costs; pro deals; put-in breakfast; full day's pay for derig w/early take-out; hepatitis B shots; yearly physical therapist visit paid
67%/17%	B;E; Year round employment available; most motor trips single boat for great group dynamics & interp; each trip has TL + 2 well trained paid crew, no swampers!; good rapport w/mgmt	Put-in & take-out meals; free food; place to live w/shower & washing machine; use of company equipment for personal trips; free cups!; benefits increase w/ seniority
81%/50%	A;B;C;D;E; Excellent, fair manager; loyal outfitter; cooks; quality trip; strong sense of pride, identity; use of warehouse for personal boat repair; long trips; really cool boats	401K; Commission on trips you book, although it's a struggle to collect at times
100%/80%	A;B;E; Both rowing & motor trips; freedom to run trips our way; flexibility on menus and crews	G; Annual company party
75%/50%	D;E; Very supportive & flexible as far as they can be; respect from management	Profit sharing; 401K; professional counseling offered
50%/50%	B;C;E; Good rapport w/mgmt; motor boats don't have to be rigged or derigged; saves on backs	G; take-out meal; houseboat incentives; first aid training & training trips; trip beverages; 30% discount at outfitter store (after 120% mark-up); river pay for take-out
91%/59%	A;B;C;D;E;F; long trips; guides advisory committee for scheduling & grievance; mature crew; 4 stroke motors; strong environmental ethic of owner; reasonable loads; good warehouse staff	G; Profit sharing; company gear for private trips; put-in meal money; pro deals; pay check immediately after trip; training trip; compensation for training costs (First aid)
100%/100%	A;B;C;E;F; Boats not sold to capacity; easy rig/derig; dead head to Pierce; low stress; open & honest communication & respect of mgmt; we laugh a lot; warehouse maintenance crew	G; Profit sharing, put-in and take-out meals, lodging at Marble Canyon before trip, crew trailer for summer lodging
100%/67%	A;C;E; Accommodating warehouse atmosphere makes you feel at home; good food; freedom on the river; transportation	Put-in meals & warehouse food!; none - no bonuses, nada
73%/27%	A;C;E; good communication with mgmt; set schedule & job descriptions; high passenger/crew ratio increases tips; seniority scheduling; paid, trained swampers; reinvestment in new equip	Training, seminars & parties; 6 month schedule; tips; pro deals; bunk house for \$30 a month; discounts on gear for personal trips; some free food off river days
80%/17%	A;B;C;D;E;F; No interchanges; long trips; lots of freedom; dories; great company to work for; great boss who still does trips; high quality trips; flexibility on menu	Occasional "river kill"; pay and benefits don't matter so much, but get more important over time; free housing; lots of meat, fat, motor exhaust & toluene; bag wine
84%/53%		

A Butt Pygmy's Rebuttal

...we are but pygmies, running up and down the sands or lost among the boulders...

John Wesley Powell

As the butt of Mr. McElya's recent editorial commentary (*bqr* 10:3, *Summer* 1997), I would like to clarify several points about science in general, about my life as a scientist in Grand Canyon, and about river and dam management in Grand Canyon in particular.

Science is a hard-fought debate about the nature of reality. The "fluff" to which Mr. McElya refers as the product of Grand Canyon research is peer-reviewed scientific literature, the best portrayal of truth that humans can produce, provided they devote a vast portion of their lives to thinking and studying a specific question. From my experience, science is a form of war. Funding is nil, much of it comes from one's own pockets, nobody (especially the managing agencies) really want to know what's going on down there, and the agencies and the public trash out anyone who tries to get to know the Canyon on more than a casual basis. Science is a war where tests of hypotheses are skirmishes, mathematical expression of theories are the battles, and the only possible victory is that we gain enough understanding of our biases, our actions, and our mistakes to keep us from obliterating life in this beautiful Canyon and on Earth in general.

As to the ease of life as a field scientist in Grand Canyon, I challenge Mr. McElya, or anyone else, to put up with the schedules and nuthouse lives that some of us keep in our watch at Grand Canyon. Mr. McElya comments on what he sees as a lack of willingness on the part of Grand Canyon scientists to work in other settings. Although I haven't volunteered to study marine plankton in the Aleutians, I have volunteered on round-the-clock plankton sampling off the California coast. Fascinating work, and amazing to hold five or six phyla in one's hand from a single tow at midnight in big rolling seas.

So who cares about the sex life of the endangered Kanab ambersnail? Everyone with whom I've spoken with so far seems concerned about the fate of endangered species on this planet, no matter how diminutive or peculiar. Many are concerned with the tradeoffs between economics and the need for preservation of declining populations. Apparently, Mr. McElya does not care about endangered species, and that all-too-common callous indifference may be leading us headlong into one of the largest extinction events in geologic history.

To respond to his primary issue, Glen Canyon Dam created a largely new river ecosystem in Grand Canyon, which has largely replaced the old one. I've listed some of the many tradeoffs below. Other readers may be interested to learn that the scientific literature on the Colorado River in Grand Canyon has convinced reluctant Canyon,

dam and land managers to greatly modify dam operations, to cooperatively manage the dam for the benefit of the present and future river ecosystem, and to try a grand experiment to balance environmental and economic benefits.

We lost what should have been a world heritage site under Lake Powell. However, the pre-dam river appears to have been pretty sterile. It has surprised many of us to learn that a dam can augment biodiversity and ecological productivity. Who could have guessed that the dam would produce a more productive river with a trophy trout fishery, more marshes, more riparian vegetation, more waterfowl, more Kanab ambersnails, peregrine falcons and bald eagles, more riverside song birds and wildlife? Furthermore, not all changes have been the fault of Glen Canyon Dam. Declines in native fish populations undoubtedly began with the introduction of catfish, carp and other non-native fish in the late 1800's. The loss of the natural river ecosystem was a terrible mistake, but Glen Canyon Dam has not been the only culprit, and post-dam ecological gains in Grand Canyon have been substantial. It has taken thorough research and long-term monitoring to untangle this story because casual visitors, like Mr. McElya, can't see the changes taking place.

Construction of Glen Canyon Dam may have been an ecological mistake, but that mistake was made, and tearing down Glen Canyon Dam will not restore Glen Canyon or the ecological integrity of the river ecosystem. The Colorado River has more than 100 dams, and by early in the next century, 20% of the upper basin's flow will have been diverted. The most telling issue to me is the ecological condition of Cataract Canyon. Existing there are all the elements the romantics want to see restored in Grand Canyon: big spring floods, lots of sediment, and summer-warm water. But the native fish in Cataract Canyon are in serious trouble, and tearing down Glen Canyon Dam would let hordes of new, non-native fish wash into Grand Canyon, to the further detriment of its remaining native fishery. Glen Canyon Dam may actually be protecting the remaining native fish in Grand Canyon. So, we just need to remove all non-native fish and their introduced fish parasites from this ecosystem. Sure.

Mr. McElya clearly has no idea of the expense of removal of Glen Canyon Dam. The cost of removal of two small dams on the Elwha River in Washington is \$200 million dollars, and relatively few people use or care about those dams. Glen Canyon Dam is more than an order of magnitude larger than both the Elwha dams together, and it is a significant element of the Southwest's economy. Removal of Glen Canyon Dam would cost billions of dollars, and I cannot imagine the total cost of removing

all dams on the river to restore natural flow conditions. I'm Scottish, and I fail to see Mr. McElya's logic in recommending tearing down an edifice that cost the public dearly to construct, and which is providing substantial economic benefits to that public. We had 35,000 public comments on the Glen Canyon Dam Operations Environmental Impact Statement in 1995, and very few of those were demands for dam removal.

The real task is to use reliable information to improve regional planning, and actively implement that planning, to restore the ecological integrity of the Southwest. Let's work to make the Grand Canyon less of a last refuge for wildlands and wildlife. Let's get off our butts and join the Grand Canyon Wildlands Council and other worthy efforts to accomplish this effort in real time. Then, perhaps, it will be time to discuss dam removal.

I'm not particularly sorry if this is only "tired information" to Mr. McElya, but I will quite happily bore him and the rest of the world to tears to make real the best possible ecological future for the Southwest, this Canyon, and the extraordinary life they support.

Larry Stevens



TRADEOFFS IN PARADISE:

Negative Impacts of Glen Canyon Dam

- * Destroyed Glen Canyon, which should have been one of the world's great scenic parks
- * Partially destroyed the native fish fauna in Glen and Grand canyons by creating uniformly cold water
- * Resulted in the loss of 20% to 40% of Grand Canyon sandbars, and many river campsites
- * Increased severity of Grand Canyon rapids
- * Increased danger of hypothermia in Grand Canyon

Environmental Gains from Glen Canyon Dam

- * Increased aquatic ecosystem productivity in the clearwater segment between the dam and the Paria River confluence, and in the sometimes turbid river between the Paria River and the Little Colorado River confluences.
- * Created a trophy trout fishery and angling guide industry
- * Increased endangered Kanab ambersnail habitat by 20–25%
- * Provides food and habitat that support one quarter or more of the Southwest's wintering bald eagles
- * Substantially increased the post-dam migratory waterfowl population, and supports a new summer-breeding population.
- * Provides food for the largest breeding population of endangered peregrine falcons in the 48 states.
- * Produced abundant, biologically productive riverside marshes.
- * Created one of the largest, most productive, and most diverse riparian vegetation stands in the Southwest
- * Greatly increased diversity and abundance of riparian invertebrates, amphibians and reptiles, birds, and mammals.
- * Produced a more predictable river, allowing commercial river running companies to transport more passengers, more safely and through a longer river running season.
- * Created cheap, environmentally clean hydroelectric energy production for more than 3 million Southwest residents.
- * Created water storage for the upper Colorado River basin, with an estimated 15 million beneficiaries.

Congressional Testimony

In September Utah Congressman Jim Hansen called a special hearing in Washington to air the proposal, by the Sierra Club and Glen Canyon Institute, to drain Lake Powell. Attended primarily by western congressmen hostile to the idea, it was more of a blanket party than a hearing, with testimony heavily weighted against the proposal.

National press summarized the hearing by saying the proposal had been pronounced "colossally dumb". This was indeed the intent of the hearing... to squash the idea like a bug. The opposite, however, seems to have happened—the idea seems to keep growing and the publicity it has received, good or bad, continues to help it gain a wider audience. In fact, a Citizens' Environmental Impact Study is about to begin.

On the following two pages are excerpts from two testimonies at the hearing. Adam Werbach, president of the Sierra Club, speaks for the proposal. Rob Elliot, owner of Arizona Raft Adventures, speaks against it.

On the page following the testimonies, Michael Ghiglieri presents yet another viewpoint on dam management...

Adam Werbach's Testimony— an excerpt

Draining Lake Powell is not just about restoring a place more mysterious than the Grand Canyon, though that alone would be worth it.

It is about facing the reality that we are asking too much of the Colorado River. We are not being good stewards of this resource nor are we providing a safe future for our children in the way we are abusing the river today.

In destroying Glen Canyon we have eliminated some of the most productive habitat for native Colorado River fish, many of which have been smothered forever from the face of the Earth while the remaining species hang on in isolated and aging populations in a few places along the river.

The Colorado River Compact promises more water to the Basin States and to Mexico than nature promises to provide based on what we know now about past river flows.

Most of the river goes to water plants, not people. And many of these plants, such as cotton, are not native to the desert, are heavy water users and would not be grown at all if their farming was not supported by a complex web of tax breaks, subsidies and federal price supports.

The Colorado River system drains a vast area of our country, yet is so depleted by diversions along the way that most years its flow disappears into its riverbed sands miles from its former mouth at the Sea of Cortez. Its death has caused the demise of a fishing industry and communities in neighboring Mexico, and threatens the ecological sanctuary recently established in that country to protect rare porpoises and other endangered creatures in the delta region.

The Grand Canyon just downstream is suffering from the effects of Glen Canyon Dam, which has turned its warm water native fish habitats cold, cut off the major supply of sediments to rebuild its beaches and shorelines, and prevented cleansing seasonal floods...

In the not too distant future, Lake Powell, like all reservoirs, will be rendered useless for water storage and power by incoming silt. Lake Powell represents short-term vision, and those of us who are not old enough to have experienced Glen Canyon pay the price.

Between seepage into the canyon walls around Lake Powell and evaporation from this vast flat water reservoir located at high elevation in one of the driest areas of the country, water loss is estimated at almost 1 million acre feet per year according to the Bureau of Reclamation, enough for a city the size of Los Angeles.

This is no way to run a river, and it's not the legacy to leave for our children.

Changes are possible without massive shortfalls in water or power. I would like to submit to the hearing record a study just completed by the Environmental Defense Fund entitled *The Effect of Draining Lake Powell on Water Supply*

and Electricity Production.

Regarding hydropower, EDF finds that "most power users in the Southwest would not be affected", and that the estimated cost to all Americans of restoring Glen Canyon by foregoing power revenues from the dam is only 37 cents a piece per year, a bargain for what we'd get back. EDF concludes that "a comprehensive study of all the effects of the proposal to drain Lake Powell...is clearly warranted."

Information prepared by the Bureau of Reclamation itself in July 1997 to address the issue of draining Lake Powell says that the difference between the average annual inflow to the reservoir and current Upper Basin use "is enough to satisfy the Colorado River Compact obligation of 75 million acre feet per ten years to the lower basin without needing the storage of Lake Powell. In addition, recovered evaporation losses from Lake Powell would help to meet any potential deficiency in the Mexican Treaty obligation."

We believe these preliminary analyses show that draining Lake Powell is possible without major dislocations, that it's affordable, and that it's not too late to consider this option.

Hoover Dam and Lake Mead can continue to regulate the river and produce power. Glen Canyon Dam doesn't do anything different than Hoover and Mead in that regard, but it does drown a unique natural treasure and destroy an ecosystem which we can still uncover and restore.

The water saved by reduced evaporation and seepage from Lake Powell will add water supply back into the system. The power generation lost from Glen Canyon Dam can be replaced by natural gas or conservation elsewhere, and the cost spread over the rate base of the Western power grid should not be prohibitive.

Today, people are reevaluating at our past fascination with dams. And reviewing and changing dam operations is not without precedent. Congress has directed that the Elwha Dam in Washington State be removed to restore the river. Reservoirs in the Columbia and Snake river basins are being proposed for drawdown to restore salmon runs. Glen Canyon Dam itself has been reregulated by 1992 legislation. The Bureau of Reclamation assumes the economic life of dams is only 75 years. Even former Interior Secretary and now head of the Christian Coalition Don Hodel suggested in 1987 that O'Shaughnessy Dam in Yosemite National Park's Hetch Hetchy Valley be removed.

The Sierra Club supports evaluating the tradeoffs and opportunities of draining Lake Powell through an environmental assessment. We urge the Administration to undertake this review. Such an analysis has never been done because it wasn't required at the time Glen Canyon Dam was built. Regardless of where you stand on this issue, it shouldn't hurt to at least look at the information.

Our goal is to make the "place no one knew" the place everyone knows about. And we believe the American public will choose in favor of Glen Canyon.



Rob Elliot's Testimony— an excerpt

◆ ◆ ◆ The riparian habitat in Grand Canyon downstream from the dam is today amazingly vibrant, rich in biodiversity, none the less legitimate because it is a highly managed ecosystem, and it is threatened by both the prospect of draining Lake Powell and the possibility that nature may act first to blow out Glen Canyon Dam, with or without the authorization of Congress.

The post dam riparian conditions in the Grand Canyon are neither better nor worse than before the dam, but certainly vastly different. Post dam conditions are richer, more vibrant. ...

Recreationally, river running in the Grand Canyon took off at the end of the decade in which the dam was built. Early Bureau of Reclamation managers like to think the dam made river running possible. Although the fight to keep dams out of Grand Canyon may have brought early popularity to river running, from a flow perspective, there is no correlation between flows moderated by the dam and ability to run the river. Modern day river running has experienced 90% of the median range of pre dam flows from 3,000 cubic feet per second to 92,500 cubic feet per second. We have the water craft, safety systems, and training to handle most any flow the river can throw at us.

Recreationally, the difference comes in the sediments and water temperature. Pre dam, or post draining Lake Powell, the water temperature in August would be 80 degrees and 10% of it would be mud. There would be lots of flies, no way to get clean, and no cold water to help our perishable foods make it through the canyon for two weeks. Not a pretty picture. As an environmentalist and a river runner who regards the Grand Canyon as home, I and my customers rather like the river environment and species diversity which has evolved downstream from the dam the way it is today.

...With the draining of Lake Powell and the freeing of Glen Canyon from beneath megatons of presumably toxic sediments, restoration would begin immediately ... and take a millennium for nature to restore Glen Canyon to ... to what? We don't know.

...If the sediments flow through Glen and Grand Canyons, then Lake Mead will fill all the more quickly ... and then are we to decommission Hoover Dam as well? Is the only ultimate answer to let the sediments run through to the Sea of Cortez? To use the water, we must remove the sediments and I admit, that fact poses very tough questions for future generations. It's not too soon to start looking for the answers today.

We must begin risk analysis to determine the competency of Glen Canyon Dam and flood control capacity in Lake Powell to withstand a 500 year flood. How long

did the engineers design the dam to last? Was it smart to put it in sandstone in the first place? There is a lot of speculation as to how long the dam will be there. We almost lost it in 1983 when El Niño produced 210% of normal snowpack in the early spring and a warm June brought it all down in the first ten days of the month.

...With all tubes and spillways flowing, Glen Canyon Dam can release somewhere between 220,000 and 270,000 cubic feet per second... and might be able to handle that for a few days. Bill Duncan, the manager of the dam, says the 1983 problem with the bypass tubes has been fixed and the tubes are competent to handle full volume. A 500 year flood event runs about 250,000 cubic feet per second and sedimentologists with the Bureau of Reclamation point to evidence of prehistoric floods of up to 400,000 c.f.s. Meteorologists tell us that El Niño event building off the coast of South America is expected to be the biggest of the century.

...My view is that the subcommittees can productively focus time and resources on assuring that the risk analysis of managing a 500 year flood event is addressed. Whether the lake is drained by man or the dam is blown out by nature, the riparian resources in both Glen Canyon and Grand Canyon will recover in a few hundred years. Whether we have a choice, or no choice, if we fail to accommodate the eventuality of a 500 year flood, we may have created a situation with unacceptable risks to society.

...Thank you for legitimizing this very necessary debate. I believe dam removal in some river systems may increasingly be a credible and necessary management alternative over time, just not Glen Canyon Dam and not now... What we learn from assessing storage capacity, the quantity and quality of lake sediments, and downstream impacts of a 500 year flood event at Glen Canyon may provide invaluable scientific data and understanding against which to evaluate long range management options at other aging facilities.

Habitat restoration in Glen Canyon by draining Lake Powell is a very bad idea on all counts, environmentally, recreationally, socially, and economically.

The damming of Glen Canyon was a wrong that cannot be righted in this way. It is counterproductive to outfitted river trips and other forms of recreation, counterproductive to local economies, and counterproductive to the environment....

We must all be open to evaluating the draining of reservoirs as a viable management option that may make sense in some cases in the future. But in the case of Glen Canyon, I do not believe the restoration of Glen Canyon is either doable, or a net benefit for anyone or any natural, cultural or recreational resource involved.



Why Not Bring it Back?

Don't We Still Operate under the National Park Mandate?

We the people are treating Grand Canyon as lowbrow cops treat a rape victim: she Probably had it coming; and anyway the real damage cannot be undone. This attitude, however, spoken or not, is illegal, unethical, and transparently disingenuous to Americans of average intelligence.

As American citizens live under a law defining our duties and rights with regard to Grand Canyon National Park and the operation of Glen Canyon Dam. The Congressional Mandate of August 25, 1916, orders the Secretary of the Interior to “conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

This law, however, has taken a back seat to expediency among our public servants, who say they truly care about Grand Canyon yet bemoan having their hands tied by “reality”. If we let them slide on this, our descendants will have ample reason to hate our guts. To illustrate how insidious our adversary is, the 1994 Draft Environmental Impact Statement Summary: Operation of Glen Canyon Dam states on its first page of text (p. iv): “None of the alternatives considered in’ this EIS can return the system to predam conditions. However, this EIS considers nine alternate ways to operate the dam to reduce further adverse impacts on or to enhance the existing ecosystem.” (Italics mine). Note that this “existing ecosystem” is an artificial one so qualitatively inferior to the historic natural one of pre-dam Grand Canyon that its degraded state alone is precisely what led to this very EIS that hereby is sanctimoniously absolving itself of any hope of its restoration.

Take, for example, one existing dam release option (p. 11) likely to be most helpful: a seasonal, short duration peak flow of 45,000 CFS. Why not instead release in June the full 48,200 cfs possible from the dam at any time--or the even better historic 85,000 cfs peaks of nature when possible? And better yet, why not tie this in with a seasonally adjusted steady flow mimicking predam flows? The answer is such releases might impact subsequent, artificially created---and legally unprotected---resources.

Worse is the alternative is for saving endemic fish endangered due to dam releases of water too cold (46 F at Lees Ferry) for them to breed in. The mitigation offered is to establish another population of humpback chub in another tributary of the Colorado downstream of Glen Canyon Dam (p.12). On the contrary, the obvious solution for endangered species of fish at risk due to dam operations is to stop drawing water from 230

feet deep and to rebuild the feeder penstocks in multi-intake structures to take warm surface water from Lake Powell to re-establish the natural temperature regime of the river so that the endemic (and endangered) fish can breed in the river again. Forget the trout fishery; trout are alien exotics and are in conflict with the National Park Mandate. And don't worry about warm water allowing predatory striped bass planted in Lake Mead to come up river; the striped Bass already come upriver to Lee's Ferry. And don't worry about the retro-fitting of the dam costing \$60 million; take these funds from dam operations revenues and fix the dam now— as we are required to by law (as was done at Flaming Gorge Dam).

And no question anymore, sediment augmentation within the river corridor below Glen Canyon is not an impossible dream, it is a mandatory mitigation of damage being caused by Glen Canyon Dam. And it is feasible; several US sediment-delivery pipelines and pumps have been built by industry. Let's build one to restore our Seventh Wonder of the World and World Heritage Site. Stalling this' construction by another EIS and a proposed 15-20 year building requirement is disingenuous; private industry could build one hell of a lot faster.

Finally, remember that it is not just government who balks at undoing the damage that government has done and is still doing in Grand Canyon. The private sector, with its own interests, may be as guilty. Take, for example, recommendations in the book *The Colorado River through Grand Canyon: Natural History and Human Change*. On page 152 we read that dam releases should be managed to facilitate the invasion of new biological species not present historically in Grand Canyon. And on pages 189 to 194 we read that the National Park Mandate is obsolete, that instead of adhering to it, we should manage Grand Canyon to preserve artificially created ecosystems. This is the most dangerous suggestion so far made by anyone. Were either of these recommendations ever to become law---or even precedent---we could kiss goodbye literally every natural ecosystem remaining in the United States. We may as well dump the Bill of Rights in the Porta Potty as well.



Michael P. Ghiglieri

It is difficult to get a man to understand something when his salary depends upon his not understanding it.

Upton Sinclair

grand canyon river guides

Kwagunt

About 56 miles downstream from Lees Ferry, the Colorado River flows over yet another boulder strewn debris fan at the mouth a large side canyon. It is Kwagunt Rapid, with an 6 rating in the Steven's guide, and big hole in the middle. For many river runners, that is all they need or want to know about it. But some people may have wondered, where did that funny sounding name come from? Perhaps you happen to be one who knows that it was named after a Southern Paiute man who once roamed that part of eastern Grand Canyon in the mid-to-late 1800s. If so, did you ever wonder what kind of man he was and why his name is attached to that canyon?

His name is spelled variously as Kwagunt or Quagunt or sometime simply Quah; it is an anglicized version of his Paiute name, Qua-gun-ti, which means "Quiet Man". As the name implies, Kwagunt, unlike his contemporaries Tapeats and Chuarumpeak, was not a politically outspoken leader. He was born sometime in the first half of the 19th century, probably in the 1850s, and for the first years of his life, he lived with his family around several springs in House Rock Valley. The family traveled seasonally into Grand Canyon to gather "yant" (a clonal species of agave) in the springtime; in the fall, they moved up onto the Kaibab Plateau to hunt deer and gather pinyon nuts and other wild foods. During the rest of the year, they resided along the eastern flanks of the Kaibab Plateau, gathering grass seeds, hunting rabbits, and growing small gardens of corn, beans and squash.

The story that follows is Kwagunt's story, as related to Brigham Riggs, a Kanab cattleman, sometime in the late nineteenth century. It relates some of his personal experiences as a youth and young man in the mid to late 1800s. For all Southern Paiutes, this was a time of severe cultural stress due to decimation of their population from hunger, violence, and the introduction of European diseases, as well as physical displacement from their prime water sources and most productive gardens and collecting areas as a result of Mormon colonization and the introduction of livestock. As this story demonstrates, it was a particularly difficult time for Kwagunt. Here is his story:

The life story of Quag-unt, a Paiute Indian,
told to Brigham A. Riggs, a cattleman of Kanab, by the Indian himself.

The Indian came to Riggs' home one winter day to visit Mr. Riggs. They were talking about days gone by. Riggs asks the Indian why his squaw was crying on a certain day they happened to meet on the road between Kanab and Kaibab mountain. The Indian hesitated a while and then told this story.

"My squaw was crying because I was taking her back to Buckskin. (Buckskin was the name the people gave to the Kaibab Mountain until it began to be advertised for its scenic attractions). She wanted to stay at Kanab with the rest of the Indians but I hated the whiteman and did not want to live where they were, so I was going back to Buckskin, which was home to me. I have hated the white man all my life and have had a good cause for doing so. When I was a little boy I lived in what you call House Rock Valley. I lived with my father, mother, big brother and a sister. There was another family living there with us, a man, his squaw, and a grown girl. I was about the size of your little girl and my sister was about the size of the other girl. (About seven and ten). One evening two Indians came to our camp driving some cows that some Navajos had given them to pay for helping drive cattle over the Buckskin. The Navajos had stolen the cattle over the Buckskin. The Navajos had stolen the cattle down around St. George some where. (Note: So

many cattle had been stolen from the settlers by Indians that a company was organized to punish the next raders and this was the first rade). The Navajos took their cattle on to Lee's Ferry and we moved south to South Canyon. We killed one cow to have meat. Next morning about sun up some white men came close to our camp and began to shoot. Our men got their guns and started to shoot at the white men. My sister and myself ran and hid in the rocks. We hid all day and everything was very still. When we dared to come out we looked around and found all the Indians dead but we could not find any of the squaws. We didn't know what to do. There were no Indians living on this side (the east side) of the mountain. My sister had been over on the west side of the mountain once but I never had. We know we had to go where there were some Indians or we would die during the winter. The only place we knew of to go was Moccasin where our tribe lived. (Moccasin is eighteen miles south west of Kanab.) We were afraid to go over the mountain because we were afraid of the white men and it was late in the fall and it may snow so deep that we would be snowed in and freeze to death. We decided to try to make it around the south end of the Buckskin Mountain. We took a small jug to carry water in and some meat and started down South Canyon. I got tired and my feet got sore. I would cry and my sister would

carry me on her back till she got tired then I would walk again. Sister's feet got so sore that you could follow her tracks by the blood on the rocks. When we got down off the mountain into the big canyon (Grand Canyon) we stopped two or three days to let our feet get well so we could walk. We had been down in the canyon every spring to gather yant*. About halfway to the bottom of the big canyon we started west. Sometimes we could not find water for a long way. One day sister fell off a rock and hurt her very bad. I thought she was dead, she laid still so long. I was afraid because I could not go on alone. After a long time I saw here move a little, then she made a funny noise. After a long time she raised up and wanted water. She wanted water all the time. I had to go back a long distance after it every day, and then the rest of the day I would have to gather grass seeds to have something to eat. We had to stay three or four days before sister got so she could walk. She couldn't walk very far the first few days. We would have to go a long way up around box canyons and out around points. We had good places to sleep. We found good caves where it was warm. One time we got into a place where it didn't rain and no grass grew. We very nearly starved to death before we got to where we could find some grass seeds. One night it rained down where we were but snowed higher up on the mountain. We went up into the snow and found a rabbits' tracks. We followed it up into the deep snow and caught it. This gave us strength to go on. We came to Kanab Creek and found plenty of water and grass seeds. We followed the creek up out of the canyon. One night we saw a camp fire. We sneaked up close enough to see if it was white men or Indians. It was Indians out hunting antelope. We stayed with them till they went to Moccasin. It took us one moon and a half to make the trip. When we got to Moccasin we found that the white men had left our mother to Moccasin with the Indians there, but she got sick and died before we got there. We never got to see her again. I have hated the white men ever since. I swore I would kill white men enough to pay for my people that the white men had killed. Many times out on the Buckskin I have hid by the side of the road to kill a white man. Every time it would be you or some of the other white men who had been good to my squaw and ipats (boy), so I would let you go by. You, Ed Lamb, Tom Stewart, Walt Hamblin (Cowmen from Kanab and Orderville) were all good to my people so I never did kill a white man. I grew up with the Indians at Moccasin and Kanab, but as soon as I got old enough I left to live on the Buckskin away from the white men. When I was a young man the camp was very hungry. They wanted someone to go find some meat. We didn't have any bullets to shoot in our guns so we had to go with out anything but a bow and arrows. Two other young fellows and myself left to hunt deer on the Buckskin. As soon as we got to the foot of

Buckskin we saw a big buck track. We tracked it up and found it. It was a big buck with long horns. We spread out to drive him up on the mountain into the deep snow. One of the fellows gave out and had to stop. The other fellow and myself went on. We kept the deer going up hill. When the snow got deep we got in the trail behind him. When the deer got tired my partner hid behind a little bushy tree. I worked my way around above the deer and scared him back down the trail he had made going up. When the buck came by my partner had a big club all ready and hit him across the back just in front of the hips. That brought him down so he could not get up. We got him killed and ready to go that night. Early next morning we started back with the hide and meat. Another time we went on a rabbit drive. We went out east of Kanab and set up our nets. Then we took a circle out two or three miles to drive the rabbits into the nets. About the time we started back a very bad blizzard came up. We all started for camp as fast as we could go. One man didn't come to camp that night. Next morning we all went out to look for him. We found him about two miles from camp. He was kneeling down on one knee with his bow and arrow in his hand frozen stiff. He looked like he was alive but he was dead. The way we would get rabbits with our nets was a pretty good way. We would find a place where rabbits like to run and set up our nets. The nets were made of yuka strings. They were from ten to twenty-five yards long. We would put all we had out in a long string, sometime a hundred yards long. We would put them up on stakes driven into the ground. When we got our nets set we would take a circle out around the part of the country we wanted to make our drive through. We then formed into a half circle a short distance apart and would go towards the net. The rabbits would go to the nets and follow along it. There would be an Indian stationed at each end and some times along in the center. When the rabbits came along the Indians would shoot them. We would take the rabbits to camp, build a large fire out of sagebrush, and would take enough rabbits to make a meal for the camp and put them in the fire and burn the hair off, when we didn't want the hair to make ropes with. When the hair as all burned off we moved the coals and ashes away and put the rabbits in a pile, then bury them in hot ashes and coals. When they are cooked we take them out and pull the ears off and give them to the older people, chief or Medicine man. That was the best part of the rabbit. The children got a leg or a piece of the back. The liver and heart were eaten, then the intestines were removed and the stuff was stripped out with the finger and thumb, then eaten. The eyes and brain and every bit of the rabbit was eaten but the hide and bones. There were not many rabbits. We kept them killed off for food. They furnished a good part of our food supply. There was a lot of different kinds of roots

we could dig at different times of the year. Grass and weed seeds in the summer and fall. Nearly every year we had a good crop of pinyon nuts and acorns that we ate. We would gather all we could get of these kind of things to live on during the winter. We would dry meat when we could get it. Sometimes we would have plenty to eat and sometimes we would nearly starve. There was always deer on the Buckskin and antelope down in the valleys but they were wild and hard to get till we got guns, and then lots of times we didn't have any powder."

* Yant is a member of the yuka family. It has short stubby leaves, very much like a century plant. It is a multiplying plant. Each year a new shoot comes out by the side of the others and each year one of the cluster goes to seed and dies. It takes many years for the plant to go to seed after it comes up. In the early spring a seed stock comes out of a plant and grows into a stock as high as twelve feet, as big as four inches in diameter at the but, and the seeds grow in the small pods along the stock. In the spring before the stock starts to grow, the

plant has a heart in the center. Sometimes four inches in diameter. The heart somewhat resembles a turnip. After it is cooked it is more like a banana. The plant grows in the rocky breaks to the Grand Canyon. The Indians would go into the Canyon in the spring to gather the plant for food. It has very tough roots and is very hard to pull or dig. The Indians would dig out a pit near their camp and build a fire in it to make it very hot. Then they go gather the yant plant that would go to seed that year, and carry them to camp. When they got enough to fill the pit they would put them in and burry them in the hot ashes and leave them over night. When they were cooked the leaves were easily pulled off. What was left after the camp had been fed was pressed into cakes and dried for future use. It was very good to eat.

I often used to wonder if the black haired, buckskin-clad skeleton that the Bus Hatch expedition found at South Canyon on 1934 expedition might have been Kwagunt. But in the course of doing research for this article, I learned a few more things about Kwagunt. According to Southern Paiute oral tradition, Kwagunt, along with a brother and sister, discovered the canyon that now bears his name while trying to hide from Apache raiders. The brother and sister lived there for a while, and after their deaths, Kwagunt claimed the area as his own. They say he discouraged visitors to the valley "because he wanted to keep the sage seeds to himself". He was still using the area when John Wesley Powell undertook his topographic survey of the Arizona Strip in 1871-1872, and it was probably while accompanying Powell and H.C. Demotte on a reconnaissance of the Kaibab Plateau in August, 1872 that Kwagunt informed Powell of his claim to the area. By the mid 1870s, however, most Southern Paiutes had abandoned efforts to live off the land in the traditional manner and had moved into settlements adjoining the Mormon communities at Kanab and Pipe Springs, leaving Kwagunt to eke out a lonely existence without the support of family or friends. Eventually, Kwagunt gave up trying to live on his own in the traditional manner, moved to Kanab, earned meager wages chopping wood and doing other chores for whites, and died on the Kaibab reservation as he had lived— quietly.

Helen Fairley



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columbine falls

once just a name on a bow
a place on a map
high water brought me to her

gentle paddle through swollen backwater
as bass, carp, channel cat
muck amongst arrow weed, cattail, willow

perfectly, gingerly her namesake clings
shining yellow gold
in the mist of falls into river

Rhonda Barbieri

Rain Desert

It rained on the red rock desert today
Against a sky grey, black, blue,
Air the color of rain,
The coolness of rain,
Lightning steaking the desert towers
Burning its eternity into the juniper tree,
Pot holes full of sweetness for animals that must drink to find food
In land of little except space and blueness in its view of beauty with plenty.

This is the rain desert, becoming,
With the wet of forest skies water seeps into cracks
Replenishing reservoirs of springs,
Blackbrush drinking as if to be ready for the next decade.

M Rees
25 May 97
Utah 128



It was not late at night.
My electric bulbs would burn
with the flick of the switch.

It was not romantic, rose red
like Valentine's day or some
special occasion to profess
the truest emotion.

There were dishes in the sink
and a map unfolded on the table.
You were not planning,
only searching,
possible places to call home.

I lit a stub of candle, mostly gone
but the flame still bright. Enough
to see the map's tiny filigree lines,
counties and cities
secondary highways and interstate junctions.

The map held possibilities.

You considered only the tiniest of dots,
the widest of open spaces.

It was time for you to live, somewhere.
Beyond the river and canopy of sky
where often you made your bed
laid your head and slept
freely.

But that age old ache for place
had settled in your bones.
Where would you, where might you call home?

Red candle drippings rolled to the table.
You collected them on top a vitamin cap.

And in the pile of soft warm wax
you saw, a bear. Stared
intently at its shape.

I, too, saw the bear. Clearly.

Really, you and I had spent enough
time together to be comfortable
with the candle and the map.

But only time for hours, maybe longer,
not connecting too many days in a chain.

Inside you and inside me, much more than told.

But when, in the red cooling wax,
you saw the bear,
I understood.

There was nothing else
I really needed to know.

Kim Zanti

grand canyon river guides

Parked in the No Parking Zone

It seemed just like any other day at Havasu, except the air was cool and it was early August. I was on an oar trip with Wilderness and we pulled 3 snouts, 2 Canyons and a Maravia into the mouth of Havasu and tied up. Down at the lower pull in were two Wilderness Motor rigs and two Western Motor rigs. A private trip pulled in and tied up two boats deep in the mouth and used our boats as a bridge. Nine kayaks and a canoe were able to squeeze by all the boats and skinny through the six-foot slot to paddle to their own private dry dock near the first waterfall 100 yards up stream.

We got all the passengers off of the boats and assembled them on shore to get their pre-made lunches for the all day Beaver hike we had planned. Some of the boatmen looked up Havasu canyon and saw a few scattered clouds, but only enough to remind you that a flash flood is a possibility. Okie was in charge and made a hard call due to less than perfect weather. The Beaver hike was changed to a 1 hour up to the first pools and back, and then early to camp to play volley ball. Tony Anderson had made a similar call and already had his people coming back from a quick visit to the pools. Western had pulled in early and had people well on their way to Beaver. This typical, pleasantly sunny day, was about to change dramatically.

After a brief visit with the Wilderness boys at the lower pull in, myself and a few other Wilderness boatmen returned to the boats in the mouth to grab some food, water and shade, along with some of the non-hiking passengers. I laid down on my ice chest and stared up at the clouds that were moving very quickly, but provided decent patches of shade to my boat in the sun.

Just then a distant roar started to turn my ears up like a deer noticing a strange sound. The roar got louder and soon revealed its identity as distant thunder. I looked over at a passenger who was watching my peculiar paranoia and I laid back down. Just moments later another low frequency roar began, except this time it was up Havasu Canyon and was slowly getting louder—and rhythmic. It was a helicopter 100 ft off of the Havasu Canyon floor coming down the canyon. For two seconds, I wondered what the hell the chopper was doing and then I saw a hand making a wavelike motion much like splashing water in a pool. I screamed over the choppers roar along with four other boatmen. “FLASH FLOOD! EVERYBODY OUT!!!! OUT, OUT, EVERY BODY OUT!! NOW!”

It was mass confusion. Some people thought that we meant get on the boats to leave. Parents ran around looking for their children. One parent came up to me as I was screaming at his son, who was deep in the mouth

of the pull in spot, trying to get the vest that was blown into the water from the chopper. He finally heard the panic in our voices and left the life jacket in the water and ran across the boats.

With everybody off of the boats, everything seemed strangely calm. “What do we do?” I thought as I looked at the eight perfectly calm boats sitting in the mouth. Is this a two-minute warning or a twenty-minute warning? Should we cut the boats loose? Is this a debris flow or just a mild flood? If we have even three minutes we can get some of these boats out of here. It felt like what I imagined to be a bomb on its way to destroy the boats.

Since two of the boats were almost completely out of the mouth of the canyon, it seemed to make sense to try and move one at a time out of the main path of the imminent water. It didn't make sense at the time to cut the boats loose because we didn't know what was coming—since it was high water, maybe the lake that was there in the mouth would slow down a small flood. Standing on those boats and untying them felt like having a shoelace caught on a train track, with a train coming full speed. We were deeply aware of anything that might indicate the water being near, and none of us would commit to going into the mouth where there was no immediate escape route up the shear 25 foot walls. We managed to untie one of the boats and positioned it in the current of the main river—about thirty feet down stream from what is considered to be the mouth. We went back to get the second boat and then we heard the horrible sounds—absolutely terrifying. The sounds were not of the water, but of people way up stream screaming in terror and warning those down stream. Okie and I were in the mouth and stopped what we were doing. We sat there frozen for about ten seconds listening to the yelling and screaming getting closer.

And then there it was... It seemed to be coming down the canyon at automobile speeds. I had always envisioned a flash at Havasu to be a wall of muddy water crashing through the canyon with reckless abandon, but this moving water was smooth and beautifully blue. It came like a wave on the ocean, five to six-foot tall, perfectly smooth, with about a 45 degree angle to it. As the wave moved into the narrowest part near the boats, the water instantly stood up and filled the six foot wide slot completely to the top of the cliffs with about an eighty degree, if not perfectly vertical, ten-foot wall of blue water. Within seconds, Okie and I, were on the safe ledge we had chosen as the escape route, and we watched the carnage happen.

All the ropes seemed to snap at once like popcorn well into the popping stage. One of the boats that was tied to a “bomber” tie off, resisted the current for about

three seconds, flipped onto another raft, and slid back into the water upside down snapping a D-ring off. Oars were swinging every where as eight boats pulled out at the same time on the new muddy water pushing them. Trees and kayaks stuck up out of the water like daggers between rafts from all the congestion. One log about thirty feet long was somehow lifted into a vertical position from all the debris and constriction, and glanced off one of the boats when it crashed back down again. There was a hellacious vortex of water where the Havasu water met the Colorado, that violently shook and turned the boats as they exited the mouth. The rafts floated out in the current and underneath the chopper hovering over the Colorado. The flow seemed to be about 90% water and about 10% wood, and we began to wonder what to do if we saw any people or bodies. An occasional life jacket, or piece of clothing would surface and then submerge again—causing an instinctual urge to jump into the river to help. All we could do is watch for people and watch our boats go down stream.

The chopper pilot, Michael Moore had saved the day. His warning was all that was needed to get everyone to high ground. Apparently he saw the flood coming way up stream, and broke some rules of radio contact and flight zones, and went on the warning mission. You could easily argue that he saved a dozen lives that day.

Everyone was running around wondering what to do. Pat Phillips thought it wise to jump onto one of the Western boats, that had already snapped one of two “Queen Mary” bow lines, because of the newly introduced current from Havasu. The upstream pontoon was about 70% underwater, and the water actually ripped away one of the kitchen boxes tied on the side of the raft. The Western boat was a smart place to be to watch for people, since everything that came out of the mouth either crashed into or went underneath those boats. Okie, the lead on the Wilderness trip, started calling everyone together to count heads and see what the next step was. The one snout that was moved out of the mouth was still there in the current, but was stressing the rope to its limit. There was a feeling that the trip was definitely over—that there was no way we could recover a trip from this situation. Several minutes had passed at this point and it seemed apparent that the chopper had done its job— there were no bodies that day.

It seemed pointless to just sit there and watch the remaining snout break away and go down stream, so Pat and myself carefully boarded the boat. The line was so tight it was unapproachable. Brett Starks cut the line at the tie off point with just a touch of a dull Gerber Shorty knife. Pat and I were catapulted like an accelerating sports car into the current and bounced off the Western boats we couldn't avoid. We had a few ideas of how we might pull some of the boats to shore, but we

were hoping that TA and his motor boats didn't go too far for lunch, since the oar boats were several minutes ahead of us.

At the mouth, the chaos had just begun. One of the passengers on the private trip was in the water near the first pools when the flood hit, and was rammed in the ribs by a log. Unable to pull herself out of the current, she screamed for help. Patrick (Mowgli—The Ex-Marine) was there and helped her to higher ground. A quick assessment revealed not much more than some possible broken ribs, and an embarrassed need for Mowgli's shirt.

Near the first crossing spot, one of the passengers, struck with fear, interpreted “get to high ground” as “scale the cliffs.” Climbing in panic, the soft spoken band teacher soon realized he had climbed too far, and froze sixty feet up on the cliff on a narrow ledge. Matt Penrod, an experienced climber began a 1½ hour rescue with a harness and some climbing equipment he acquired from Park Service that had recently landed to assess the situation at the river— things were mild compared to the 600 people stranded upstream near the Havasu village, and the Park Service could only help so much. Matt scaled the 5.8 - 5.9 cliff to the stranded climber and was able to assist in a thirty-foot down climb to a spot where a harness could be used to lower the passenger.

Upstream near Beaver Falls a dozen or so passengers began a series of harrowing chopper flights through the canyon to get back to the boats. One of the Western boatmen made an impossible trek along the talus to get back to the boats for help and information.

Down on the Colorado river, TA, Christen, Aaron and Katie came to the rescue of the boats. They had the difficult task of pushing the boats to shore, while driving in a bog of driftwood and debris. Pat and I met up with TA just as he had pulled all the boats ashore. We righted the flipped raft and began making triple rigs with the boats for a speedy trip down to Tuckup. At this point, we were asked by Park Service over the radio if we could continue the trip. Amazingly, we accounted for every boat, including kayaks, and gave the Park Service the thumbs up for our ability to continue. Two Western boats, who were unable to pull in because of the flash, met up with TA and took on the responsibility of transporting the equipment for the private trip. The brigade of oar boats tied to motor boats quickly drove down to Tuckup and met up with Jason and Mike on the Wilderness support boat, who had also been rescuing kayaks and equipment. Every boat down stream had kayaks filled with driftwood on board.

With all boats at Tuckup, TA and the Western boats went down stream to continue their trips. And there we sat— setting up a kitchen, a chopper pad, and listening to the aircraft radio— eighteen boats, four crew

members and 45 people up stream.

Hours passed, and at Havasu, the stream slowly began to diminish. Some spots became crossable with the assistance of life jackets, some strong shoulders, and lines strung across the river. The whole process of getting everyone back to the boats was horrendously slow and people began to approach their limits. To make matters worse, a severe thunderstorm was rolling in and nightfall was approaching. All the Park Service could do was to make a final drop of food supplies and life jackets, and take off into a dark and stormy night. With ninety people raingear-less and shivering, the crew members made the call to get to Tuckup via the two Western rigs. The boats were heavy and slow and extremely wet from splashing. To make matters worse, walls of rain began dumping on the rafts. The lightning was flashing like a bad discotek, dozens of waterfalls crashed off of every cliff, and the last mile was driven in complete darkness.

At Tuckup the chaos began again. Ninety people pulled into camp in a horrendous rain storm, all looking for their bags and equipment strung about like a two day church yard sale. No one could find anything in all the chaos. The halogen and the generator saved the day. With light on the scene and the smell of hot food cooking, people were able to get situated. Some shivering children were quickly taken to the shelter of an overhang and bundled up in dry sleeping bags. With the camp situated, food in our bellies, bodies warmed and fears behind, ninety people went to bed that night with a memory of a life time.

In looking back on that day, I think the most impressive aspect of how everything came together was the reactions of the people involved. Every passenger and crew member rose to meet the occasion. There was no time for judgment or ego. Some people became leaders, some people became invaluable followers. Virtually every decision was logical and the first priority was always safety. The Park Service was there and gave exactly what help was needed. The chopper pilot made the move that he knew he had to make— rules or no rules, he couldn't have lived with himself had someone died that day.

From a humanistic perspective, I think the most impressive thing that happened that day was that people found that they had limits beyond what they knew about themselves. I think when people are pushed beyond their known limits, a strengthening of spirit occurs and there is a re-kindling of what our real values are in life— being alive with loved ones— having a healthy body.

On behalf of everyone involved with that incident, I would like to thank the chopper pilot Michael Moore for his brilliant job of warning everyone in Havasu canyon that day. I'm sure that there are dozens of incidents deserving of praise and recognition and I apologize for not being able to include these in this story. My

personal view is that the crew members of Western and Wilderness orchestrated a brilliant recovery from that day and that the situation could not have been handled in a better way. The Park Service, as always, fit perfectly into the recovery, and a special thanks should go to?????, for all of his hard work at the scene.

To sum up, I have made a list of suggestions and comments from the input of some of the crew members involved to possibly aid in the next Havasu episode. Please note that these suggestion and comments are merely things to consider, and are not intended as advice on what to do in case of a flash flood.

1. While sitting in the mouth on the boats, it is questionable as to how much warning you will get from the sound of the water (Due to the noise from the rapid). A better indicator in this case was the sounds of people screaming, yelling and whistling, getting closer.
2. In the case of having a warning, a good call would be to remove all the throw bags and the major first aid from the boats if possible. The ropes will be extremely useful for swimmers and for crossing the creek, and the Major isn't available when it down stream or submerged.
3. If motor boats are below, chances are any swimmers will go right next to them if not under them. Also someone should be near a motor rig in case a swimmer goes out into the main stream.
4. If you have been warned of a flood coming and your decision is to untie or remove some boats, post a dedicated scout above to give you advanced warning. It is highly dangerous to be on the boats when the water hits— oars and trees are flying everywhere.
5. Always send a First Aid kit up with the hikers.
6. When crossing flash flood streams, post people up stream to scout for any huge logs coming, and down stream to aid anyone who may fall in the current.
7. For Park Service— consider some sort of alarm or pre-warning system, and consider a chopper pre- warning to be an excellent preventative measure.
8. When it looks at all like rain up Havasu— blow it off and go play volley ball in camp.

TJ (Tom Janecek)



Colorado River Management Plan

Scoping it Out

The Portland, Salt Lake City and Phoenix Scoping Sessions for the new CRMP are behind us and the Park is now in the process of compiling and examining all the input they have received and are about to receive from everyone out there. A tall order, as you'll see.

GCRG had representatives present at each meeting: Andre and Tim Whitney in Portland, Christa at Salt Lake and Jeri, Bob Grusy, Jon Stoner and Andre in Phoenix. Other constituencies were represented in the form of outfitters, private boaters, commercial passengers and the science community, to the tune of about 125 people per meeting.

Prior to each meeting the outfitters hosted a large banquet where they discussed issues and concerns with previous passengers who would be at the scoping sessions over the weekend. Each scoping session was set up in similar fashion: the NPS solicited preliminary issues and concerns in a mass spewing of thoughts and ideas from the assembly. These were then reduced down to a few major issues, which were discussed in detail in break-away work groups, along with possible solutions. In general, the major issue categories broke down to the following:

- The Visitor Experience
- Allocation
- Access and the Private Permit System
- Resource Stewardship
- Commercial Operations and Motors

Within each of these larger categories were many subsidiary issues, such as crowding, noise, the length of the waiting list, technology and bureaucracy on the river, etc. Each meeting was remarkably consistent in terms of the issues and main concerns expressed by the constituents:

- The overall concerns of the outfitters and commercial passengers were whether the new CRMP might eliminate motors and the helicopters at Whitmore, force them to eliminate interchanges or reduce allocation to the commercial sector - in general, change the status quo.
- The private boaters' main concerns revolved around access to the river corridor, how long they must wait to get a private permit and whether or not the current allocation system accurately reflects public demand for the resource.

Generally, everyone seemed to agree that the visitor experience is by and large in good shape, and that many

of the issues and problems revolving around this subject can be dealt with effectively by tweaking the current system (better education, communication on river, etc.). We all agreed that the private permit system is not really working well in its current form, although how to fix it was a matter of understandable controversy. Do we need to change allocation, do we privatize the system, turn it into a reservation or a common pool system, etc.?

In addition, everyone agreed that resource protection is a critical issue, although how to do this remained a matter of some controversy. Many folks seemed to feel that the current system has done a good job of protecting the resource, others felt that the river could even handle more users, still others felt that cutting back on users was the way to go. The touchy and extremely important issue of Wilderness and Potential Wilderness designation for the park and the river corridor became a matter of (often heated) discussion. There is a great fear on the part of the outfitters that any such protection is simply the first step towards eliminating motors and increasing levels of bureaucracy. Other constituents are concerned that true protection of the river corridor and the canyon against future challenges cannot be achieved without some such designation. All agreed that more information about the ramifications and details of such specification is needed. In fact, a call for more surveys, data, information in general was heard from almost all sectors: data on the private waiting list, data on what people want from a river trip, information on Wilderness designation, data on the carrying capacity of the canyon....

Quite a handful for the Park to assimilate, and it will be interesting to see what comes of these scoping sessions over the next year and a half. In fact, so much information was put forth at these meetings that the Park has unofficially extended the deadline for public comment until the end of the year. This is a good thing, because there is obviously a lot to talk about. This is where you come in. Grand Canyon River Guides will be making a statement of their issues and solutions to the Park on November 15 and we would really like to hear from you. We strongly urge you to write the Park as well with your own statement, but if there are things that you would like to see us say as an organization, we need to know - *now*. The accompanying article is a slightly enlarged version of a "general philosophies" statement that we handed out at the Salt Lake City and Phoenix meetings. PLEASE read this and comment on it to us. We need your input, or we are just going to have to go ahead and send the Park what the GCRG Board of

Directors decided on at its meetings. If you want us to represent you, you need to talk to us. Can't make it any clearer - it's really important that we speak as an organization on this one; the Park is looking to us as a major voice in the community and on the river and our opinions and ideas an organization will be very influential.

To the right is the NPS format for submitting your comments. In addition we have enclosed two copies of the official NPS input sheets. PLEASE follow this format for as many issues as you feel are important and send your copies to the Park before the end of the year. The sooner the better; they stated that the earliest comments will stand a better chance of being considered. Send us your thoughts by November 1, as we will need to send in our statement soon thereafter. We're waiting to hear from you, and thanks.

Christa Sadler



Is the Canyon Worth It?

What's is so important about a river trip in Grand Canyon? Why is Grand Canyon so special? Take a few minutes to think about these questions. What do you think the best solutions for protecting the place and the experience might include?

The Park Service has started the public information gathering phase of the Colorado River Management Plan. They are asking our opinions and seeking solutions to future management of the river corridor. Who is more qualified and informed in how things work (or don't work) down there than those of us who are seeing it; past and current river runners and passengers?

We all have opinions; we owe it to the Park planning team, ourselves and the river ecosystem to spend a few minutes to write our thoughts. (What's time to a river guide?) It is obvious these final decisions will affect us so let's be part of the process.

The deadline for comments has been extended, but the sooner your letters are in the more likely they can be incorporated into the planning process.

Letters should follow the format given by the Park so the folks reading them can understand us.

Let's flood the office with letters!



Laura Colton

Making Your Ideas Count

To assure that your ideas are incorporated in the process as accurately as possible, we are asking that you prepare written statements for each of your issues and your proposed solutions to those issues.

We would like to divide the comments into *Issues of Concern* and *Issue Solutions*. Please limit each comment, whether an issue or solution, to one typewritten page.

Comments may be submitted by regular or electronic mail to:

Linda Jalbert
Grand Canyon National Park
P.O. Box 129
Grand Canyon, AZ 86023
(520) 638-7909
e-mail: gcra_crmp@nps.gov

Following these simple guidelines will enable the planning team to clearly identify each issue and to compile all of the proposed solutions for each issue. For both the issue and solution comments, clearly state the title of the issue at the top of the page along with your name, address, and phone number.

Two blank forms are included in the center of this issue. Photocopy as many more as you need, fill them out and send them in. Be sure, if you make your own forms, that you follow the format below.

PAGE 1—ISSUE

Name Jane Canyon

Address 1001 River Road, New York, NY 10001

Phone (area code) 100-1001

Issue Crowding and congestion at major attraction sites in the summer. One page maximum explanation of why you think there is crowding at major attraction sites along the river, and why this is a concern to you

PAGE 2—SOLUTION

Name Jane Canyon

Address 1001 River Road New York NY 10001

Phone (area code) 100-1001

Issue Crowding and congestion at major attraction sites in the summer.

Solution One page maximum explanation of what could be done to reduce congestion at major attraction sites.

In addition to submitting your ideas, the NPS would like to keep you informed of the progress of the process. Sign up for their newsletter, *The Canyon Constituent* by writing to:

The Canyon Constituent
Grand Canyon National Park
Box 129
Grand Canyon, AZ 86023



Some Issues and Thoughts on the Colorado River Management Plan by the Board of Grand Canyon River Guides

We cannot overstate the fact that we need ALL GCRG members to let the Board know how they feel on these and other issues. The outline below is the outcome of many long hours of discussion by the board members and other interested parties. It is based on the best input we have received. If you feel strongly about these or other issues, it is imperative that you talk, call, write or e-mail us now.

It is essential that GCRG do its level best to provide the most coherent and positive input possible into this very important process. And you are a key part of making that happen. Read these two pages and let us know where you stand on these and other issues. Damn it.

I. OUR TWO PRIMARY CONCERNS

GCRG evaluates all issues and answers under the light of these two over-riding concerns.

- 1) Protect and preserve the natural resources of Grand Canyon.
- 2) Enhance the quality of the experience for all river runners.

II. NO INCREASE IN TOTAL ALLOCATION

We do not support an increase in the total number of people running the river. We feel that the Colorado River has already reached carrying capacity for river runners. Whether or not it can be shown that an increase will not damage the resource or the visitor experience, it is our belief that we must first solve problems that currently exist within the bounds of the present system.

III. ENHANCE QUALITY TIME AND REDUCE CROWDING

GCRG supports an allocation system that rewards offering the public sufficient quality time in the Canyon as opposed to the current system, which offers the highest profits to speedy trips and multiple exchanges. We support longer minimum trip lengths, especially for motor trips, which would enhance the visitor experience and reduce congestion thanks to increased flexibility where the tighter schedules are concerned. The practice of “double-dipping” of user days during passenger exchanges should no longer be allowed. GCRG recognizes that many issues concerning the visitor experience (crowding, noise, campsite availability, etc.) can be successfully dealt with through self-regulation and communication on the river. We encourage such actions and discourage any additional regulations that restrict the freedom and flexibility of a Grand Canyon river trip. In order to facilitate communication between all users of the river, we support increasing the educational efforts to both private boaters and hikers who use river campsites.

IV. WILDERNESS ETHICS

GCRG supports management of the river corridor and the visitor experience in a style consistent with the values and ethics outlined in the Wilderness Act, and we would like to see further education of guides, public and outfitters on the ramifications of Wilderness, Potential Wilderness and Wild and Scenic designation. We believe in the opportunity for a person to do a truly wilderness-oriented trip, during which they see very few other people and are subjected to a minimum of regulatory presence and technology. GCRG recognizes and supports motorized transport as being essential to satisfying visitor use under the present allocation. Such “non-conforming use” was established before Wilderness recommendation and should be allowed to continue. We strongly support the outfitters in their current effort to move toward quiet technology and practices. We encourage the Park to vigorously pursue Wild and Scenic designation for the eligible portions of the main stem of the Colorado River and its tributaries in Grand Canyon.

V. PRIVATE TRIP ACCESS AND ALLOCATION

GCRG recognizes that the current system of access for the private river runners is not effective, and we acknowledge the need to reduce the waiting period for a private permit to a reasonable length of time, perhaps 3 to 4 years. We do, however, also recognize the need to assess and repair the present system before considering an adjustment in allocation. It is necessary to obtain detailed and accurate information about the character and specifics of the private waiting list (e.g., who is on the waiting list, how accurately does it reflect true demand, how pervasively is it abused and by whom, etc.). This may enable modifications of the current system that will help us move towards a more equitable system, one that satisfies true demand. Should changes be necessary, it may be possible to make those changes within the bounds of the current system. These changes might include: modifications in necessary cancellation

time period, reworking how cancellations are handled, modifications in allowable qualifications for people on the list, movement towards a user-day system for private river runners— one based on number of people per day as opposed to number of launches. If it is necessary to make larger changes to the private permit system, a complete overhaul may be needed, one that may include considering a move to a reservation-based or some other system.

VI. REDUCE ENFORCEMENT AND BUREAUCRAT PRESENCE ON THE RIVER

The increasing presence of bureaucratic control and associated technology should be curtailed as they are inconsistent with Wilderness values and management, and can directly and negatively impact a visitor's experience. As stated in the Wilderness Act, the presence of rules and regulations, technology, and law enforcement must be minimal and low impact. Every attempt should be made to curtail the use of excessive regulation, inappropriate technology, and man-made structures. The NPS, outfitters and the public should recognize, maintain, and encourage the interpretive and self-regulatory role of river guides in the canyon and the essential role guides play in preserving the integrity of the resource and the visitor experience.

VII. ADAPTIVE MANAGEMENT

GCRG suggests that the CRMP must not be a document set in stone, allowing for no future changes when social, environmental, political or economic necessity call for it. To assure that the CRMP is an evolving document, we support the formation of a Federal Advisory Committee composed of representatives from all constituencies to actively help the NPS obtain feedback on the CRMP throughout the life of this document and in preparation for the next revision. This panel may be modeled on the Adaptive Management Work Group currently in place for monitoring of releases from Glen Canyon Dam. Members might include people from the following constituencies: NPS, private boaters, outfitters, guides, commercial passengers, canyon researchers, canyon educators. This committee would be charged with providing recommendations for change to the National Park Service as situations and demands continue to evolve.

VIII. MAINTAIN A DIVERSITY OF OFFERINGS TO THE PUBLIC

GCRG supports maintaining a diversity of offerings within the commercial outfitter spectrum. Each outfitter should be required to offer cut-rate trips for those not presently being served; whether it be for educational trips or economically or physically challenged groups. We do not support a system or a trend that results in fewer and larger companies, which therefore offers fewer



choices as to trip type and character. The maximum size of commercial companies should be capped or reduced. Small companies should be helped to remain economically viable.

IX. SOCIOLOGIC STUDIES NEEDED

We need reliable data. GCRG supports a reassessment of the visitor experience to find out what private and commercial passengers expect and what they are getting from the various types of trips. We are not aware of any sociologic studies that have been done to deal with this issue since 1975. Data from previous studies should be incorporated into any current or future studies.



Spring GTS Dates

The dates have been set for next spring's GCRG meetings and the annual Guides Training Seminar.

Here they are:

GCRG Spring Meeting March 27
GTS land session March 28–29
GTS river session March 31–April 14

Location will likely be in Northern Arizona or Southern Utah, but we're not quite sure yet.

Remember: At the spring meeting you will need to nominate candidates for three board members and the new vice-president/ president elect. Start attending board meetings now to get yourself up to speed for your candidacy!



Minutes of a Special Meeting of the Board of Directors...

6. Bridge Canyon Dam

After thorough discussion, upon motion by [then-Vice-president Harold] Crane, seconded by [then-Treasurer Robert] Lipman, the following resolution was unanimously adopted as the policy of the Sierra Club:

Resolved, various proposals are now pending for the construction of a dam in the Grand Canyon of the Colorado at Bridge Canyon. The reservoir created by this dam will submerge portions of Grand Canyon National Park and Grand Canyon National Monument. In the event that the appropriate authorities determine that the construction of such dam is economically sound, thorough consideration should be given to minimizing the impact of such dam and reservoir on the scenic and inspirational features preserved for public use in the creation of Grand Canyon National Park and Monument. Legislative action is also necessary to insure that the heart of Grand Canyon will not be invaded by future dams and diversions without express permission of Congress. To accomplish these purposes the Sierra Club recommends:

I. The construction of Bridge Canyon Dam should not be authorized unless necessary prior action has been taken to insure the construction of Glen Canyon and Coconino Dams or equivalent dams on the main stem of the Colorado and on the Little Colorado to prevent siltation of the Bridge Canyon Reservoir. Without such prior construction engineering estimates indicate that the upper forty miles of Bridge Canyon Reservoir will be filled with silt and rendered unusable for public recreation and inspiration in a period of three and one-half years.

2. Prior to authorization of the Bridge Canyon project the Grand Canyon National Park Act should be amended to eliminate the blanket authority vested in the Secretary of the Interior to permit without congressional approval, the construction of government reclamation projects within

Grand Canyon National Park. This will prevent not only the construction of additional dams in Grand Canyon National Park, but will also prevent the diversion of the Colorado River through the so-called Kanab

Tunnel, bypassing the central portion of the Grand Canyon.

The administrative decision of the Secretary of the Interior disapproving the Kanab project is subject to change without public notice. This administrative decision should be confirmed by legislative action.

3. Prior to authorization of the Bridge Canyon project Grand Canyon National Monument should be incorporated into Grand Canyon National Park. Certain boundary adjustments of the present Monument area appear desirable. Other adjustments will be necessary to avoid inclusion of the Bridge Canyon Reservoir within the park. To that end it is suggested that the President be authorized to increase the area of Grand Canyon National Park to the extent of the area now included within Grand Canyon National Monument. It is believed that a restudy of the boundaries will result in an easterly extension of the park boundary to include Vasey's Paradise and Redwall Cavern. Such an extension will not interfere with the construction of the proposed Marble Canyon Dam.

4. Bridge Canyon Dam should not be constructed so as to impound water above the highwater level of the Colorado River at the junction of Tapeats Creek. This will prevent an interior penetration of the reservoir into the existing Grand Canyon National Park as distinguished from a narrow marginal flooding at boundary areas.

5. Recognition should be given to the scenic and recreational values of Bridge Canyon Reservoir which can be secured by the maintenance of this reservoir at a stable level. Such a stable level can be achieved by water regulation at Glen Canyon and Coconino Dams. It is suggested that the legislation authorizing the Bridge Canyon project require that so far as practicable Bridge Canyon Reservoir be maintained at a stable level in accordance with an interbureau agreement to be worked out between National Park Service and Bureau of Reclamation.

Subject to the qualifications stated above the Sierra Club approved the construction of Bridge Canyon Dam.

Leavings

My eyes open, slowly, lizardlike, from sleep and dreams. I feel the early morning breeze moving liquid on my naked body. I am aware of the sugary sand beneath where my hand lies; the tangerine light splayed high on the canyon's walls above me; the silver falling scales of a canyon wren's song; and the toneless music of the river.

I roll over and touch a warm, bare, male back. He stirs in his sleep, moves closer to me, kisses my shoulder, begins to breathe heavily again. I turn on my side and close my eyes. I drift, thinking of floating, slow motion free fall, weightless space, free climbing, everything to do with letting go. Because today is the day I have chosen to begin to work without a net. Today is the day I untie the bowline and leave grief and sadness on shore.

Most of us on the river have rituals we adhere to, talismans, sayings, that (sometimes rather self consciously) we hope will make a difference in our runs ending sloppy or superb, or simply coming through a rapid right side up. Today is no different. Today is Lava Day. Lava Falls has its' unique rituals, those belonging to scores of boatmen over the years. War paint, chanting, sage smudges, jaegermeister shots, beer can rattles, tall tales—does it keep your boat upright? You and your passengers from swimming Lava? Maybe; maybe not. All we know is that not paying attention to the ceremony before Lava is like not wearing your seatbelt. Odds are, you might not crash—but if you do, the words “what if” reverberate loudly in your soul for a long long time to come.

So. Breakfast is done, the kitchen broken down and packed, dry bags dragged through the feathery lilac tamarisk to water's edge, and the boatmen are taking extra time to rig today. Rig to flip, that's the process and so we pull and pull and tie off lines, stow loose gear inside rocket boxes, check and recheck one more time camstraps securing the frame to boat, the equipment to the frame.

I sit on the beach in the May sunlight, and write a letter to my late husband, who died 16 months and three days ago of cancer. I write to him as though he is sitting beside me. I tell him about the past days, this group of people, now my river family who have become closer than friends. I tell him about this transition I feel myself moving into, what I feel I must do today. I tell him why I feel I must do it now. I've been stuck in a fierce eddy swirled with grief and sadness, I tell him, and I'm worn out with passing by the same shoreline over and over again. I tell him I love him, have never stopped, that my love for him is one termination I won't allow. And I tell him that I need his help in rowing out of this whirlpool, this keeper hole of sorrow. The strength I hope to gain

from my actions today will do much to move me into the downstream current once again, into sunlight, into warmth, into love, into the next chapter of this life of mine. I close my eyes, once, open them, and dig in my ammo box. There in its rusty bottom, lies one earring. It is a silver bear with a heartline. I bring it out, lay it in the middle of my letter, seal the letter around the bear with duct tape. I slip the note back in my box.

I amble slowly down the sand, back to our boat. Time to go, to move, to float, to breathe, to live. We reverse row out of the eddy, into the flowing timeless water, mile after mile. I am calm, strangely so. Facing the biggest whitewater in North America, I feel serene inside. My leaving will take place well before we do Lava. My own big water run, the one that began when Bill died, is nearly over.

He knows what I am about to do, this partner now accompanying me, and he is honoring me, showing support and friendship, tenderness, caring, and love, yes... love, by not speaking of this personal ritual of mine. His beautiful strong hands grip the oars and noiselessly move us toward Vulcan's Anvil. An ancient volcanic rock, weathered and worn, it protrudes from the middle of the river like the handle of a knife, cleaving the verdant green river water in two.

We float closer to the Anvil and land upstream of it. The current is strong here, nearly too strong to do what we have come to do. Digging my fingertips into the holds of the ebony rock worn by eons of swirling river currents, I pull us to downstream side of the Anvil as my companion rows around. I have already removed from my personal box what I will place on this river altar. Pushing my free hand into the pocket of my shorts I pull it out. I find a niche high above the water's edge and slip the tape-wrapped square in it.

I reach out again and am handed one more item: a case with old, scratched glasses inside. I open the case, take out the contents, and place them next to my letter. They are Bill's. He wore them, rowing down this very river 5 years before. The lenses reflect the green golden light on the river's surface and return it fractured and splintered into my eyes.

I look at my companion. The look on his face says it all to me---that it is ok, this leave taking is alright. And at this particular moment I love him for this. I look downstream, at what lies before me. I turn back once more, and look to see what I have left behind.

The current is tugging us away. I let go of the rock. There is no need to hang on any longer.

Robyn Slayton



Lois Jotter Cutter

In 1938 Lois Jotter and her professor, Dr. Elzada Clover, became the first two women to survive a river trip through Grand Canyon. They had put the trip together with Norm Nevills of Mexican Hat, Utah, and this trip is generally considered to have launched commercial boating in Grand Canyon.

In 1994, Lois returned for her second Grand Canyon trip—the legendary Old Timers trip put together by Bob Webb. Half way through that trip Lew Steiger asked Lois about her experiences...



Lois Jotter in the late 1930s
Lois Jotter Cutter Collection, Special Collections, Cline Library
NAU.PH.95.3.50

Well, I was born Lois Jotter. I do go by my full name, of Lois Jotter Cutter. And I got interested in the Canyon when one of the people [Dr. Elzada Clover] in the department of which I was a part, ah, began to talk, about a trip down the Colorado to collect plants. She had asked Norm Nevills whether it would be possible, to take a series of horseback trips and go down into various spots in the canyon and do collecting of plants. And— Norm felt that that was an utter impossibility to do much of that very economically. And he said, “the best way to collect plants would be to go down the river.” And so, he and Elzada got to talking about this the summer of nineteen thirty seven actually, and I guess they both thought about it a lot. And along about Christmas time, Elzada wrote a Christmas card to Norm and said, “How’s, you know, how’s the project coming?”

So the agreement went that Elzada was to scare up two other people to go with us. One who could serve as a boatmen. And ah, I don’t really know whether it was Norm’s idea that it would be neat to have two women along, or whether Elzada just felt that was a good thing to do for propriety’s sake. And so, time moved along and Elzada talked about this. And I don’t know just at which point she asked me whether I would be interested. And I said yeah, I would be interested, it depended on whether I could get the money for to pay my share of the trip. Which meant I borrowed it from my father and mother. And— “I borrowed it” in quotation marks because, I never paid it back. But from my mother and father. And so, we then, went on with plans, and mainly read all the material we could get our hands on, about the trip.

I had done a lot of rowing. But I had no idea what a boat, a boat that went through rapids, should look like.

How had you come to do a lot of rowing?

Oh, [laughs] Because I had been a counselor at summer camps for two or three summers in succession. And they always wanted somebody to be out in the row

boat, if a camper had some kind of a problem. We were supposed to be able to maneuver up to the camper, and at least clamp our hands on the, kid's neck or something and then bring him in. So, I did do a lot of rowing. And then when I was at the Biological Station, which was then known as the Bug camp, from University of Michigan, we rowed both to collect things, but also for recreation. You'd finish a day of class work and then you'd go out on the lake and row. And so I did have good rowing muscles at that time.

The first publicity that came out about the trip did come from Ann Arbor, and it came because I told a friend of mine what my summer plans were. And her mother looked at me and she said, "Have you seen that river? Do you know what you're doing?" And I lied, and I said, "Yeah, I've seen the river," knowing that I had seen pictures of it and read all of the accounts of it, and I didn't feel, that I was unaware of the fact that it was a dangerous trip. And that particular friend of mine, happened to mention it to another person, whom I knew who was on the on the *Michigan Daily*, which was the student newspaper there. I had worked on the *Daily* in my freshman and sophomore years, as a matter of fact. And so, the *Daily*—if you're a student newspaper, you love to get in there, and have something that nobody knows about— and that's the first public break of it. So the headline came out in the student newspaper, which was widely read in Ann Arbor, that said something to the effect, "Women botanists to Collect on the Colorado River." And the news services picked that up. And— you know, that was really more publicity than— certainly than I wanted.

You said... for propriety's sake that Elzada Clover thought you should come. I don't quite understand that, it would've of been improper for her by herself?

Oh, yeah! Oh, yeah!

Now why? I don't quite get that.?

Well, I don't think for protection sake. But I suspect that in Elzada's generation— she was approximately fifteen years older than I— women didn't go running around in unchaperoned situations with men they didn't know. And Elzie was never prissy about things like this. But I think what her feeling was... she wanted to do nothing that would discredit the University of Michigan. And this is what governed all of her activities in whatever she did. She was in essence a very dignified person too. And and I wouldn't have really thought about this much myself. Because if you've been a student in any biology set up, you're used to going on field trips where they may be week long trips, or they may only be overnight trips. And nobody gets particularly excited about exactly what the procedures are going to be. I didn't really credit this

sort of thing as being very important, until we got back from the trip. Elzie spoke to a lot of different groups. Lot of different people, and we did have the films to show. And she was a very entertaining speaker. I spoke to fewer groups, but umm, they tended to be oh, Rotarian groups or civic groups, or people like Sigma Xi and some of the other scientific organizations who were interested in the exciting things about the trip. And on one of these talks, I don't really remember whether it— was a church group— a woman came up afterwards and leaned over close to me and she said, "Tell me, did anyone try to take advantage of you on that trip?" And my mouth, I know, dropped open and I said, "Oh, no. Everybody was very pleasant and very friendly." And she said, "Well, they're men aren't they?"

Well, in a way, Elzie was doing just what my father always said to me. That you avoided the appearance... of evil. And this, in a way, is sort of a hypocritical thing. But you know, [it would] get you through a lot of problems. And also, have a lie ready. [laughs]

Well, first we got ready by reading all the literature that we could get a hold of. And talking to a lot of people. And then deciding what to wear. And, ah, and actually, Elzie didn't much like blue jeans. Again, I think because they had a masculine appearance. And she didn't want us to attempt to look as if we were trying to do what all the guys did— because both of us didn't believe there was that much difference. That between the sexes in terms of what your interests were and in terms of what your abilities were. And one of our pet peeves, was when people would ask us, "Do you think you could do everything as well as men can?" And of course, the answer always was, in terms of strength, that probably we could not. But certainly in terms of endurance I think we thought we could hold up pretty well. So, we made lists and lists and lists of stuff, and I don't remember any great omissions of things that would make us comfortable on the trip. I don't even remember that we were far off on lots of things. People didn't use sunscreen then— we didn't worry about that. And I don't recall, that we even worried greatly about drinking water, as we have on this trip. Which I think makes a great deal of sense in how well you feel, as to whether you are drinking enough. We just drank whenever we felt thirsty. And sometimes we even drank out of our sun helmets when we were on the river. Usually we tried to let the water settle overnight. But that was all that happened to the water. Course it was vastly different circumstances then too, in terms of use of the canyon.

And all this stuff like the plant presses, and even newspapers that you use to put plants between in the presses, were set up. And we had an awful lot of junk, I thought, to carry. Elzie I think did not have a regular bed roll. I had a makeshift one, where you alternate folds of blankets. I think I probably had three blankets, and slept

under whichever layer appealed to me. And I did..., the idea of an air mattress appealed to me greatly. My father and mother sprang for that. And it was so much more bulky than anything that you see now, of course. All of this stuff got collected in one place, or another. And the department of botany was very supportive. Cause after all, three of its members were involved. And the Department head gave us a great—we went to what we thought was the departmental spring picnic—and it turned out to be in honor of the travelers, who were leaving.

Now it was you and, Elzada and who was the third?

Gene Atkinson was the third one. He was in an anomalous position because he was being paid by the botany department, to do, actually, sixteen hours of work a week was what his assistantship involved at that time. But his interest was primarily zoological. So, it was a kind of a strange situation. And we stacked up all of this stuff and left, as a matter of fact, from the Natural Science Building.

How much did that trip cost, if you don't mind my asking?

We each, as far as I know, we each put up four hundred dollars.

A lot of money then.

Then there were transportation costs. What we did was, do it the cheapest way. We drove out in Gene Atkinson's car. And, didn't spend a lot of time driving out.

So, essentially that paid for the supplies and the materials for the boats. Which Don Harris was helping build. And of course, that was a tremendous job. Because there was no electricity at that point in time at Mexican Hat. And so, all the tools, all the drilling of holes, for the hundreds of screws, was done with the hand, hand drill.

We drove down to Norm's place first. He was still working on the boats. And our, are job then was to sort the stacks of canned food into the..., we had supposedly two days' provisions in each gunny sack. Elzie and I did that. And also, we labeled the top of the cans in case the labels soaked off. There were a few odd surprises that came up, when we opened something...

Norman and Don were busy—when I say they were not ready, they were putting the last touches on it. As I recall, we stayed over at least a couple of days at Mexican Hat and met Norm's mother and father. And greatly admired that lodge that Norm's father had built, which I'm told now has burned down. But, then we finally got started in a, sort of a caravan and went up through Bluff and on up to Green River, Utah. And on that section of the trip is where, usually, older men would come up to us and say, "Do you really know what you're getting into? That's a bad place, and many people have been

lost in many places." And ah, there were was even one gentlemen who had had too much beer, who had come over and kissed us both good-bye, to our great surprise. [laughs] And so, we were pretty, I think probably, flippant about the whole thing, cause it seemed like the easiest way, to handle being warned that you were probably not going to come back, was what they were saying.

And I think it was probably Elzie, who said first, "Well, if we don't come back just toss a rose over into the canyon for us." And this really bothered people. I guess, again, because, it sounded too flippant.

Anyhow we got to Green River, and there was a little attention from news people. I don't remember that there was a great mob of people until we got started the next day, and then there was quite a group of people that gathered. I think Don had family there, a girlfriend, and the Nevills of course were there. And when we got into the boats I wasn't even sure that they were going to float. Because—I don't think either Elzada or I expressed this opinion—but we didn't know—they'd never been in the water. And it was a comparatively new design. And so I was really quite relieved, and thought: all's we'd need would be to have one boat sink before we ever really took off.

So we got started and, in fact, had some of these friends and relatives in the boats with us until we went down to a spot they called the Geyser—two or three miles I guess, down the river. And that was the final farewell. And the start of the, trip. Of course that whole first stretch down to the confluence was a very quiet one. There were some little riffles and things to practice in, and I think we all took turns rowing the boats because Norm perceived no danger. I had done more rowing than Elzie had so Norm pretty soon took her off that particular duty. [laughs] So, we had a good time, going down that section. Norm occasionally lectured us about doing things. About being careful, particularly.

My first mistake was to toss a bucket from the boat toward the shore, and it didn't make it, and sank and we didn't ever recover that bucket. This was the first... bad example number one. And as we went on down towards the confluence, I don't know that most of us felt any more apprehensive until we got to just above the place where the Green and the Colorado joined to become the Colorado. And you could hear the noise of the first series of rapids. And we knew there were several in a row, very shortly after the joining of the two rivers. And that was a sort of, not ominous exactly, but we were all pretty serious.

So, the four fellows went down to scout the rapids. And Elzie and I sort of poked around by the places where we had tied the boats on the right hand shore. And we were... Elzie was taking pictures and I think I was just generally milling around, and I heard Don shout. He came, breathlessly running, as well as he could, over the

rocks. And he said, "The *Hat* is loose. We've got to go after it. Come on. Grab your lifejacket and jump in." And so, we did. And as I recall, we picked..., I don't really remember, which of the other two boats we leaped into. And started off. We could see the *Mexican Hat* bobbing on around ahead of us, on top of all of the waves. We thought we probably had gone through one rapid and possibly two when Don said, "I'm going to pull over and take a brief rest here." Because he was out of breath when he jumped into the boat.

I'm almost sure those were the first big rapids that he had run. He'd been on the San Juan. But because of the high water, the rapids had coalesced as it were, and we had actually had run, I think, three of them in that first chase without recognizing that they were all one big rapid instead of three.

So we, went on. I remember bailing furiously with a coffee can. We had buckets too, but I don't think there were any free in the cockpits of the boat. I think there were seven rapids in all. And when we got through that mess and it looked like quiet water ahead. Don pulled over on the left bank. And we didn't see any sign of the boat. It was a big stretch of sand more extensive than this place that we have, where we are here. [*the big beach below Poncho's Kitchen, mile 137*] And finally, way down at the end of it, I thought I saw a little bit of white. And so Don and I progressed down there and indeed it was the boat. Sort of in a minor eddy near the shore. So we pulled it up on shore. And probably tied it. Don had said the other day, that he thought what he had done was to tie it, the original tie at the confluence, on several willow stems. And the water had risen and so the boat had pulled free, from them. I was relieved when he said that, because I really didn't really remember. And I hoped I hadn't been the one that had tied it.

So, we decided, or I guess Don decided, that the best thing to do was for him to walk back up on the left side of the river, where we were then. We knew the other people we'd left were on the right bank of the river. And then, indeed, Don did start out walking. Well, my bedroll was in that boat so we probably dragged that up to a place where he decided would be a good camp. Not too different from where we are here Except that there were only willows growing in the sand. And then it got dark.



*Elzada Clover and Lois Jotter at the end of their river trip. Nevills below with bad hair.
Bill Belknap Collection, Special Collections, Cline Library
NAU.PH96.4.114.3*

Don went on back up and when Gene saw the movement across the river, it was getting fairly dark by that time. He was collecting specimens, and he thought for a little while that Don was a deer, but fortunately obeyed the rule about not shooting at anything until you really had identified it. But Don was relieved that he didn't get shot at.

So then they had the business with one boat, of getting the four people who were on the wrong side of the river across to the left side. And, Norm did that, running across the rapids. Which seemed like, at the time, when I thought about it, a tremendous feat. But watching you guys, handle the boats yesterday, maybe it wasn't. If you choose your place, I think that's not an impossible sort of feat. So, what happened was that they— Norm and Elzie and Bill Gibson— stayed at that particular place overnight. And Don and Gene started back towards me, thinking that I would feel stranded, and also wanting to inform me that everybody was all gathered on the same side of the river and everybody was all right. They got about half way, down— I believe they did have a flashlight—but the rocks were pretty big and it was difficult for them to maneuver. So they stopped, and slept. Don had—his pants, of course, were wet and he had no shirt on—so he spent the night. As soon as his legs got slightly warmed up, he'd move the trousers to around his neck. So, it was a pretty uncomfortable situation for him.

They started out again the next morning and got down before the boat did. And I was delighted to see them. I felt lonesome there by myself, but not particularly frightened— because I didn't think there was anything that was going to damage me greatly in the area. Certainly, I didn't anticipate any other people around. And even then there was no reason to be particularly, afraid of them. Cause anyone who would penetrate down to that point in the canyon would have to be sort of a hearty soul anyway.

I don't remember what we did about cooking breakfast or anything. We probably had coffee and hauled out the Grapenuts. And that was about it at that particular point. We had a wonderful reunion when the other people came down. Norm had a good reason for saying, "You see, I said we should all be careful." We were reunited and started out again.

Two bad things about the whole Cataract section—we did come to some rapids that Norm felt had to be lined. And eventually to a place where the hole was right close to all the rocks along the shore. We pretty much stayed to the left shore as we went down. And that was really back breaking work for everyone. Because there's one place where we had to pull those three boats on—we picked up enough logs to use as skids, or rollers or whatever you want to call them—and did, of course, one boat at a time. And everybody was working, pretty hard. I remember Norm said, "You're just as good as any man on the river." Because Elzie was as tall— almost as tall as I— and certainly was used to doing, not manual labor, but I think

we probably wouldn't have been able to do it if the two of us hadn't really pitched in.

And of course, we portaged all the junk. Including, a carcass of a deer that Gene had shot, a little further up the river, which we did utilize for meat. I think for only a day; certainly, no more than two days, because it was extremely ripe by the time we finally buried it. And that was difficult, at that particular point.

I guess I had no regrets about going on the trip because I remember thinking to myself: well, you got yourself into this, you might as well just, carry on through. And the only way to do it was to just go on out. I think that bad place took us two days to get through, and we had had some discussions—I remember Bill and Elzie and I talking at one point, about if something happened to the boats what we would do. And Bill opted for climbing up and walking out over the desert, and that didn't appeal to me at all. I thought it would just be the best thing to work along the shore until I came to someplace where there were people. I suppose it would've of been Hite if anything. But I thought sticking by the water was a better move than trying to climb out without water. Fortunately that was unnecessary.

Then the other bad point, was going through a rapid and I think— I don't even remember who was rowing the *Botany*. At any rate, Don was in the middle of the river and we saw the other boat close to the right hand wall and really going up. It was the wrong place to be and I don't know exactly why they were over there—whether they misunderstood directions or just didn't move fast enough—but the boat capsized. There was no problem to pick up Bill Gibson in the water, floating along. And Gene had sort of crawled out by the shore at that point and he was talking about hearing rocks move under water— this is something that he had mentioned when he came up— and he got a little tossed around underneath the water and had a pretty bad cut on one lower leg, and was a little bit— ah, maybe disoriented is too strong a word. And Bill certainly was happy— they were both happy— to be out of the water.

Then there was a series of things that have been better described in one of the books. Four of us with two boats, Elzie and Norm— not knowing what had happened to the rest of us— downriver someplace. Gene was on top of the boat and had the rope in his hand— he really didn't rejoin us, we just talked with one another. I was trying to figure out why it was that we went floating down with an upside-down boat, and we never did get it over to shore at that point in the game.

Eventually, we caught up with Norm and Elzie. They climbed aboard the *Wen*. Still with



Jotter and Clover
Bill Belknap Collection, Special Collections, Cline Library
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the tie rope in his hand. If you could imagine anything more awkward than trying to go through a rapid, under those circumstances, with somebody sitting loose on the bottom of a boat, holding in his hand— although he may of cinched it around something, I don't know—but it was a very awkward thing and they couldn't get it landed, right. Maybe Norm thought he could handle the upside down boat better than Gene could. But at any rate, they exchanged positions.

So, here's Gene and Elzie in the boat. Norm with the other boat. And somehow, I guess they were going to get it to shore and they couldn't quite make it. So, they ended with Norm on shore, and the other two still towing this dumb, boat. And they went through several other rapids, in this shape.

So we came along, and here's Norm, so we stop and pick him up, and that left four of us in the remaining boat to go down. Don ran the next two rapids and the rest of us were just passengers. We finally did get all together again and stayed over, I think one day, drying out equipment.

Bill Gibson's camera had been in the hatch of the overturned boat and unfortunately it did leak to some degree. The camera and the Grapenuts, and anything that was in there was pretty well soaked. And this was how my dislike of Grapenuts originated. Because, we spread them out on a rock to dry, but they dried in aggregates, like great big marbles. Even when we tried to pound these apart they still didn't dry out in the center. And of course, they molded. I don't like Grapenuts until this day. [laughs]

So, how'd they finally get that boat to shore?

That's why Elzie's first hand account is better than mine. Because we heard this narrative while we were sitting around recouping our spirits. I don't really remember the details of that clearly. But it was wild.

Was that somehow a point of departure for... between Don and Norm?

That was certainly a part of it. I think just as on any river trip, somebody has to be in charge. And certainly in this case, it was Norm. And I think for maybe the first time, he felt that maybe he started something that he didn't control. Couldn't control. At any rate he did ask Don to take that boat through the rapids when the four of us were all together. And it may have been simply because he was fatigued. I don't know. But I think that maybe was one... and they didn't always agree about how to run rapids, either. The fact that the following year, when Don went down and he ran everything, to me meant that he had more confidence in his skills than, perhaps, Norm did at that moment. Norm was a very decided soul. And I think a leader has to be a leader. But he was abrasive at times.

It's funny, you look at a lot of pressure situations like that. First trips, and stuff... The Powell expedition. When people are under pressure, I think we tend to show the worst sides of ourselves.

That's right. Of course, what happens too is, here were all these situations—we were tired, when we were doing all of this business of pushing the boats around. Both Don and I, whether it was from drinking unsettled water, or just stress, both of us had digestive problems. Certainly, Gene, his leg hurt him and he'd been knocked around, so that he wasn't his normal self, too. And Bill was really remorseful about his camera. So here we were in that kind of a situation. And then we go out of that part of the canyon, no more rapids to run. A beautiful place, Glen Canyon, but you just drift along and... I think the relief of the pressure, makes you do things that you might not otherwise have done. Because, the four of us did sort of—I don't know that you would call it, ganging up, but we made a tight community, and excluded Norm and Elzada. I don't know whether—I don't feel particularly guilty about that—but it was unfortunate. So we tied up together, the two boats, and drifted down, and ignored the others. So, this was the genesis of Norm calling me a trouble maker. I think I was not anymore so than any of the other three. We were equally culpable, I believe, and equally... impatient with Norm.

We did call ourselves the Gripers, as a matter of fact. The four of us. Don was the one who noticed that the birds in the bushes were saying, "Gripe, gripe, gripe," Because we were complaining about this and that. [laughs] I don't know what birds those were. We didn't work very hard rowing. We just flowed with the current. We just enjoyed ourselves. It was in that section, I think, in which a plane flew over and dropped some notes to us on little parachute things. They wanted us to identify ourselves and asked us if we needed help, and there were these prescribed gymnastics we were to go through, which I don't really quite remember, except that one of them was that if we needed help we were to do one thing. And one of those things was lying down, all of us in a row. And then we would do other things, if we needed food. So we got through that. It was really ridiculous, this plane circling above us. We were simply, going through these maneuvers. I thought it was probably a good thing that somebody was checking up on us at that time, (and we were not that far from Lee's Ferry), because my family didn't know that we had been found, as it were. I think the department head had a lot of connections with Washington. Because he had done a lot of plant introductions stuff. And I think he had raised a sufficient outcry about his missing botanists, so somebody went into action. Because it was a Coast Guard plane that flew up, and that kind've, surprised me.

* * *

I was thinking today, how can we prolong this trip?. Well, it wasn't really a serious question. But I thoroughly enjoy it.

No, I, think it's amazing how fast they go. The funny thing is, the longer ones are easier. The faster you go, kinda the more you have to push. You have less time to just kinda, go slow.

The compromise between moving on through the rapids, through the trip, and the time available, is always a hard thing.

This was one of the things—that you couldn't stop every place that you wanted to collect, and still expect to maintain any kind of a schedule. And we all knew how painful it was when we got behind the schedule. And, people didn't have any means of communicating with us. And all the stuff about "Botanists Lost in the Canyon." And so forth. That was picked up by Associated Press. And just went on, an just magnified itself.

Yeah, was that a set-up?

I never thought of Norm as being devious—and I think he wanted us to see Rainbow Bridge and certainly had he asked Elzada about it she would have wanted to take the day to see so interesting a formation—but she wouldn't have wanted to deliberately delay our arrival when she knew our families and friends would be concerned. At the time I was not aware of any dilly-dallying.

But we did, then, pull into Lee's Ferry. And I think that great picture, [see pages 38 & 39] that you redid was probably one of the things that we had to go through, because the essential Pathé newsman wasn't there when we first landed. So we had to do a landing all over again. And there was a welcoming committee. Somebody came in with watermelon, some other goodies. I just remember the watermelon, 'cause that was so refreshing.

[At Lees Ferry Don Harris, running late as they were, felt he had to return to his USGS job or lose it. Gene Atkinson returned to Michigan.]

You guys laid over there for a while...

We had to because Norm needed to get two more boatmen. We were not really certain that the trip would continue at that point. It really depended on whether he could just, out of the blue, pick up two more people to replace Don and Gene.

What did you think about that? Were you wanting to go?

I wanted to go if the trip continued. I wouldn't've of been mad at anybody if we hadn't. Because it looked very chancy when we were there. But we obviously didn't feel sure that the trip was going to continue, because Bill and

I were supposed to've of gone down and repainted the boats in the time that we were there and I think—two things: As you've probably have discovered, I don't like to expend a great deal of effort if I'm not sure it's going to be worth anything, and it was what? It's seven miles isn't it? From Marble Canyon Lodge, where we were staying, down to the landing at Lee's Ferry. It's a distance anyway. We knew it was—they had brought us up from there in cars. So, we debated some.

Some of our time went when Buzz came up. Buzz Holmstrom came up to talk to us. And the first thing we knew it was mid-day and I think we decided it just wasn't worth walking all that way down to paint boats that we didn't know whether it was going to be any use to us or not.

So, Buzz Holmstrom came up and met you guys at Lees Ferry?

He never got down to the Ferry. We talked on the bridge and in the motel lodge. That's where those pictures are taken, with us standing on Navajo Bridge. He trailered his boat up. He brought his boat because—and this is the neat thing about Buzz—he said to us, "I came up with this boat because I had some idea of putting in and going hunting for you." And he said, "Course, I thought it would be good publicity too." [laughs] Not many men—excuse me, I'm sounding like a feminist—not many people would admit it, the first time they met some people. He was very ingenuous. Very modest really. And I think a little embarrassed when he met us too, because he was the one who had said, "The river is no place for a woman." And when he came up—I don't think he met Elzie until Boulder Dam—we talked a long time. I don't remember whether it was the whole afternoon, or what.

What did you think of him?

I thought he was great! I really thought he was..., you know, people..., people talk about Don Harris... and I think Don was great too. But I really, if one could be a hero worshipper at twenty-four, Buzz—he was the one that appealed to me. Greatly! He—one of the things in the picture that doesn't show up, is that he's handing me his match case, that he carried on his original trip. Has a compass at one end and it's about so long. And a black tube. It even had matches in it. And we tried them out later and they lit fine. He was giving it to me, to take down the rest of the canyon. As a matter of fact I still have that. I still have that thing, and I wouldn't've of kept it unless I really thought he was neat.

He put in all by himself... and he came all the way down through here... and, I don't know, did he go clear to Hoover Dam?

I seem to remember him saying that he touched the



Men trying to be taller than Lois— Bill Gibson and Buzz Holmstrom on left, Gene Atkinson on right
Lois Jotter Cutter Collection, Special Collections, Cline Library NAU.PH.95.3.50

dam. That, to me was really something. To go through here—I don't know what maps he had, he may've of mentioned that, but to start out all by yourself, and to have a degree of—well he said, "I didn't know if I'd get through or not. But I just thought I'd try." In Oregon I know he had done a lot of boating. I think he had probably run the Snake and some other rivers before he got involved in this. Someone in the USGS party that Maxson was with—they ran into him someplace, and somebody said to him, "Well, Buzz were you ever scared on the trip?" He said, "Gee, I was scared all the time!" He never bragged on anything. He might've of really meant, more accurately, that he was not fully comfortable all the time. But I can't imagine him being really frightened.

Sounds like really somethin. So, he stood out from the crowd.

Oh, yes. Oh, yes.

He wrote to you several times?

Oh, yeah. I had letters. At least seven or eight letters from him. Some of them were written that summer—he did go down later in nineteen-thirty-eight. There was a letter from Phantom Ranch. He had some complaint about the people charging him too much for supplies. And then he said, "I have to take that back because they gave us a lot of stuff." Which was typical I think, too, of Buzz. He wanted the record to be straight.

Seems like he was a guy that didn't quite fit in. In the normal...

Well, that wasn't the usual sort of thing that anybody did.

Hard thing to follow up. Well, were you scared? And what did he tell you about coming down here?

There were plenty of times that I was scared, in the sense that if you leap into a boat and you go through your first rapids, that's scary. And besides we didn't know

where we were going. We didn't know exactly what we were doing. And we had lost a boat. Well, yeah, I was scared. But it was quite exhilarating. I remember only once thinking it was pretty dumb to've of come down there, and that was when we were trying to do the bit of portaging a boat in Cataract. And then I thought, well, you got yourself into this. You know, nobody made me come.

So there at Lee's Ferry, getting ready to run the Grand Canyon, with these boatmen who had gone... Did Buzz encourage you, or did he tell you he didn't think you ought to go? Or did the subject even come up?

He was very sympathetic, listening to—and we did, we unloaded many, many complaints. But I don't recall that he said, "Don't do it." At the end of the trip, when he met us—with many other people at Boulder, he said, he wrote on my sun helmet, "To the girl who proved me badly, wrong." Referring to the fact, that [he'd said] the canyon was no place for a woman. I don't know what he'd think now, about me stumbling over the rocks, and falling down at Deer Creek and whatnot. But I wasn't..., well, maybe it's a question of not bright enough, being bright enough to be really afraid. I certainly wasn't terrorized anytime on the trip. After I saw the one go through the rapids all by itself I may have even thought "who needs a boatman?" [laughter]

So, finally, here comes Norman, and he's got these two new guys for boatmen and off you go, and what was that like?

That was a strange feeling. Because Lorin [Bell] was such a very charming guy but that doesn't register immediately. When we pulled out, I really did feel very sad saying good-bye. In my diary I think I wrote that I almost wept, when I said good-bye.

But as I say, pretty soon, it was such fun to talk to Lorin, and he had been to so many different places and he was a good—I don't know how much boating he had done. He'd done a lot of surfing. He was a very strong swimmer and had a great deal of charm. So very shortly I didn't really miss anybody. And Dell Reed, who came in, was just a nice fellow and did things like getting up early and making coffee, so that Elzada or I didn't have to. So that part, the second part of the trip, was very smooth and without any real problems. We lined a lot. We also walked around, a lot of rapids. Again, some of which I had forgotten. I know, Elzada would rather have gone down in the boats than walk over them.

How about you?

I would rather be in the boats anytime. I hated having to walk around. It seemed like a demotion. But I think Norm was being very cautious. He never wanted anybody to get hurt. You know, that can make you pretty cautious

too. After Emery Kolb joined us, I'm sure that Norm didn't want anything to...

How come Norm cared what Emery Kolb thought of him?

Oh, cause he cared what anybody thought about him, in terms of being a safe boatmen. I think that was the key. He simply didn't want to have any kind of a mess up with someone who was a river expert, as Emery was.

Did you sleep out in the open, in '38?

Yes, yes. We cut down on equipment to carry, and expense. It's 'quite different from the sort of trip today where the company supplies so many things. 'Course they're paid for it and I recognize that. But we really operated, or Norm operated, that trip on a shoestring.

Well, you know the nights here are just gorgeous. I was just looking at the moon coming up over there. And this is one of the reasons I don't want to sleep in a tent. It's just so great to watch everything that's going on. And the changes of the light particularly. I don't know any other place I've ever been where as the sun rises or sets you see so many different effects.

Or if you go around a bend in the river as far as that's concerned. I did again today, in one of the places where we were today, where the walls come in, where you do feel a quite enclosed. In the inner gorge. I believe it's one of the places that some of the early people began to feel very morose. And I can see why. Dark colored walls coming right—not straight down to the water but it doesn't look like an easy way out of there, anywhere. Somber is the other word. That I could certainly see how people felt that way. I didn't feel really somber myself. But I had that same feeling today, of enclosure.

Do you remember the distinct phases of the canyon? Did they hit you in a certain way?

This is unfortunately like trying to remember the various layers as you go down. I tried at first, on the first trip, to be very sure that I could distinguish them all. And then there were so many different ones that came in that I just gave up. It's the same way, thinking of Marble Canyon and the others. I think I enjoyed the section that includes Sockdolager and Grapevine as much as any, but chiefly because there was no way in the world we could walk around them. We had to run those. Also, Grapevine I think, was a worse rapid than it is now. But that's again maybe because I was in awe of it then and it was a very exciting ride. Elzie told us afterwards that—and this may be an exaggeration—that as we went up on a wave she saw the whole bottom of the boat.

We did have some nice campfires—don't think we had any marshmallows to roast but Elzada did make some panache fudge out of what we happened to have in camp. Our food was pretty spartan in terms of fruits and vegeta-

bles. Most of it was canned. And monotonous. I got tired of Rye Krisps for lunch. And Underwood deviled ham. I don't remember what we alternated with it, but I do remember that was one very constant lunch. Convenient, and we'd just pull up to some spot and open a few cans.

Did you guys line Lava Falls?

Yeah, we did. We did line Lava Falls. I don't think Lorin wanted to line Lava. There was a lot of discussion about running it or lining it. But my memory is that indeed we did line it.

* * *

Well, did this trip change you in any way?

Oh, lots of ways. The way I think it how changed me the most, was that having had all of this attention—and there was a lot—you know, people who would come up and say, “May I take your picture?” or “Will you sign this for me?” and I had always been, pretty much of a goody-goody; I had always been very, serious about studying and so forth and so on. So I think people got an image of someone like that, that is sorta humdrum and not very exciting, and to go back to Ann Arbor and feel very much more self assured, for whatever reason; to feel at least for a while like a minor celebrity and have other graduate students want me to talk to Phi Sigma meetings, and generally to have people impressed, with me... gave me quite a different sense of self-confidence. I don't think I ever lacked self-confidence in doing things. But in meeting groups of people, I was not as retiring as I had been before; that is, meeting groups where I didn't know anyone. I don't think I was ever retiring once I knew people. But—so yes, that I think was a tremendous change.

So, when you left, you got married and became a teacher?

I didn't get married immediately, because I didn't meet my husband until nineteen-forty, I think. But I did get started trying to catch up on the work that I hadn't done, on growing the plants that I was supposed to be analyzing for my thesis. I suspect that was one reason why I never had a great impulse to come back to the Canyon. The focus had changed on what I was doing. And obviously, after one gets married, especially to a beginning college professor, you don't have the financial—I suppose if I'd really wanted to, that there's always a way of doing things. But we started a family. And it didn't seem that critical a part of my life.

There are many people who have known me quite well, and that didn't realize that I'd ever made the trip. One of the first students that I had, after I went back into teaching, didn't know this until this past year when some reference came up on Bill Cook's book. She said, “What's this book people are talking about?” Then it was

mentioned, and she was astounded. I don't know just why.

I didn't tell my bridge club people about this trip. I have no idea what, when I get home, I will tell those people.

How did that go? So, what was it your bridge club asked?

Oh, these are people who in general, are... I guess the nearest person to my age is probably seventy or something like this. And they're already treating me as, you know, wanting to help me up and down steps and stuff. And um, I don't really like that. And they sorta look at me strangely. They read Bill Cook's book. And, it's not as bad as those early, groups. But they still can't see why anyone would do that.

I said, “Okay, I won't be here, two weeks from today.” This is a group, that, you know, if you're a bridge player, you know how sinful it is to louse up tables of bridge. And we play two tables, so there've got to be eight people. And so, “Oh, ok, you going on another trip?” Because I'd just been out to California and I said, “Yeah, I'm going to Arizona.” And they said, “Where in Arizona?.” And I wasn't going to say Grand Canyon so, I said, “Flagstaff.” And they looked at me straight, “Well, what are you going to do?.” “I'm going to go on a camping trip, with some friends of mine.” And only one of those people, probably the sharpest one of them said, “Are you going to your old haunts out there?” And I said, “Oh, no not really.” Because it isn't my old haunts. [laughs] I was there one summer, and that was it. And besides, I'm afraid this is where the business about the mischievousness comes in. I thought well, I could fall and break a leg, I could have a heart attack and none of this would take place. And then I would really feel pretty foolish. And besides it was kind of a fun. [laughs]

So, they're probably playing bridge right now and they don't even know you're down here.

And when I go home, eventually, they'll ask me why my lip is all scraped up? And I'll say, “Oh I did that on my vacation.” And I'll be honest about it.

*interview by Lew Steiger
edited by Brad Dimock*

Then and Now



Lois Jotter and Don Harris, Lees Ferry 1938 Elzada Clover photo

On my return from the Old Timer's river trip in 1994, a friend asked me what was different from that first trip fifty-six years ago. I realized that nothing was the same except for the geomorphism of the canyon itself, the possibility of unforeseen and threatening changes in the weather or the rock walls, and the possibility of failure of equipment, guides, or the passenger herself. And the ebb and flow of the Colorado still affected our activities daily, although before the dam and effective communication, changes in the river level seemed less predictable.

Certainly different was my advance perception of risk. In September of 1994 no grizzled old-timers stood on the streets of Moab or on the shores of Green River, Utah, and warned us of the danger, suggesting that we turn back before it was too late. We had read the published reports by Powell, Stanton, Kolb and others. Even self-reliant Buzz Holmstrom had written that the canyon "was no place for a woman". Colonel Birdseye had advised against my going on the trip, although he very kindly provided topographic maps when my father and I talked with him in Washington. Before the trip, when asked if I were afraid, I probably said that I recognized the danger, but was willing to chance it. I know that, later, on stops in Marble Canyon and the South Rim, when asked if I were ever scared, the only sensible answer was "Sure". Fortunately I was unaware until long after the trip that Norm's experience in running rapids was based entirely on his trips on the San Juan. In contrast, in 1994, of course I knew the long record of safe passage of thousands of tourists under the care of experienced guides, with vastly different equipment, training and support systems.

Distance traveled:

The first trip originated at Green River, Utah, and included Cataract and Glen Canyons and then Grand Canyon down to Pearce Ferry. In 1994 we put in at Lee's Ferry and ended the trip at Diamond Creek.

Elapsed time: (in days)	1938	1994
Green River, UT to Lees Ferry	18	-
Lees Ferry to Bright Angel Trail	5	5½
Bright Angel to Diamond Creek	-	6½
Bright Angel to Pearce Ferry	13	-
Total	36	12

Obviously elapsed time is not a very good way to compare the two trips, as in 1994 the emphasis was not on survival, and time was spent in photography, scientific measurements and discussions. However, the eighteen days spent on the first phase of the 1938 trip, although only nine to ten days had been projected, was the factor that caused Don Harris to feel that he could not afford the time for the entire trip.

About equipment: Norm's boats were great on the river, not bad on the many lining jobs, less great if they had to be horsed over-land over big rocks, as we did in Cataract Canyon. However, I much prefer small boats, sad-irons or dories, equipped with oars, to motor-propelled monsters. In some situations those pontoon boats have some advantages in terms of maneuvering, carrying lots of stuff and salvaging equipment or passengers, and riding a monster sure beats walking around a rapid.

Camping equipment has been greatly affected by new materials developed as a result of World War II, space programs, and the increased interest in out-door activities of all kinds. In 1938 we had no surplus ammo cans nor rubber-bags to protect gear, no propane stoves, and no communication equipment. Because of space limitations, we carried as little stuff as possible and therefore had no tents (light-weight or otherwise), no generators and no big ice-chests now carried on those scorned monsters. Sleeping bags were available, but were heavy, and worse, expensive. For a bed-roll, I used overlapping blankets and an air-mattress (ah, indulgence) enveloped in a heavy canvas ground cloth, a mammoth to stuff into hatches.

Communications equipment: In 1938— Zip. We did light a signal fire that could be seen from Desert View. Inability to communicate contributed to the concern of families and friends, and to the feeding frenzy of the press when our arrival at Lees Ferry was delayed.

River traffic: In 1938 there were only our three little boats until Buzz went down late in the summer. This

solitude was a wonderful experience, but last summer I enjoyed meeting the other river trips at a time when the numbers were limited.

Food: First of all, any mom knows how great it is when some one else (anyone else) does the cooking—even better than eating out. Elzie and I alternated as cooks in 1938. Most menus involved canned foods, even potatoes, fruit and dried milk (Klim) from cans. There is no comparison to the delicious meals of the 1994 trip. The wonderful melons, citrus fruit, French toast, eggs and bacon for breakfast; all those great cheeses and meats and bread (not Rye-Crisp and Underwood Ham) for lunches, and all those great salads, vegetables and even fresh meat for dinner!

Rules and regulations: In 1938— none. Initially I (a product of a conservation-minded family) winced when we dumped cans in piles, and especially when we painted our names on the wall at the end of Cataract Canyon. But I followed the crowd and did all of those things. Burning stuff was fine with me, as was the use of driftwood for those charcoal-producing fires. I shall eternally respect both the guides' organization and the Park Service for imposing the regulations about sewage and rubbish disposal, and even for limiting the number of river travelers.

Motivation for trip: Elzada Clover and I perceived the trip solely as an exciting collecting trip, to some degree under our control. My first surprise was to see the white boats with the words Nevills Expedition, painted in large green letters. Elzie explained that because the trip received only a small grant for photographic equipment, the University of Michigan could not be considered an official sponsor, although we had permission to take part. But in reality there were two aims, collecting plants, and gaining publicity for Norm's river business. Gene Atkinson undertook the trip for fun but also to collect animals for the museum for which he would work in the fall. For this reason he brought traps for small animals, a gun and preserving materials. This stuff, like our plant presses, took up considerable space in the hatches. The goose and deer were shot with the preservation of skins in mind, not for food nor to show Gene's skill with a gun. However, there was neither free time, nor space, to preserve and maintain these specimens. Elzie and I did indeed bring back numbers of pressed plants, but this process is easier than preserving animals and there were two of us to alternate collecting with camp duties. Gene simply could not function as a boatman and a collector at the same time, nor was he free to call a halt when he sighted an animal. I don't think that I realized in advance that there could be a conflict of interest in terms of motivation, or in terms of scheduling our travel on the river. Norm himself possibly did not initially realize what a pain collecting can be in terms of time and bulk. In contrast, the 1994 trip was

under the direction and control of one individual, who set up the travel schedule to accommodate the scientific aims of the trip: the geologic observations, the matching of photographs, and the collecting of historical material from the old timers.

Vegetation: To me the most obvious difference is the much greener look to the area immediately bordering the river, partly due to the great increase in frequency of the tamarisk. There have of course been changes in the numbers and distribution of individual species. I believe later botanists have had the time to study plant communities without the need of snatching as many specimens as possible in the time between landing boats and falling into bed. In 1938, plant presses were only taken out of the hatches at camping stops, with the exception of a few locations like Vasey's Paradise. I am also very aware that because many of the species were new to me, I depended on our specimens, rather than my observations, to collaborate with Elzada on the two papers we published. My journal is conspicuously lacking in botanical references. Elzie was very familiar with the flora of the southwest, and was very much more directed in her collecting.

Of course, the most obvious difference is that in 1938 I was twenty four years old, in relatively good shape physically, not a good climber but comfortable with row boats. In 1994, I was not only heavier, but much less limber and more lacking in a sense of balance. My amused surprise at the folding chairs being loaded at Lee's Ferry changed to appreciation very quickly. There must have been more low rocks for sitting in 1938, or perhaps the sand was not so far down.

Whatever the differences, both trips were satisfying for good companions and excitement.



Lois Jotter and Don Harris, Lees Ferry 1994

How to Reach the Grand Cañon

Although the Grand Cañon of the Colorado was a good while ago made famous as to its lower part by Ives and Newberry, and the upper by Powell, and although most interesting parts of it are nearly approached by one of the great transcontinental railways, yet very few people seem to know how easy it is to visit it,—easy, that is, to one who is crossing the continent by the Atlantic and Pacific railroad. It was almost by accident that we came to know of this accessibility, and to take advantage of it.

We know not what facilities there may be for reaching the lower end of the cañon from 'The Needles,' where the road crosses the Rio Colorado; but the Peach-Spring station, where this road approaches within twenty-three miles of the river, at its strong southern bend, is about six hours east of 'The Needles,' and on the plateau about five thousand feet higher. From this point a rapid and easily traversed descent leads down to the river, and into as majestic and peculiar cañon scenery as is anywhere to be seen. Unfortunately the trains, both from the east and the west, at present arrive at this little watering-station between two and three o'clock in the morning; and intending visitors will find it well, if not exactly necessary, to notify the station-master or the 'stage proprietor' in advance, so as to secure lodgings for the remainder of the night. Mr. Farlee, the stage proprietor, into whose hands they will fall, provides three or four comfortable beds; the restaurant of the station, which supplies the employees of the railroad, will furnish a tolerable breakfast; and a three-seated wagon, upon the buckboard principle, drawn by four experienced horses, makes a really comfortable conveyance. All that the traveller needs to provide is a sun-umbrella,— an article which will probably be needed at any season. A quick descent of four thousand feet into a narrow ravine is sure to be attended by a corresponding rise in temperature; and shade during the journey is not abundant.

Dr. Newberry and his exploring party were the first white people to make this trip, in April, 1858; and his account of it in Ives's report upon the Colorado River of the west, along with the woodcut on p. 99 and the annexed plate vi., and plate i. of the geological part, opposite p. 54, will give a fair idea of what is to be seen. Nothing is changed, except that the Indian trail, over which his packmules made their way with much difficulty, is now replaced with a passable wagon-road of Mr. Farlee's making. Very enterprising and hurried people make the trip in a single day, especially in the long days of spring, and so resume the railroad by the next (daily) train, the journey back and forth being made in the early morning and in the evening hours. But, indeed, two days should be given to it, even by the transient sight-seer,

lodging in the 'hotel' in the bottom of the cañon. This is a board shanty of a single room below, with a kitchen attached, and two bedrooms under the roof above. Primitive as the accommodations are, and although, when there is no press of company expected, the functions of stage proprietor, road-owner, driver, guide, landlord, and cook are all merged in one person, we found that person adequate to all those duties; and even the lady of our party was comfortably cared for, both as to bed and board. When this extraordinary place comes to be better known and more largely visited, ampler accommodations will doubtless be provided, both in the cañon and at the railway station. The 'hotel' stands at the junction of the Peach-Spring Cañon and that of the Diamond River, close to the refreshing stream of pure water. The Diamond-River Cañon, of which Dr. Newberry gives two good illustrations, was explored upward for two or three miles on the afternoon of the first day. The following morning suffices for the junction of this cañon with the Colorado, which is near by, and for the views up and down the river, which are to be had for less than an hour of climbing. Altogether, there is nothing like this cañon. The far-famed Yosemite is more beautiful and more varied, but not more magnificent, nor half so strange and weird.

I may be allowed to add the remark that the botany of these lateral cañons is very interesting, and inviting to a longer stay. It had been so well explored by Mr. and Mrs. Lemmon a year before, that we could not expect our hurried visit to be rewarded with any thing absolutely new. But here we saw an abundance of the singular and striking *Fouquieria* in flower, and that alone well repaid the toils of the excursion.

This is the only accessible point at which a descent can be made into the bed of the Grand Cañon. But from Flagstaff— a station about nine hours farther east, and at considerably greater elevation, in a district of pine-forests, and close to the beautiful and snow-clad San Francisco mountains—a wagon journey of two days over the mesa will take a party to the Marble Cañon, described and illustrated by Powell, where the Colorado flows twenty-five hundred feet below, between unbroken vertical walls of many-colored marbles. Moreover, the neighborhood of Flagstaff abounds in cliff-dwellings and cave-dwellings, the latter comparatively little known; and altogether this seems to us a most inviting place of summer resort.

A. G.

from SCIENCE, June 26, 1885

Fall Meeting and Art Show in Flagstaff

The GCRG Fall Meeting will be held in conjunction with the opening of *Haunted by Waters*, a 6-week series of Art events centered around boaters in Grand Canyon. Here's the schedule:

(All events other than the Bill Belknap Tribute will be at the Coconino Center for the Arts, 2300 N. Fort Valley Road in Flagstaff)

October 31

7PM–10PM Opening night reception and costume party. *Haunted by Waters*, an exhibit of visual and tactile art by professional river guides will be on display for the next six weeks at the Coconino Center for the Arts.

Music and jam session with Kirk Burnett, munchies, a bar and costumes.

November 1

9AM–2PM

GCRG Fall meeting at the Coconino Center for the Arts. Be sure to attend as vital issues will be thrashed about, most importantly, the Colorado River Management Plan—the document that will shape the character of the river experience for the next several years. Your participation is critical.

2:30 PM

A tribute to Bill Belknap, Cline Library.

The collection of the late Bill Belknap, photographer and river runner extraordinaire, is now on display at Special Collections. The tribute will include slides and movies with (perhaps) narration by his children Buzz and Loie.

5PM 'til much later-

Happy hour, Outdoor Cooking, music, dancing, costumes, and a very special event:

The auctioning off of the Big Top. GCRG's famous 50'x20' tent, known widely for the *heated* discussions within at GTS's over the years, and for its spectacular ability to almost withstand the gale force spring winds at Marble Canyon, has outlived its usefulness to GCRG. If you or a friend have a use for this fine structure, show up and bid. Everything must go!

November 8, 7PM

Oral History night and Dutch Oven tasting. Old time stories from the likes of Ken Sleight, Kent Frost and/or whoever can make it. Don't miss it. It's free, but contributions are welcome.

November 13, 7PM

Slide show and Lecture of works depicting Grand Canyon, by Alan Peterson. Free.

November 15, 7:30PM

Internationally renown classical guitarist and infamous boatman **Tom Sheeley** in concert. \$8 in advance, \$10 at the door

November 16, 2PM

Tom Sheeley performs informally amid the artwork. \$8 in advance, \$10 at the door.

November 17, 7PM

Author's Night. River related readings. Free.

December 6, 7:30 PM

Katie Lee, Songs and readings from her new book, \$8 in advance, \$10 at the door.

December 12 & 13

Jayne Lee and Ann Weiler Walka Modern dance and spoken word. \$8 in advance, \$10 at the door.

For more information on the art and performance events, call Kim Zanti at the Coconino Center for the Arts, 520/779- 6921

For information on the Bill Belknap tribute, call Diane Grua at 520/523-5912

For information on the GCRG meetings call Lynn or Andre at 520/773-1075 or e-mail gcrg@infomagic.com



Story time in the old Big Top, flags waving beneath Orion's belt.
The photo was sent to us, but no one remembers by whom

Announcements

Medical Training: Wilderness First Responder, Jan. 17–26; American Red Cross Emergency Response, April 13–17; Emergency Response Recert, Feb 27–March 1 & April 3–5; River skills and other courses available. Contact Canyonlands Field Institute, Box 68, Moab, UT 84532 or call 435/259-7750. Fax 435/259-2335

Canyonlands Field Institute is accepting applications for guides & trip leaders for 1998. Strong natural science background preferred. Contact Michele at the above address or numbers.

C.C. Lockwood, author of *Beyond the Rim*, is on an 1,800 mile river trip in a GCE S-rig down the Mississippi. Follow the course of the *Hi-Tech Huck* online at: <http://members.aol.com/cactusclyd/books.html> or <http://www.theadvocate.com>

Businesses Offering Support

A few area businesses like to show their support for GCRG by offering discounts to members. Our non-profit status no longer allows us to tell you how much of a discount they offer, as that is construed as advertising, so you'll have to check with them. Thanks to all those below.

Expeditions Boating Gear 625 N. Beaver St., Flagstaff	779-3769	Dr. Jim Marzolf, DDS Dentist 1419 N. Beaver Street, Flagstaff, AZ	779-2393
Canyon Supply Boating Gear 505 N. Beaver St. Flagstaff	779-0624	Snook's Chiropractic 521 N. Beaver St. #2, Flagstaff	774-9071
The Summit Boating equipment	774-0724	Fran Rohrig, NCMT, Swedish, Deep Tissue, & Reiki Master	527-0294
Chums/Hellowear Chums and Hello clothing. Call Lori for catalog	800/323-3707	Dr. Mark Falcon, Chiropractor 1515 N.Main, Flagstaff	779-2742
Mountain Sports river related items 1800 S. Milton Rd. Flagstaff	779-5156	Five Quail Books—West River books 8540 N Central Ave, #27, Phoenix	602/861-0548
Aspen Sports Outdoor gear 15 N San Francisco St, Flagstaff	779-1935	Willow Creek Books Coffee and Outdoor Gear 263 S. 100 E. St., Kanab, UT	801/ 644-8884
Teva Sport Sandals and Clothing	779-5938	Canyon Books Canyon and River books Box 3207, Flagstaff, AZ 86003	779-0105
Sunrise Leather, Paul Harris Birkenstock sandals. Call for catalog.	800/999-2575	River Gardens Rare Books first editions 720 S. River Rd. Suite A-114, St. George, UT	801/674-1444 84790
River Rat Raft and Bike Bikes and boats 4053 Pennsylvania Ave. Fair Oaks, CA 95628	916/966-6777	River Art and Mud Gallery river folk art 720 S. River Rd. Suite A-114, St. George, UT	801/674-1444 84790
Professional River Outfitters Equip. rentals Box 635 Flagstaff, AZ 86002	779-1512	Cliff Dwellers Lodge Good food Cliff Dwellers, AZ	355-2228
Canyon R.E.O. River equipment rental Box 3493, Flagstaff, AZ 86003	774-3377	Mary Ellen Arndorfer, CPA Taxes 230 Buffalo Trail, Flagstaff, AZ 86001	525-2585
Winter Sun Indian art & herbal medicine 107 N. San Francisco Suite #1, Flagstaff	774-2881	Trebon & Fine Attorneys at law 308 N. Agassiz, Flagstaff	779-1713
Mountain Angels Trading Co. river jewelry, call for catalog Box 4225, Ketchum, ID 83340	800/808-9787	Yacht True Love Bill Beer, Skipper Virgin Island Champagne Cruises	809/775-6547
The Branch Cabinetry "green" kitchen design and sales Kimberly Sweet, Albuquerque	505/345-5454	Laughing Bird Adventures Sea kayaking tours Belize, Honduras and the Caribbean.	800/238-4467
Terri Merz, MFT 1850 East Flamingo Road #137 Las Vegas, NV 89119 Individual/Couples/Family counselling. Depression/Anxiety	702/892-0511	Chimneys Southwest Chimney sweeping 166 N. Gunsmoke Pass, Kanab, UT	801/644-5705 84741

Wilderness First Aid Course

Wilderness Review Course February 6-8, 1998 (2-1/2 days)

Prerequisite: must be current WFR, WEMT, or WAFA

Cost \$150 plus lodging

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

Lodging: Albright cabins: \$15/night double occupancy; \$25 single occupancy

Meals: On your own; small kitchen in each Albright cabin

Includes 2-year CPR certification

Class size is strictly limited. Guides and private boaters welcome. Send your \$50 *nonrefundable* deposit with the application below to Grand Canyon River Guides to hold a space. The course is already filling, so act now.

1998 Review Course		
Name _____		
Address _____		
City _____	State _____	Zip _____
Phone (important!) _____		Outfitter _____
Guiding since _____ # Trips _____ Type of current first aid _____		

Thanks to all you poets, photographers and writers; and to all of you who send us stuff. Don't ever stop.
 Printed with soy bean ink on recycled paper by really nice guys.

Care to join us?

If you're not a member yet and would like to be, or if your membership has lapsed, get with the program! Your membership dues help fund many of the worthwhile projects we are pursuing. And you get this fine journal to boot. Do it today. **We are a 501c3 tax deductible non-profit organization, so send lots of money!**

General Member Must love the Grand Canyon Been on a trip? _____ With whom? _____	\$25 1-year membership \$100 5-year membership \$277 Life membership (A buck a mile) \$500 Benefactor* \$1000 Patron (A <i>grand</i> , get it!)* *benefactors and patrons get a life membership, a silver split twig figurine pendant, and our undying gratitude.	Remember— it's all tax deductible!
Guide Member Must have worked in the River Industry Company? _____ Year Began? _____ Number of trips? _____	\$100 Adopt your very own Beach: _____ \$_____ donation, for all the stuff you do.	
Name _____ Address _____ City _____ State _____ Zip _____ Phone _____	\$16 Short sleeved T-shirt Size _____ \$18 Long sleeved T-shirt Size _____ \$24 Wallace Beery shirt Size _____ \$10 Baseball Cap \$10 GTS Kent Frost Poster	We don't exchange mailing lists with anyone. Period.
Total enclosed _____		



phone 520/773-1075
fax 520/773-8523
gcr@infomagic.com
Box 1934
Flagstaff, AZ 86002

*A dry day at Pearce Ferry
From the Bill Belknap Collection, newly ensconced at Special Collections, Cline Library, Northern Arizona
University. An exhibit from the collection is now on display at Special Collections and a tribute to Bill Belknap
will be held there on November 1 beginning at 2:30
Belknap Collection #2776C NAU. P.H. 96.4.161.30*



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