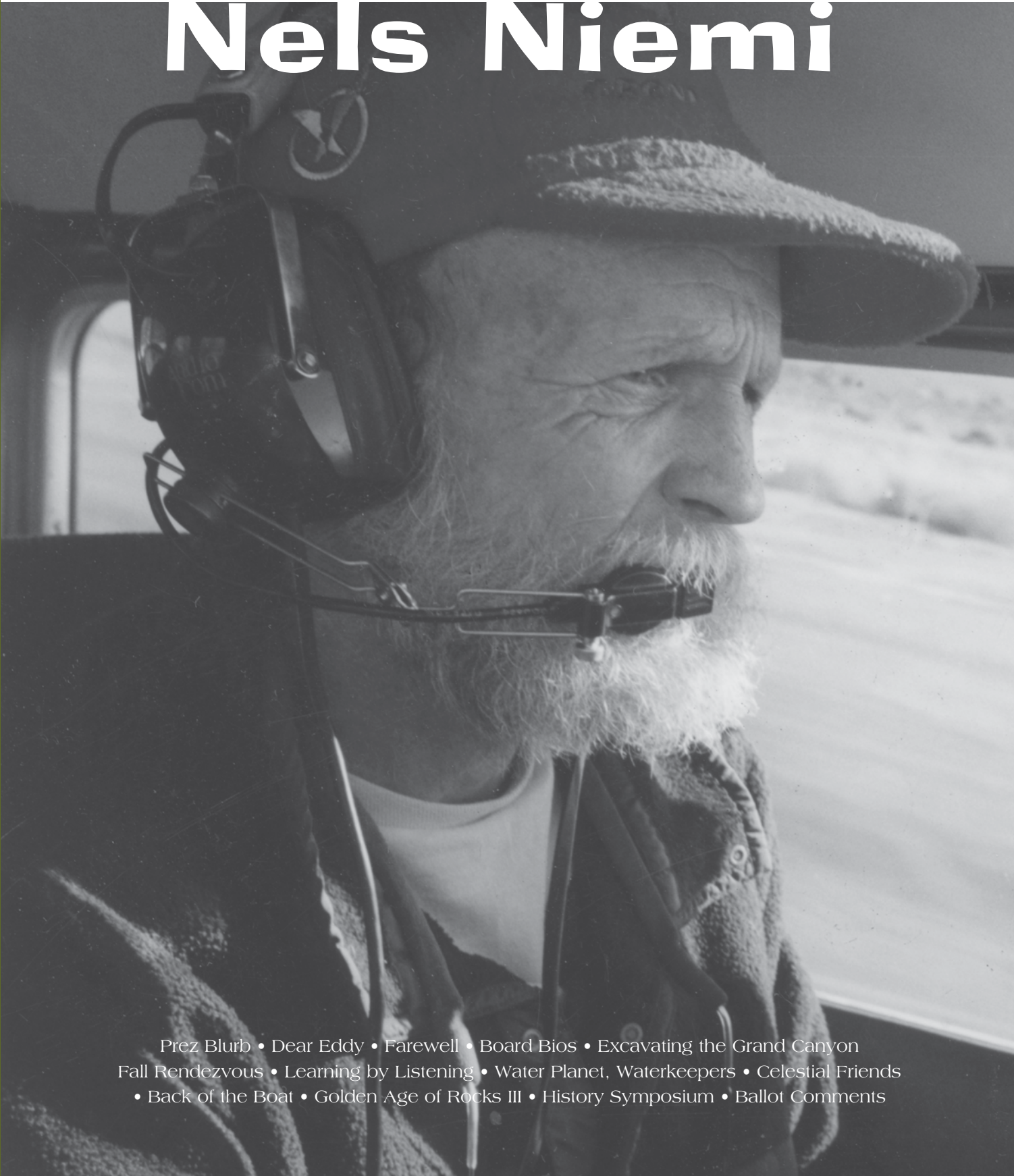


boatman's quarterly review

Nels Niemi

the journal of Grand Canyon River Guides, Inc | volume 19 number 4 | winter 2006-2007



Prez Blurb • Dear Eddy • Farewell • Board Bios • Excavating the Grand Canyon
Fall Rendezvous • Learning by Listening • Water Planet, Waterkeepers • Celestial Friends
• Back of the Boat • Golden Age of Rocks III • History Symposium • Ballot Comments

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. Our Board of Directors Meetings are generally held the first Wednesday of each month. All innocent bystanders are urged to attend. Call for details.

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Our editorial policy, such as it is: provide an open forum. We need articles, poetry, stories, drawings, photos, opinions, suggestions, gripes, comics, etc. Opinions expressed are not necessarily those of Grand Canyon River Guides, Inc.

Written submissions should be less than 1500 words and, if possible, be sent on a CD or emailed to GCRG; 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 February, May, August and November. Thanks.
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Prez Blurb

FIRST OF ALL I would like to applaud and give a heart felt thanks to Joe Pollock for his dedication to GCRG and to Grand Canyon river guiding in its pure and beautiful form. Hopefully all of you read Joe's poignant "Presidential Blurbatum" in the last issue of the BQR. It is a testament to the importance of upholding our love for the canyon and for its protection through our actions and words both on and off the river. I am in agreement with you Joe, about it all—thanks for lighting a fire under me with your eloquent blurbatum. I will try to pick up where you left off with zest and perseverance! Good luck and have fun in the new phase of your life—we'll miss you down there!

I finished my last river trip on October 25th with a bit of nostalgia and apprehension...next year changes will occur, the new Colorado River Management Plan (CRMP) will go into effect—what will it be like down here? It's hard to say exactly how the new changes will play out in regards to the environmental health of the river corridor and to daily river trip life. One of the biggest changes we will see is an increase in user days and shortened trip lengths for private trips. Will this mean overcrowding at attraction sites, difficulty finding camps, more traffic in out of the way places? Or, will the flow of trips work out? Like the signs you see in rooms or elevators—the maximum occupancy for this space is... The Grand Canyon river corridor does not have a sign; it is up to us to interpret if we have reached maximum occupancy or if there is still room. You decide. On October 20th my trip pulled into Deer Creek to a sea of colored rubber—46 oar boats in total! I couldn't help thinking to myself "is this what we have to look forward to?" What if next year there are 46 boats at Hakatai Canyon or Garnet Canyon because everyone knows that Elves Chasm or Deer Creek is out of the question. We all know the special feeling of pulling into a place to find no one there or hitting a multi-day "window" of privacy. Will this be a thing of the past? I encourage all of us to be aware next year, keep tabs on how things are going and let the park know. Not only is Grand Canyon a fragile environment, but it is also our work place and we need to protect it!

Like Joe says, we guides are pieces of the equipment—the damn finest pieces mind you—but equipment nevertheless, and most importantly we need upkeep to do well at our jobs. I agree that resource trips are an important part of our upkeep and that we should push the need for them, not only to help keep guide/company/park relations going but to broaden our knowledge of the canyon and its needs. I also feel that

our Grand Canyon river guide licenses are important to our upkeep as well as our relationship to the park, our status, our flexibility and our positions (keeping us as the most important pieces of equipment). However, the licensing for river guides from the park service will be a thing of the past, put into the hands of the concessionaires.

Here are my thoughts: Our Grand Canyon river guide licenses are a concrete and universal certification, one that binds us together as a group regardless of which company employs us. We all have to work for it in the same way and jump through the same hoops and when we have earned it there is a feeling of accomplishment that we all know and respect each other for—it represents and upholds a standard in our community. Here are some questions to ponder that you may, or may not find important: Since we will still be regulated by Park Service rules, who will ensure that the Commercial Operating Requirements are read and understood by guides—are companies (with a lot on their plates already) going to make up their own tests? How will “free agent” guides go about getting trips with different companies when there is no single standard and every company has their own way of licensing guides? It takes considerable time and effort to become a licensed guide, which makes us more of an asset and less of a disposable “piece of equipment” to our employers because there is a standard and a time commitment that we all have to go through. Will we be giving up the hard earned status of our positions? And finally, how will it sound to our guests when the inevitable “what do you need to do to become a guide” question comes up and our response is “nothing really” or “it varies”, instead of the concrete answer we can all give them now which I feel instills a measure of respect and trust. I would be interested to hear opinions about this from guides, concessionaires, and non-guide members. Should we push to keep guide licensing under NPS auspices or not?

On a related note, I should mention that there is no truth to the rumor that the Coast Guard will start licensing guides or regulating boating in Grand Canyon after the first of the year. The 2006 Memorandum of Agreement between the NPS and the Coast Guard codifies an understanding that has existed for years between these entities—the Coast Guard will leave licensing and inspection to the NPS in Grand Canyon, especially as it pertains to whitewater boating. So, no need to break out the white hat and epaulettes!

One more final (and perhaps most important) thought. There are some very important issues happening with the Adaptive Management Program. Lynn Hamilton has submitted an article in this issue

of the BQR entitled “*Learning by Listening*” that sums it up well. I urge you to read it, and become involved—it is a pivotal time for the protection of Grand Canyon. I would also like to thank Andre Potochnik, John O’Brien and Matt Kaplinski for representing the Canyon and recreational interests so well.

So long for now, I look forward to my year of serving you as the president of GCRG! Keep up the good work, hold true to the love and dedication we have for the Grand Canyon, get involved, spread the word of this organization, contact me if there is anything I can do, and have a great winter!

Marieke Taney

Dear Eddy

THANK YOU FOR the extra copies of the journal to give to friends and family of Dr Bill (Wenner). Moreover, thank you for printing his “farewell” article. It was much appreciated.

Of the many contributions my father made (he didn’t look at them as “accomplishments”) and the things he is remembered for, I can easily picture the smile on his face to be remembered as: Just a Grand Canyon boatman...

Thank you again for giving his many river friends a chance to say goodbye, and for including him in the history of river guiding.

Mahalo for your kokua; keep up the good work. The BQR and the guides provide a valuable perspective and the interviews are great.

Henry Wenner

PS. If some of the old partners stepped up and the Whale Foundation got a few contributions, the ole’ river doc would have a smile about that too...

2006 T-shirts

THIS MAY BE YOUR last chance to pick up a 2006 GCRG t-shirt for the holidays or upcoming birthdays or if yours has worn out.

Use the order form on the inside back cover or give Lynn a call at GCRG. Cash and checks accepted!



Farewell

BILL BYRON SANDERSON
1937-2006

*You are somewhere on the water now,
a place you ought to be,
with one hand on the starboard rail
you're looking back at me.*

BILL BYRON SANDERSON was born in Sacaton, Arizona, and he lived the majority of his 69 years in this rugged state. Bill spent his elementary school years in a one room school house in Skull Valley, and he graduated from Antelope Union High School, near Welton, in 1956.

Bill had a tremendous love for the great outdoors and a natural talent as a boatman. It was serendipity when he went with his father, Raleigh John "Rod"



Sanderson, to explore the Colorado River and its canyons in the 1950s. During the summer of 1956, Bill went to Kanab, Utah and was employed by the

Bureau of Reclamation. He was one of the first to help with the surveys for the Glen Canyon Dam. Operating boats on the wild Colorado River and aiding survey parties was a difficult job with plenty of thrills for Bill's adventurous nature.

Bill was an early pioneer of the town of Page, Arizona. In August 1957, he married Ardene Robinson of Kanab and they had four children: Craig, Byron, Tammy, and Raleigh, all of whom Bill taught to respect and adore the Grand Canyon. Bill returned to Page in the early '70s and assisted his brother Jerry in the operation of the Sanderson River Expeditions. Bill loved the river business (or any business that involved the Colorado River and the Grand Canyon)!

In 1983, when Lake Powell was at "full pool" and the Park Service released an excessive amount of water to avoid it spilling over the Glen Canyon Dam, Bill was chosen above all others for his excellent capa-

bilities as a boatman, to drive a boat of divers up from Lees Ferry to the base of the Dam to inspect the damage that had been done to the spillways from the enormous amount of water they had released.

Bill was thrilled and rejuvenated to take a 12-day private river trip with his son Byron in June 1993. Bill was a tremendous help preparing the rig to be "river worthy" and a vital asset in navigating the mighty Colorado. Crew consisted of Byron, Bill, Cindy Paul, Ronnie Paul, Randy Ryan and Kurt Robinson. This proved to be Bill's last run down his beloved Colorado River. The song, "Let's Run the River One More Time" is an original composition created especially for Bill Sanderson by Ronnie Paul.

Recently Bill Sanderson was honored to be the cover article/featured story in the *Boatman's Quarterly Review*, Fall 2005, Volume 18:3.

Bill will always be part of the river community, who treasures his memory. Contributions in Bill's name can be made to the John Wesley Powell Museum, PO Box 547, Page, AZ 86040.

Edward Brian Coombs passed peacefully into the autumn night on November 11, 2006. Brian was born on July 29, 1944, to Millie and Evan Coombs. The devotion of his parents created a family tied together by both love and friendship.

Brian attended Bingham High School (ut) and served as a Marine in Vietnam. He attended the University of Utah where he became, by education as well as temperament, a philosopher. Brian believed in making the most out of every minute. He found his home in Moab, Utah, and the Colorado River ran through his soul. Brian joined Sidewinder River Expeditions in 1973. He was a professional river guide for thirty three years, becoming the legend illustrated by Nik Hougau that is, and will remain, "Fast Eddy."



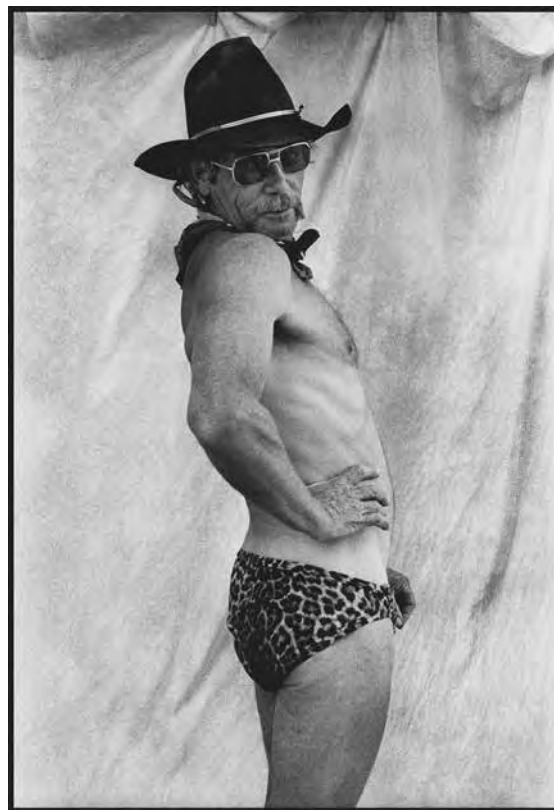
Brian spent the last decade with NAVTEC Expeditions working with his steadfast friend, John Williams, running tours on the Colorado River and in the Sea of Cortez. While Brian ran many rivers, his "office" was Cataract Canyon. As best he could calculate, Brian ran that stretch of river over 300 times; a record that is unlikely, ever, to be equaled. Brian was an accomplished cook, winning the river guides' dutch oven cook off years in a row—and was known as "Grandma" for his fastidious kitchen habits.

Brian's extraordinary talent will not be lost. He took great satisfaction in teaching young river guides in the

ways of the water and the value of a good campfire song. With that, Brian and his voice will live, forever, on the river. Brian, chose his words carefully. He believed that words spent in anger or unkindness were wasted. For that reason, and others, Brian never made a friend that he did not keep—and he had too many to list. He did not have an opportunity to say good bye; he never liked good byes anyway. He would want his friends to understand that he didn't mean to rush off; he just found a new path to travel—again.

Brian loved women with complete abandon. He would not leave without tipping his hat to Joy Ungruitch, who taught him that courage often comes in small packages and to TeriAnn Tibbetts, who considered it her job to make him laugh. He shared his life with his sweetheart, Julie Bryan, who remained convinced that the best place in the world was wherever Brian was standing. To the many women who loved him, Brian was a man among men, not only because of his expertise as a skier, boatman and kayaker, but because he was equally comfortable sharing his passion for rainbows, starry skies and desert waterfalls.

Brian will be returned to the waters of the Colorado River, as would be his wish. A send-off celebration will be hosted by Colin Fryer and company at the Red Cliffs Lodge on December 20, 2006. Information will be posted at www.navtec.com/coombs.html.



© Raechel M. Running

Changing of the Guard

I WOULD LIKE TO EXTEND an enormous thank you to Joe Pollock for being such a fantastic president and also to Tiffany George, Bert Jones, and Jon Olivera for doing a simply wonderful job as board members. All of you exhibited such intelligence, thoughtfulness, balanced perception, and great stewardship of both Grand Canyon and GCRG.

Many people are perfectly content to remain uninvolved, but GCRG board members continually step up to the plate and grapple with many difficult and complex issues with great aplomb. As always, it was also a total pleasure getting to know all of our board members. That's one of the best parts of my job, in fact! It's rather like going on a two-year long GRS river trip with my board. How cool is that! And it was indeed a journey, as we learned and worked cooperatively on so many issues. And of course, our appreciation knows no bounds. Next time you run into one of these fine folks, please thank them sincerely for their efforts and

congratulate them for a job well done!

And on to new horizons—we are now under the passionate stewardship of Marieke Taney as the new GCRG president, Sam Jansen as vice president, and new board members, Emma Wharton, Matt Herrman, Andy Hutchinson and Emily Dale will supplement sitting board members Kate Thompson and Mark Piller. What a stellar line-up! Our thanks to all the candidates who agreed to run in the recent GCRG elections. You're all winners in our eyes and exemplary members of this community.

And that's what it really comes down to—passion for the canyon and the river, and a desire to actually do something meaningful on its behalf. This is exactly the kind of stewardship that gives GCRG its strength, and propels us into the future as we continue to work towards our mission and goals. Thanks to you all!

Lynn Hamilton

Board Bios

Have you ever noticed how putting a name together with a face makes a world of difference? We've provided photographs and short introductions of current GCRG board members and officers so you can see who is representing you. These fine folk are your link to GCRG, so introduce yourself when you next see them on the river. Ask questions, let them know what you think, get information. We're here for you so let's talk!

MARIEKE TANNEY

I WAS BORN AND raised in Flagstaff Arizona and close to the canyon for most of my life. I have a vibrant love for the southwest and water in the desert, especially the mighty Colorado through Grand Canyon. I started working in the canyon in 1999 and can be found down there in an oar boat, paddleboat or



kayak mainly with Canyon Explorations/Expeditions. I have a passion for games and natural history that I love to share, and I also like to draw and paint when I have the time (hopefully one of these days I will write and illustrate my own children's book)! When I am not in the canyon I like to spend time in my kayak on various rivers around the States or ride my mountain bike. I have a Master of Science degree in Environmental Education and Forestry from NAU and I spent many years leading trips for the National Outdoor Leadership School. During the winter months I am a ski patroller (I am moving from the Arizona Snowbowl to Arapaho Basin this year). In the spring I go up to Valdez, Alaska where I work as a heli-ski guide for Alaska Rendezvous Guides.

EMILY DALE

I WAS LUCKY ENOUGH to be born into a river family. My parents took me on my first river trip just after my first birthday on the San Juan River. Since then I have been on the river every available opportunity. I now spend my summers working for Grand Canyon Expeditions. I have also had the opportunity to work for Hatch and with the USGS as a boatman and field research technician. I have enjoyed the different perspectives these opportunities have given me.

I graduated from NAU with a degree in Zoology in 2003. Since then I have spent my winters in Flagstaff as the office manager for Humphrey Summit Ski. I have settled down in Flagstaff with my sweetie Scott, and am always looking forward to river season.



SAM JANSEN

HEY ALL, I'M THE lucky guy who got elected VP this year. I'm looking forward to the roles I'll be playing for GCRG during the next couple of years.

The Canyon has been at the center of my life since 1991. Making a living as a guide has led to a variety of off-season occupations: I've been a research scientist, computer programmer, ski patroller, nail and screw salesman, diamond miner, public accountant and bull fighter. Okay, some of those things aren't true, but I can tell stories about them anyway. Hey, it's part of being a river guide.

Right now I'm in film school, working my way through an intensive one-year program at the Zaki Gordon Institute in Sedona. The school year culminates with each student producing a thesis film project. Of course the Grand Canyon will be at the center of mine. It's about a group of kids on a Grand Canyon Youth trip—who they are, what the experience brings to them and brings out of them, and what wild places can and should mean to kids everywhere. I want the film to be fun, smart, beautiful, informative, touching and inspiring, so clearly I'm going to need a heck of a lot of help on it. Who better to turn to than the river community? You'll be hearing from me.



ANDY HUTCHINSON

HEY FELLOW boaters, I'm Andy Hutchinson and want to thank everyone who helped vote me onto the GCRG Board for the two-year term. It has been a dream of mine to be involved beyond standard guide input and hope I can be of productive influence for the Canyon and our mission statement. My primary concerns include; Beach Habitat Building Flows and helping with maintaining the Grand Canyon Protection Act. I also believe in us working towards all Outfitters getting on board with guide benefits. It's a symbiotic relationship of the Canyon; taking care of us who take care of it, but we need to take care of ourselves too. The Whale Foundation has taken great steps in this direction and I hope to help in this realm as well.

It is nice to be on board and I'll try to keep the boat trim and bailed, life jacket fastened, help scout the big ones, and row at every opportunity.



MATT HERRMAN

HI THERE, I'M Matt Herrman, and glad to be here. Those of you who know me, know me and I'm looking forward to meeting the rest. I'm a working boatman, it's what I do. You're more likely to see me on the river than anywhere else and I'm looking forward to bringing that perspective to the board of GCRG. Thanks.



KATE THOMPSON

AFTER A YEAR OF serving on the Board, I can say that it is work that I enjoy and believe in. GCRG is an amazing organization, even more so behind the scenes. The Board and Advisors whole-heartedly participate and share mutual respect for different opinions. Issues that come up for us are never straight forward among our eclectic and spirited community, but resolve comes around with a willing learning curve and a sense of humor. After helping out with many issues that rose to the surface this past year, I look forward to another year of involvement as a watchdog of environmental, cultural and social issues on the River. I'd like to hear from new guides in particular. What are your concerns about the River or about the job? If you see me at a gathering, let's meet and chat. I'll buy you a beer.



MARK PILLAR

MARK PILLER has worked in the Grand Canyon for the past 13 years guiding commercially on both rowing and motor trips, working for the Park Service both on the river and on the rims, working on science trips and has been employed as operations manager for a commercial rowing company. For some unknown reason, that his girlfriend and dogs just cannot comprehend, he goes back year after year to the Big Ditch for more punishment in the searing heat, treacherous rocks and freezing waters. Perhaps it's different every time.



EMMA WHARTON

WHEN I first came to Flagstaff four years ago to work with Grand Canyon Youth, I didn't know very much about this community. Lucky for me, I got to share an office with Lynn Hamilton and GCRG where I was embraced and shown just how amazing this community can be and have not stopped learning since arriving! I think my experience working with many of the different aspects of the river community, the non-profit sector and the community at large will add a different perspective. I am continually fascinated by the variety of issues and topics explored by GCRG and am thrilled to work as part of a team to disseminate, educate, and excite the broader river community.



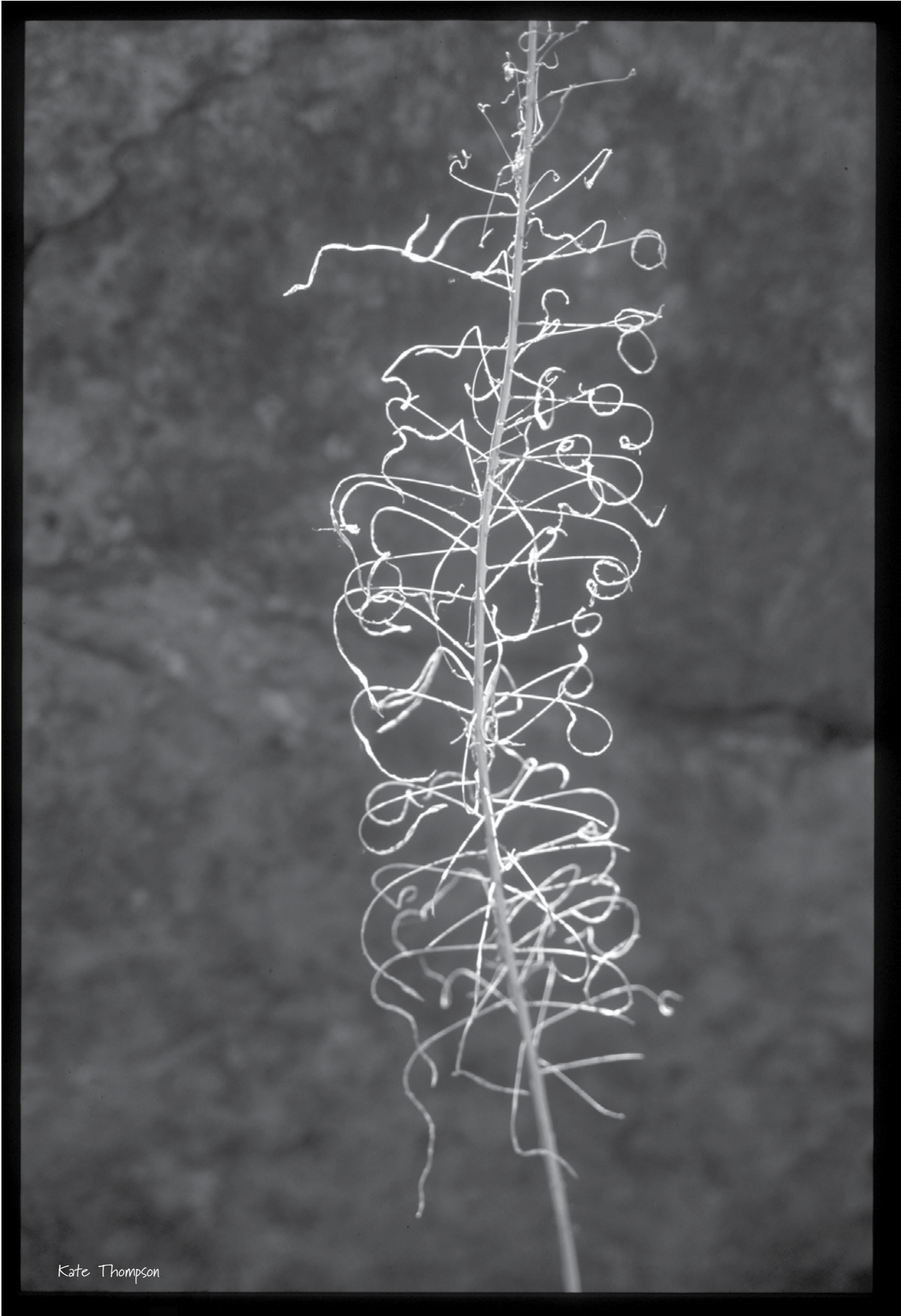
LYNN HAMILTON

HEY EVERYONE, I'M Lynn Hamilton, Executive Director of GCRG (otherwise known as the only person in the GCRG office). I was born in St. Joseph, Missouri, overlooking the Missouri river. Gazing at an amazing river for a good part of my life, I never fathomed that I'd be working someday to protect one.



My degree is in Political Science from U.C. Berkeley and I have an amazing husband and two exuberant hippie/lacrosse boys (who went on their first GCY trip this summer and came back total river rats). I love to hike and have a fascination with native plants that has extended to big gardening projects! We moved to Flagstaff in 1995, hooked up with my old Berkeley friend, Kelly Burke (Grand Canyon Wildlands Council), she introduced me to Jeri Ledbetter, and as they say, the rest is history...

Having worked for GCRG for over ten years now, I'm still learning new things daily, constantly meeting amazing people, and it has been my greatest pleasure to help protect Grand Canyon and the river experience while urging others to do the same. So give me a call sometime, or stop by and see me in the office. The river community is my family too, and I'm always here to help!



Fall Rendezvous Rocked!

SUFFICE IT TO SAY, the GCRG Fall Rendezvous over the November 4TH weekend was an unqualified success. Emergency evacuation discussions, information, and questions occupied us for a couple hours, complete with a scenario featuring Ranger Mike McGinnis as a victim, with AZRA guide BJ Boyle to the rescue. Let me tell you, the new backboard of the 21ST century is the coolest contraption you'll ever see—rather like a paco pad with handles that you can blow up to completely immobilize the victim. Wow! It makes regular backboards look positively antiquated.

Brad Dimock was our interpreter par excellence for the boat tour, but of course! River history was brought to life in the special way that only Brad can evoke, meshing the facts of boat construction/design, the challenges of preservation, and the lives of the colorful boatmen who ran them down (or even up) the Colorado River. Brad's passion for these beautiful boats, and the boating legacy inspired each of us.

The Kolb Studios tour was perhaps the greatest surprise of the day as the legendary Stewart Fritts gave us one of the most memorable and special tours one could ever wish for. Truly, we had no idea of what was in store for us, and much to our surprise, he transformed into Ellsworth Kolb before our very eyes, and in the words of one participant, "channeled his spirit" in the most amazing way. Just as the interpreter transformed into his subject, so too, the presentation itself transformed from what would have been a standard tour, into high art.

Brilliant is the only word to describe it.

And the campout topped off a wonderfully educational and fun day. What a great way to unwind with fellow guides next to a roaring fire with the full moon soaring above! We had a scrumptious pot luck dinner with more food than we could possibly eat. Our thanks to everyone who pitched in bring food, set up the kitchen (boy the NPS has a bomber kitchen set up!), cook breakfast the next day, and break everything down.

Lastly, thanks to all the Grand Canyon National Park personnel who made this event possible, most notably Ranger Mike McGinnis. Mike's openness to our idea, his willingness to put words into action, and his help and support of the entire event were integral to the program's success. He also encouraged other NPS personnel to come and participate, which reinforced the philosophy that we thankfully share: better communication between NPS and river guides helps everyone. We certainly appreciate it very much that these fine folk took time out of their Saturday to meet with us! Other sincere thanks go to Devon Brown representing the Search and Rescue (SAR) unit; Adam Kramer, the NPS Health Consultant; Kim Besom from the NPS Museum Collection; and Stewart Fritts for their wonderful interpretive assistance. Thanks to Brad not only for his fantastic presentation, but also for his fine ideas that added significant depth to the program. Speaking of ideas, it was former GCRG president, Joe Pollock, who thought an evacuation clinic might be just the ticket to

get guides more comfortable and knowledgeable about the process. Thanks Joe!

In all, as with most GCRG events, it was a group effort, and one that really paid off in quality. And good lord, we even ran each segment of the event on time! Quite the miracle! We'll be working on some good ideas for next year. If you have any thoughts about that, please let us know! Combining a community building event with painless learning and lots of fun is definitely something we'd like to repeat.

Lynn Hamilton



Guides viewing historic boats. Photo by Kate Thompson

Excavating the Grand Canyon

RECOGNIZED WORLD-WIDE as a geologic phenomenon, the Grand Canyon is the longest canyon in the world (277 miles) and a good portion of that length is a mile deep. In our modern world of technology and science, some people are surprised to discover there are still questions about the canyon's history that haven't been answered.

Because it is a landscape that requires strength, endurance, and resources to explore, very little archaeological research has been conducted along the Colorado River corridor. For that reason, a new cooperative agreement between Grand Canyon National Park and the Museum of Northern Arizona (MNA) is especially exciting. Grand Canyon and MNA archaeologists have joined forces to excavate nine sites in the canyon along the river in hopes of answering some of the many lingering questions about prehistoric lifeways in the Grand Canyon.

"This collaborative partnership illustrates the Museum's goal of working with agencies to discover and interpret cultural resources on the Colorado Plateau," MNA Environmental Solutions' Corporate Manager Sonny Kuhr stated. "It's our hope that the excavation of these sites will yield new information to complement already existing knowledge and perhaps reveal some of the canyon's deepest mysteries, before more of the archaeological record is lost forever."

The nine archaeological sites have been chosen because of deterioration and the need to mitigate adverse effects of human-induced agents such as erosion and visitor impact. Over the next five years, archaeologists will complete site testing, excavation, stabilization of the area, and finally, interpretation for visitors.

The 1963 closure of Glen Canyon Dam greatly diminished sediments in the Colorado River. Prior to the dam's construction, the river's natural peak flows deposited river sediments on terraces along the river, enough to protect ancient archaeological features. In 1995, a Final Environmental Impact Statement determined that the dam was impacting the cultural, biological, and natural resources within the Colorado River ecosystem. Given Grand Canyon National Park's mission to preserve resources for the enjoyment of present and future generations, something had to be done.

Park Superintendent Joe Alston and the staff at Grand Canyon are excited to be working with the Museum of Northern Arizona on this monumental excavation project. Chief of Cultural Resources at Grand Canyon National Park Janet Balsom said, "Site preservation is a primary goal of the National Park Service and the archaeological resources along the river corridor are some of our most important. The information we collect will provide visitors to our area with a much greater understanding of the

ancient people who made the canyon their home and the lives they lived. These places are not just archaeological sites; they are places where people lived their lives, utilizing the resources of the canyon to fulfill their dreams. Through active education, and interpretation of the resource and the project itself, we hope to highlight the vitality of the resources in the canyon and make them 'come alive' for our visitors."

*Michele Mountain and Ted Neff (MNA)
and Jan Balsom (NPS)*

Credit: Fall/Winter 2006 "MNA Notes", Museum of Northern Arizona



*Assessing stratigraphy in the Cardenas area.
Photo by Brian Dierker*

Learning by Listening: Challenges and Opportunities for the Glen Canyon Dam Adaptive Management Program

WHAT SENDS SEDIMENT scientists into paroxysms of joy? The answer would be the seemingly eminent prospect of a Beach Habitat Building Flow (BHF—or flood flow to us lay folk). This was the case in early October as the region experienced amazing storms that helped us reach a “trigger” of over one million metric tons of sediment input from the Paria River (between 1.32 and 1.98 million tons since July 1 to be exact). Wow, what a load of sand!

Now for some of you, you may be scratching your heads saying, “What does the Paria River have to do with the Colorado River?” Well, the Paria is a tributary of the Colorado River, and one that thankfully comes in *below* the dam. In simplest terms, the dam is basically a gigantic plug that prevents sediment from reaching and benefiting those resources downstream of Glen Canyon Dam. Therefore, the only mechanism we currently have for getting sediment into the system is to pray for some considerable help from Mother Nature, while using the Adaptive Management Program of Glen Canyon Dam to actually *do* something about it.

And boy did Mother Nature step up to the plate. Imagine sand deliveries of such large magnitude that only occur on average every 5–10 years. Imagine a flood on the Paria the likes of which has not been seen since 1998. Imagine a sand status in upper Marble Canyon of twice the amount that we saw prior to the November 2004 flood flow, and three times that amount in upper Grand Canyon. Imagine Lake Powell reservoir rising over four feet in a six day period, and over one foot in one day (October 7)—the single largest increase in surface elevation of the lake since it was filling in the 1960s!

Historic proportions and even a rare opportunity? Most certainly. But does this necessarily lead to a flood flow? If it were up to Grand Canyon River Guides, the answer would be a resounding yes and we have submitted a motion to that effect for consideration at the next Technical Work Group Meeting, but things are not quite so simple...

The Adaptive Management Program is a stakeholder process with perspectives and concerns that are as wide ranging as the diversity of stakeholders—water and power representatives, basin states, recreational interests, environmental groups, Native American tribes, Arizona Game & Fish, US Fish and Wildlife Service, and the National Park Service. In terms of a possible flood flow, stakeholders might ask questions such as:

- What timing might be optimal for a Beach Habitat Building Flow?

- Shouldn't we wait till spring to mimic natural floods?
- How do we avoid germinating more tamarisk?
- If we wait until spring, won't we waste some of that sediment with the high fluctuating flows we'll have this winter?
- Is there sufficient money in the Experimental Fund to study a flood flow?
- What about the poor economic situation with the Basin Fund—if we drain it now, won't that impact our ability to conduct studies in the future?
- Is sediment really critical to biological resources and why is it crucial that we do a flood now?
- How would a flood flow impact traditional cultural properties such as native plants along the river corridor?
- How crucial is sediment for the preservation of cultural sites and is there a timing that may be optimal for that resource?
- The 2004 flood flow primarily benefited upper Marble Canyon, but its effects were not as pronounced downstream. Could we modify a new flood flow to better distribute sediment throughout the entire system?

Valid questions all; and you can bet that there are many more that deserve answers as well. Grand Canyon Monitoring and Research Center (GCMRC) will be addressing stakeholder concerns thoroughly in the upcoming Technical Work Group meeting as they present supporting data for this experiment, coupled with a well designed science plan. GCMRC will also be providing an analysis of several Long Term Experimental Plan options in comparison with current Modified Low Fluctuating Flows, in order to comply with a longer term horizon for science and operational strategies as requested by Mark Limbaugh, the Secretary of the Interior's designee for the Adaptive Management Program.

By the time you read this, the Technical Work Group (TWG) of the Adaptive Management Program will have met, discussed, and voted on many of these issues. GCRG is doing considerable legwork leading up to the meeting to reach out to stakeholders and candidly discuss perspectives regarding the possibility of a flood flow in early 2007. Too often the confines of official meetings can create friction and misunderstandings, stalling the program by creating divisions that prevent forward movement. If we can get to the heart of stakeholder concerns, and if Grand Canyon Monitoring and Research Center can address those concerns successfully through scientifically valid data and analysis, then we have a chance of helping the program work collaboratively to fulfill its mission as codified in the

Grand Canyon Protection Act...

“...to preserve, mitigate adverse impacts to, and improve the values of Glen Canyon National Recreation Area and Grand Canyon National Park...including natural and cultural resources and visitor use.”

And that brings us to our broad philosophical point, and one that we hope to bring home to Adaptive Management Program stakeholders—*science should inform policy*. In its simplest terms, we must view this process as one long learning curve, where we build knowledge over time by testing hypotheses, thereby creating a credible and defendable scientific framework that allows for adaptations in response to new data and new situations as they arise. This philosophy prompts two important questions vis-a-vis the current situation:

- “Can we be adaptive in situations where a significant sediment event presents a rare opportunity to help further habitat restoration while building our knowledge of the resource?”
- “Can we approve a long term experimental plan that is scientifically sound rather than politically expedient?”

We understand that stakeholders represent their constituencies and therefore advocate for policies that further those interests. But we urge them all to remember their obligation to the welfare of the whole, and the responsibilities they have to abide by this process. Society at large values resource protection—the Grand Canyon Protection Act is evidence of that value-based societal shift. Furthermore, the very fact that Congress acted to protect the resources downstream of Glen Canyon Dam indicates that there was indeed a problem to fix.

It behooves GCRG and the river running community to pay very close attention to how well the Adaptive Management Program meets the challenges these questions pose. The above referenced societal shift stems directly from people like us, who deeply care about ecosystem protection and understand how crucial it is to the world we live in. Therefore, as canyon stewards we have a distinct responsibility to this program as well—to stay informed and to speak up loudly if the process gets bogged down and fails to achieve what it is charged to do. The weighty issues currently before the Adaptive Management Program are incredibly pivotal in and of themselves, but they may also serve as a barometer of how successfully this collaborative program is working. Our collective voice may indeed be needed as a reminder that the public truly cares about these resources and understands the *necessity* of meeting the obligations established by Congress over a decade ago.

We strongly urge stakeholders to remain flexible and open to new ideas; communicate candidly and really listen to what others have to say; pay close attention to the science; and use that science to develop forward-looking, and well informed decisions for the resources downstream

of Glen Canyon Dam. Learning by listening and abiding by the process are vital lessons that all stakeholders must take to heart.

Lynn Hamilton
EXECUTIVE DIRECTOR/GCRG

LATE BREAKING NEWS #1

As we mentioned, the TWG and subsequently, the Adaptive Management Work Group (AMWG) will be considering a suite of options for a Long-Term Experimental Plan for the operation of Glen Canyon Dam. The Department of the Interior will be using the National Environmental Policy Act (NEPA) process to evaluate any recommendations that come out of the AMWG with respect to this Long Term Experimental Plan. The goal is to have the NEPA process completed by the end of 2008.

In plain English, this means that “we the people” can offer our thoughts and opinions on these options that will determine dam operations and other related management actions for years to come. Public involvement will commence with the upcoming AMWG meeting (December 5–6, 2006 in Phoenix), with more public scoping opportunities after the first of the year. Check our website for updates on GCRG perspectives and ways to be involved at www.gcr.org. We will also be sending out new information through our guide and outfitter email lists as things develop. Let’s make our voice be heard!

LATE BREAKING NEWS #2:

The TWG in their November 8-9, 2007 meeting voted 14-11 in support of a Beach Habitat Building Flow! Yet this is only the first hurdle. The motion will now be considered by the Adaptive Management Work Group at their December 5-6 meeting, requiring a hefty 2/3 majority on the AMWG level (16 votes in favor) in order to be forwarded to the Secretary of the Interior. We have more work to do and gaining those last votes may prove very difficult indeed, but we’ll give it all we’ve got!

GCRG extends our sincerest appreciation to all of the stakeholders who voted in support of this BHBFB motion at the TWG meeting. Achieving this level of communication and cooperation between disparate stakeholders is incredibly heartening. Nevertheless, this vote highlighted the significant challenges of the program as power interests joined most of the basin states in a voting block against the flood flow. Water, power generation, and the environment are an incredibly potent and often conflicting combination in the West. We therefore charge the Adaptive Management Program stakeholders to work collaboratively within this process to achieve management goals and continue to build the scientific framework necessary for forward movement in this unique program. It’s the right thing to do for the riverine ecosystem in Grand Canyon...

The Water Planet, Waterkeepers, and Robert Kennedy Jr.

IN SEPTEMBER ROBERT KENNEDY JR. completed a river trip down the Grand Canyon with MacGillivray Freeman Films to make an IMAX theater documentary about the planet's troubled waters. The film project will be called *Water Planet: Grand Canyon Adventure* and will be distributed by MacGillivray Freeman Films in the spring of 2008. The production of the film is sponsored by TEVA and the concessionaire for the river expedition was OARS.

The message for this film is to create awareness that water resources throughout the world are threatened not only by pollution, but by poor management and the effects of global warming.

Kennedy is the board president of the Waterkeeper Alliance, a professor of environmental law at New York's Pace University, staff attorney for the Hudson Riverkeeper, and a spokesperson for the progressive environmental movement. Kennedy and the film team are using the Colorado River in Grand Canyon to symbolize the power and grace of water, and for good reason, since the Grand Canyon and the Colorado River is forever linked as a cornerstone in the modern environmental movement.

Waterkeeper Alliance was established formally in 1999, and the current headquarters are in the valley of the Hudson River at Irvington, New York. The model of the organization is the Hudson Riverkeeper, which began a successful campaign in 1966 to enforce clean water laws through the court system and before the Clean Water Act of 1972.

Waterkeeper Alliance is international in scope and has, at present, over 155 members (Waterkeepers) in North and South America, Australia, Asia, Europe and Africa. Though the Alliance continues to grow, the Waterkeeper Board believes that program quality is more important than program quantity.

Each program of Waterkeeper Alliance is an independent non-profit organization that is identified by a unique body of water and by a person who actively participates in improving the integrity of this water body. For example, the Klamath Riverkeeper, the Great Salt Lakekeeper, the San Francisco Baykeeper, or Waterkeepers Australia are all Waterkeeper programs.

The individual Waterkeepers are bound by a contract with Waterkeeper Alliance and their name is registered by trademark. Though Waterkeeper Alliance is an international organization, it is decentralized because it adheres to the principle of bottom-up grassroots orga-

nizing.

Each individual Waterkeeper program must be self-sufficient and must seek private funding resources. A Waterkeeper is also recognized by the media and by the community as the voice of protection for the water under their care. They must have a boat and patrol their water body personally. Above all, they must demonstrate a track record of getting things done, especially in the realm of law enforcement. If there is not a strong commitment by the local Waterkeeper to fulfill its mission statement, their



Robert F. Kennedy Jr., of Waterkeeper Alliance, Greg MacGillivray of MacGillivray Freeman Films, and Jill Ireland of TEVA at Lees Ferry during a press conference about the IMAX film project called "Water Planet: Grand Canyon Adventure".

Photo credit: Ben Horton

partnership with the Alliance may be transferred by due process to another organization or even be terminated.

What the staff and the Board members of Waterkeeper Alliance provide to the local Waterkeepers is administrative and campaign assistance. For example, assistance can include strategic and development planning, media effectiveness, legal and legislative expertise. Assistance also includes the organizing of an international conference at different geographical locations each year. For example the conference of 2007 will be held at fitting location of troubled waters—New Orleans.

The Colorado River basin currently has three Waterkeepers: the Black Mesa Waterkeeper is Vernon Masayesva of Black Mesa Trust; the Animas Riverkeeper is Aaron Kimble of Friends of the Animas River (Dave Wegner, the former program director of the Glen Canyon Environmental Studies, is a board member on FOAR); and the Colorado Riverkeeper is myself, John Weisheit of Living Rivers.

The problems of the Colorado River are well known to the river guides of Grand Canyon, especially the impacts to the park values of the national park consequent to Glen Canyon Dam operations. Waterkeeper Alliance supports the campaign called "Save Grand Canyon Again," which proposes a Supplemental EIS to study the merits of decommissioning Glen Canyon Dam.

The greatest concern for the Colorado Riverkeeper program, because it will affect the entire nation, are the impacts of climate change and the over consumption and over allocation of the Colorado River. When water scarcity becomes constant in this century, as climate specialists are confidently predicting, water managers will likely solve these shortages with status quo development that includes more power plants for more water treatment and desalinization facilities.

Business as usual is no longer acceptable for Colorado River management. What is more acceptable is more efficiency, more conservation, and more renewable energy projects when and where it is environmentally and socially appropriate. In other words, the direction of the Colorado Riverkeeper is to replace the old water culture with a new water culture.

Waterkeeper Alliance is an organization that deserves our confidence because it is committed to making a difference in the way the world manages our water and energy resources. The folks at MacGillivray Freeman Films and TEVA know this too. We are honored that the Colorado River and the Grand Canyon were chosen to share this special message with the world.

To learn more about Waterkeeper Alliance, the Colorado Riverkeeper, the Animas Riverkeeper and the Black Mesa Waterkeeper, please visit the following web sites:

www.waterkeeper.org

www.coloradoriverkeeper.org

www.animasriverkeeper.org

John Weisheit

Martin Litton Honored

MARTIN LITTON WAS INDUCTED into the Advocate Category of the International Whitewater Hall of Fame (IWHOF) on Friday, October 20 at a dinner and ceremony in McHenry, Maryland. Martin was one of six whitewater legends representing a diverse group comprised of individuals and athletes with significant accomplishments and contributions in whitewater related activities. He received a long heartfelt standing ovation in honor of his life-long commitment fighting to protect and preserve the integrity of the West's beautiful places. As a writer and conservationist, he worked to keep dams out of Dinosaur National Monument and the Grand Canyon and helped gain protection of Hells Canyon on the Snake in Idaho with the National Recreation Area designation.



Photos courtesy IWHOF.

As a boatman, Martin pioneered oar-powered recreation in the Grand Canyon in the 1950s establishing his own company running dories on the Grand Canyon, Hell's Canyon, Salmon, Grande Rhonde, Owyee and Green Rivers.

The dinner and ceremony concluded this year's nomination-induction process that began with a six-month nomination and election process in February 2006 and elections by a 40-member voting electorate consisting of nationally and internationally-recognized whitewater practitioners representative of the whitewater community. Martin joins five other inductees as members of the 2006 Class of Honorees: Advocate Tom Johnson (USA), Champions Gisela Grothaus-Steigerwald (Germany) and Scott Shipley (USA), Explorer Herbert Rittlinger (Germany), and Pioneer Jim Snyder (USA).

Sue Taft

AUTHOR OF The River Chasers: A History of American Whitewater Paddling

Your Celestial Friends

PERHAPS YOU ARE A KEEN observer of the heavens. Or, perhaps to you, the night sky is a mysterious arrangement of small, attractive lights. For you, an introduction to your celestial friends is long overdue. In this first article, we will discuss our planet's relative position to the stars we see in the night sky.

Why do we see the stars in different positions at different times, or in different places on earth? To better understand this, we must first become familiar with the celestial sphere, an imaginary sphere surrounding earth onto which the stars can be charted. Just like on earth, this sphere can be mapped by coordinates, with the north celestial pole aligned with earth's north pole, the celestial equator aligned with earth's equator, and so on.

The sun is a star we do not map onto the celestial sphere, only because as we revolve around it throughout the course of a year, its relative position to the other stars in the sky changes. For this reason, at different times of the year, there are certain stars which we do not see from any place on earth. When the sun lies in between the path of earth and those stars, the sun is said to be "in" that constellation, a premise upon which the signs of the zodiac, among other lore, are based.

That we see the striking constellations which certain stars form on the celestial sphere is only incidental to planet earth. Were we to live on another planet, in a different solar system, our celestial sphere would look entirely different, with the same stars forming new positions from our new vantage point. So it is that our night sky is ours, and we can divide it into northern and southern celestial hemispheres.

The North Star, Polaris, is conveniently located at the north celestial pole. The effects of precession, a wobble of the earth on its axis, change this alignment by 46 degrees and back again over a 26,000 year period. But for now, Polaris is a useful tool for orientation.

Polaris's position above the horizon always matches the terrestrial latitude from which it is viewed. Travel to the North Pole and Polaris is found directly overhead, all the stars spinning gently counterclockwise around it, with no southern stars in view. Travel to the equator and Polaris is exactly on the northern horizon, with the southern celestial pole on the southern horizon, and the celestial equator guiding the stars across the middle of the sky from east to west throughout the night.

Lucky is the equatorial viewer, as throughout the course of the year every star in the sky can be seen. New stars creep into view on the eastern horizon each night, as earth moves around the sun, and other stars disappear in the west, until a completely different sky is represented every six months of the year. Continue south and Polaris drops below the horizon, the southern sky coming further

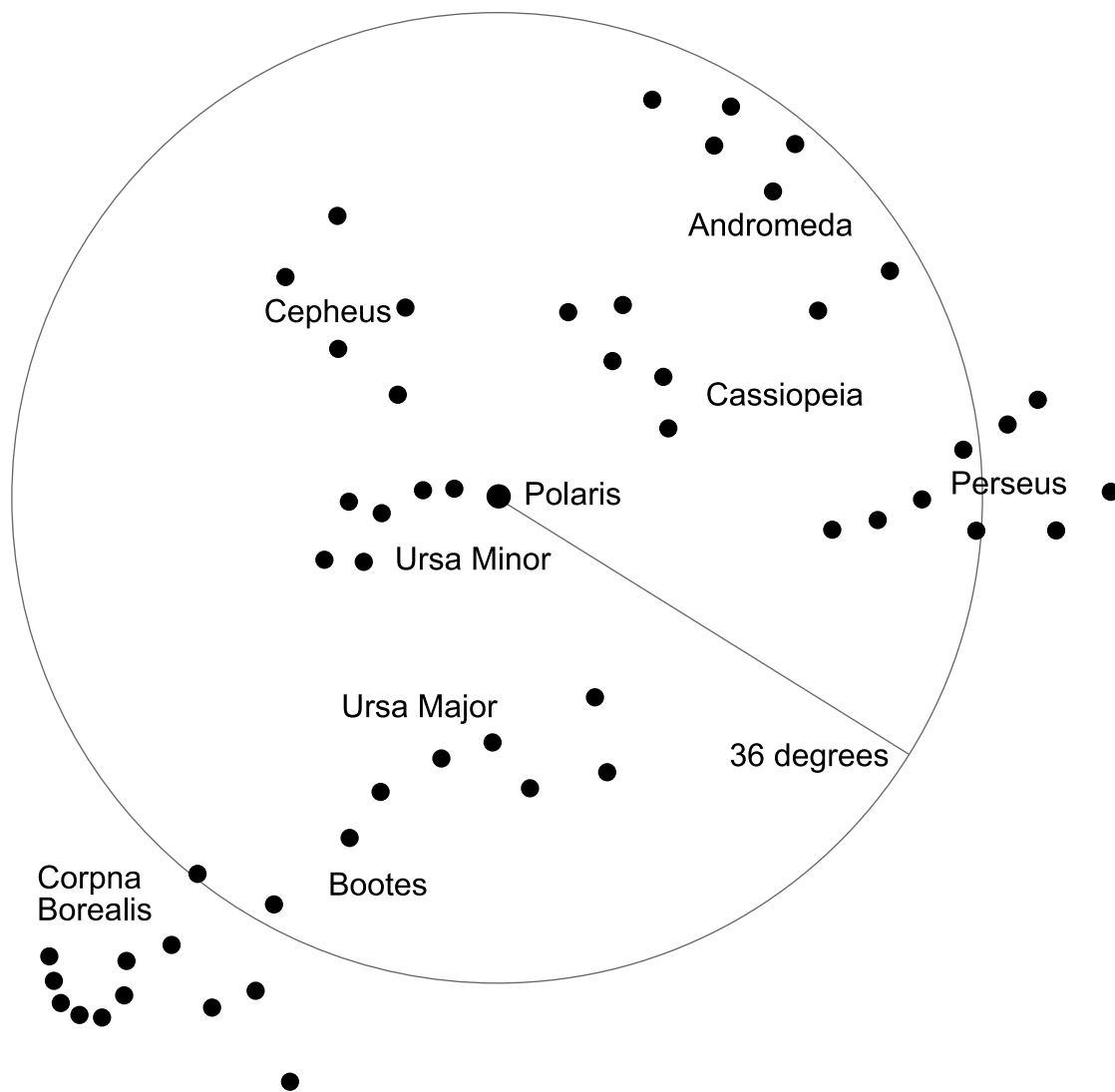
into view until, at the South Pole, no northern stars can be seen. Here the southern stars travel clockwise around the south celestial pole and the constellations appear to be "upside down" of how we know them in the north.

In the Grand Canyon we are at 36 degrees latitude, so Polaris is seen 36 degrees above the horizon. Thus, we enjoy 54 degrees of southern sky, which changes throughout the year as new stars creep into the east and disappear in the west. We observe the same changes worldwide, in varying extremes, at various latitudes. Yet all throughout the world, at 36 degrees north, we share the same sky each night. The amount of viewing time we are allotted—the length of our night—is determined by earth's tilt on its axis, and whether our hemisphere is pointing toward the sun or away.

At our latitude, any star within 36 degrees of the North Star is said to be a circumpolar star. Let's put this information to use and learn about a few circumpolar constellations and how to find them.

The drawing below illustrates some important "asterisms," the brightest and most easily located stars in a constellation. In late summer the Big Dipper, or Ursa Major, is often hidden behind a western wall of the canyon. Cassiopeia sits opposite, however, and can easily be used to find Polaris, where the triangle of her three lower stars "open up" toward it. Look opposite that opening to find Andromeda, and the striking yet subtle blur of her galaxy, two million light years away. Imagine, the Grand Canyon was still just forming, by most theories, when the light left this distant collection of 300 billion stars. Close by we find Cepheus the King who, according to Greco-Roman mythology, was husband to Cassiopeia and father to Princess Andromeda, whom the nearby Perseus rescued from certain death. But it is a rich and colorful story of the Iroquois Indians which we will relate today.

In this story, the bear is represented by the four stars forming the square of the Big Dipper. The three stars of the handle, along with four of Bootes's stars, represent seven hunters chasing the bear. Corona Borealis represents the bear's den, which he leaves in the spring as the hunt begins. As autumn approaches, the seven hunters begin to disappear below the horizon one at a time, as each in turn abandons the hunt. The last hunter, a robin, who is closest to the bear, hits his mark with an arrow and kills him. The bear stands on his hind legs, just as the constellation's position represents in the fall, and sprays blood onto the robin. The robin shakes himself of the blood and colors the leaves of autumn red, leaving only a small red mark on his own breast. The hunt now completed, only the supine skeleton of the Great Bear remains in the sky. The following spring another bear emerges from the den on the



The asterisms of Ursa Minor, Cepheus, Cassiopeia, Andromeda, Perseus, Ursa Major, Bootes and Corona Borealis are represented. The circle scribed at a 36 degree radius from Polaris represents these stars which are circumpolar to us in the Grand Canyon region. These are stars which, canyon walls excluded, are visible all throughout the year at our latitude.

eastern horizon, and a new hunt begins. (Staal, p. 132)
 This marvelous motion picture plays for us every night,
 year after year.

So what does this mean to you on a Grand Canyon
 river trip? Plenty! The stars are always with us, orienting us
 by their familiar patterns, and connecting us to our friends
 around the world. They gaze upon us through cracks in the
 canyon sky, just as they will in any place we call home.

Next issue: understanding our solar system's planets,
 and more!

Teddy Anderson

Teddy Anderson is a guide for AzRA/Discoverey

Credits:

Staal, Julius D.: The New Patterns in the Sky; Myths and
 Legends of the Stars. McDonald and Woodward Publishing
 Co. 1988.

2007 Guides Training Seminar

FIND IT HARD TO BELIEVE that it's time again to start thinking of the 2007 Guides Training Seminar, but indeed it is! Speaker invitations, outfitter logistics, and NPS discussions—the wheels are grinding away! So mark your calendars and count on attending either the land and/or the river session! Relevant information is as follows:

GTS LAND SESSION: March 31–April 1, 2007

Hatch River Expeditions, Marble Canyon, AZ

GTS RIVER SESSION: April 2–April 8, 2007

(upper half—Lees Ferry to Phantom Ranch)

GTS RIVER SESSION: April 8–April 16, 2007

(lower half—Phantom Ranch to Diamond Creek)

As you know, the land session is open to the public at a mere pittance—\$35 dollars payable to GCRG (or \$30 if paid by March 1) for this fabulously informative and fun weekend. If you're sponsored by an outfitter, they'll pick up the tab. Bring a camp chair, a mug, dress warmly and in layers, and plan on staying for the weekend. Let's boost the number of working guides this year to its highest level ever!

The river session will be a more intimate affair this year, courtesy of the Colorado River Management Plan, reducing our maximum trip size from 32 down to 24 people (including speakers). So if you're interested, talk to your outfitter now and tell them why you really need to go! I'll be asking them to prioritize their sign ups because of the size restrictions, and we will accommodate people the best we can. Cost is \$180 for the upper half, and \$230 for the lower half, which of course, will be covered by your outfitter if you're sponsored.

The prerequisites for the river trip are: You must be a working guide or trainee in Grand Canyon to be eligible (with work for the 2007 season). You can be sponsored by an outfitter, or you can apply as a freelance guide and pay for yourself. Preference will be given to sponsored guides as this trip is supported logistically and financially by the Grand Canyon River outfitters and the Grand Canyon Conservation Fund.

Freelance requirements are: 1) must have all your medical requirements and other guide certifications fulfilled as specified by GCNP, or 2) you must be a licensed guide on another river, actively working towards becoming a guide in Grand Canyon. Send us a check (which we will hold until we determine if you can go) and send us a letter or resume with your background telling us who you are and why you should go. This will help with our selection process. Again, trip size is reduced, but we do not wish to discourage you, only to apprise you of that reality.

Fantastic interpretive training opportunities in the cultural, natural and human history of Grand Canyon, with relevant resource management issues—we have it all at the GTS! So mark those calendars, and plan on it! More info will be available in the next issue of the BQR, GTS postcards will be mailed out to guides after the first of the year, and we'll post the agenda on our website once it's finalized. But you can express your interest anytime!

Lynn Hamilton

NOTE: The Grand Canyon Association will again be providing outstanding (and really quite unbelievable) discounts on the newest and hottest Grand Canyon books at the 2007 GTS. This is one of the best opportunities you'll have to add to your river library in the most cost efficient way possible. Our GTS partner understands, as GCRG does, the importance of guide education! This is a fabulous opportunity, so come armed with your check-book!

Tell Us Your Lies

IF YOU'RE A RIVER GUIDE, you tell stories. You tell them about history and geology and your favorite plants. You talk about dumb things you did, or dumb things your friends did, and how lucky everyone was that it all worked out. Or about the smart things somebody did when luck said things shouldn't work out well.

We want to hear what you've got. Life is built of stories. Life in the Grand Canyon produces great stories. The guide community is your community and the BQR is a voice for you. Make it sound the way you want it to: send in a letter, an essay, a rant, poetry, artwork or photographs. Whatever it is that makes you who you are is what makes us who we are. Please email your stories to us at gcrg@infomag.net.

Back of the Boat— The Whale Foundation News Bulletin

NEW 2007 WHALE FOUNDATION CALENDAR

OUR 2007 CALENDARS are currently available! Help support the Whale Foundation's outreach programs and order this great, new, 14-month calendar *now*. This year's edition is filled with beautiful, color images by many veteran guides and friends. They make great gifts, will help you remain organized, and/or can take you down memory lane.

In Flagstaff you can purchase a calendar for \$10 if you stop by the office (515 W Birch) or at Mountain Sports (24 N. San Francisco Street). Otherwise, download an order form from our website (www.whalefoundation.org), include an additional \$3 for shipping/handling, and return the form with your check to PO Box 855, Flagstaff, AZ 86002. We will speed your order along. For foreign addresses please add \$5.

This is a great way to celebrate—and support—the guiding community at the same time.



WINGDING V

Mark your calendars now! The fifth annual WingDing will be held on Saturday, February 3, 2007 from 6–11pm at the Coconino Center for the Arts, 2300 N. Fort Valley Road, Flagstaff (behind Sechrist School and adjacent to the Art Barn.)

This Grand Canyon River family rendezvous and fundraiser is a great gathering and whale-sized undertaking for about 350. We'll have dinner and music, a raffle and live and silent auctions with lots of beautiful art, books, services, and getaways from the river community. We are looking for volunteers to help with food, beverages, registration, auctions, set up and clean up. If you'd like to help with the planning and execution of this fabulous feast, you are most welcome. Just give us a call at 928-774-9440.

GTS HEALTH FAIR

We want to remind everyone of the Whale Foundation's upcoming Health Fair at the spring GTS on Saturday, March 31st. Our health care professionals will provide free screenings including skin cancer, blood pressure, diabetes, cholesterol, plus oral examinations and more. We will also have informative pamphlets available. We encourage those uninsured—or under insured—members of the river community to take advantage of this *free*, \$750 value.

WHALE FOUNDATION BOARD OF DIRECTORS

In 2006 the Whale Foundation welcomed three new Board members: Kim Fawcett, Mark Pebler and Wyatt Woodard. We thank these individuals—as well as the many others—for donating their considerable time and talents in support of our river family. If you are interested in volunteering for the Board or in other capacities, please give us a call at 928-774-4288. We look forward to hearing from you!

The Whale Foundation
PO Box 855
Flagstaff, AZ 86002
Toll Free Help Line 1-866-773-0773
Business: 928-774-9440
Web: www.whalefoundation.org
Email: whale@whalefoundation.org

The Grand Age of Rocks Part 3— Geologic Dating Techniques

THIS ARTICLE, which describes the techniques that geologists use to date rocks, is the third of a series of three articles about the age of Grand Canyon rocks. The first article was published in *BQR* 19:1 and presented the age of the rocks exposed in Grand Canyon. The second article, published in *BQR* 19:2, provided a framework for the geologic history of the rocks exposed in Grand Canyon.

For the general public, one of the greatest mysteries of geology is how geologists determine the age of rocks. *How could anyone possibly be able to pinpoint when something happened millions, or even billions, of years in the past?* The work of a geologist is much like the work of a detective. It combines detailed observations, reconstructions of sequences of events, and analytic (or forensic) methods and techniques. This article explains how geologists reconstruct sequences of geologic events (relative dating) and use analytical techniques (absolute age determinations) to determine the age of rocks.

DATING ROCKS

Like detectives, geologists must determine sequences of events, and when events happened in absolute terms. To do this, geologists have two main tools: *relative dating techniques* and *absolute age determinations*. Relative dating determines the *order* in which a sequence of past geologic events occurred, but not when the events happened. Absolute age determinations identify *when*, in years, specific events happened. Both techniques are important in different geologic situations. Both techniques were used together to develop the geologic time scale and to discern the ages of rocks exposed in Grand Canyon.

RELATIVE DATING

In flat-lying sedimentary rocks, relative dating can be easy. It is simply the *Principle of Superposition* (or the “rule of pancakes”): the rocks at the bottom are oldest, and the rocks on top are the youngest. Even when rocks are folded, faulted, overturned, or intruded by igneous rocks, it is still possible to reconstruct the relative age of the rocks. Geologists use the Principle of Superposition and the *Principle of Original Horizontality* (sedimentary rocks are always deposited flat, i.e., horizontally) to reconstruct

more complex sequences of events. *Cross cutting relationships* also define relative ages because what does the cutting (whether it is a fault or a dike) must be younger than what is cut. You can’t cut into a stack of pancakes

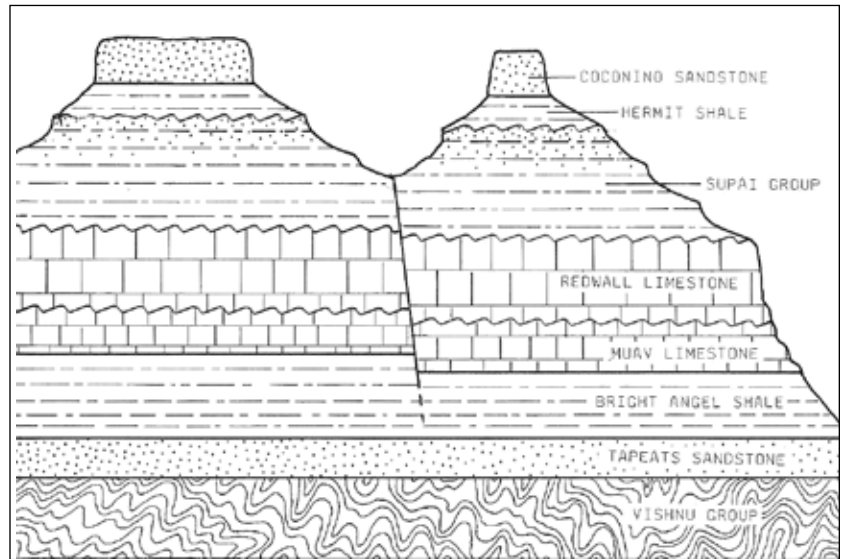


Figure 1: A geologic cross-section of the eastern Grand Canyon (near Phantom Ranch) shows the familiar sequence of rocks, oldest on the bottom, youngest on the top (“superposition”). A younger fault cuts through the layers (“cross-cutting relationship”). In this case, the fault formed as the weak Bright Angel Shale was squeezed out from under the overlying layers. Gravity faults like this one weaken the saddles between Canyon temples, helping erosion to further isolate them.

until they’re stacked up! See Figure 1 for an illustration of some relative age relationships at Grand Canyon.

Correlation determines if rocks are the same age, and is a key tool that geologists use to identify the relative ages of rocks where a rock layer is not continuously exposed, especially relating rocks from one region to another. Rock type (or lithology) is usually not a good basis for correlation. Some rock types look much the same regardless of their age (the 275 million year old Coconino Sandstone in Grand Canyon looks similar to the 160 million year old Navajo Sandstone in southern Utah). Lithology is also a poor basis for correlation because different rock types can be deposited at the same time in adjacent areas under different environments. Grand Canyon has many examples of sandstone that formed on a beach while limestone was forming at the same time off shore.

Geologists usually correlate sedimentary rocks based on fossils, particularly on the presence of index fossils. William “Strata” Smith first recognized in the early 1800s that fossils change systematically in subsequent rock layers. Smith used this observation to correlate

rock units throughout England and make the world's first geologic map. Again, the principle is simple: for example, all rocks with trilobite fossils in them are Paleozoic in age, whereas rocks containing dinosaur fossils are Mesozoic. No rock layers contain both trilobites and dinosaurs (or dinosaurs and humans), so these distinctions can be very clear. Even the names of the eras in the Geologic Time Scale reflect the relative ages of fossil assemblages: Paleozoic means "ancient life," Mesozoic means "middle life," and Cenozoic means "new life." Further subdivisions of the time scale, such as Periods and Epochs are also based on changes within fossil assemblages with time (for example, dinosaurs are in rocks of the Mesozoic Era, Tyrannosaurus rex is only found in the Cretaceous Period of the Mesozoic).

Most index fossils are microscopic organisms that lived in widespread environments for a brief time. A good collection of index fossils in a rock layer allows a very precise assignment of relative age. An "index fossil" in the realm of clothing fashion could be polyester leisure suits—they were widespread, and thankfully, only around for a brief time. Someone looking at a photograph with men dressed in leisure suits could correlate that photo to others of the same period in which men are wearing leisure suits. But to know that these photos

were taken in the 1970s requires another type of dating, an "absolute age determination."

ABSOLUTE AGE DETERMINATIONS

By the time John Wesley Powell first explored the Grand Canyon, geologists were certain that the Earth was old, at least on the order of 100s of millions of years. But it wasn't until the 1950s that absolute dating techniques were reliable and widely in use, and geologists were finally able to determine the absolute age of individual rock units and the age of the Earth. Most absolute ages in geology are obtained through radiometric dating techniques. The constant rate of radioactive decay of radioisotopes (such as uranium isotopes, potassium-40 and others) provides the clock required to calculate the time when a rock formed. This time of formation, whether it is crystallization of an igneous rock, alteration of a metamorphic rock, or in rare circumstances, growth of a mineral in sedimentary environment, starts the clock. The steady rate of radioactive decay constitutes the clock "ticks." Although radioactive decay is not a linear process like sand in an hourglass, an hourglass provides a good analogy. Turning the hourglass over starts the clock, and the rate of sand falling through the hourglass provides the "ticks." The ratio of sand remaining in the top portion to the sand at

the bottom allows us to calculate the amount of time since the clock started. The same type of measurement—comparing the amount of the parent radioisotope and the amount of the daughter isotope, and using with the known rate of radioactive decay for each radioisotope—allows geologists to calculate when a rock formed.

In detail, the application of radiometric dating techniques is complicated. Most importantly, as in any scientific analysis, the right technique must be applied to the right rock. And not every radiometric dating technique will work on every rock.

Potassium-argon dating provides a relatively simple example

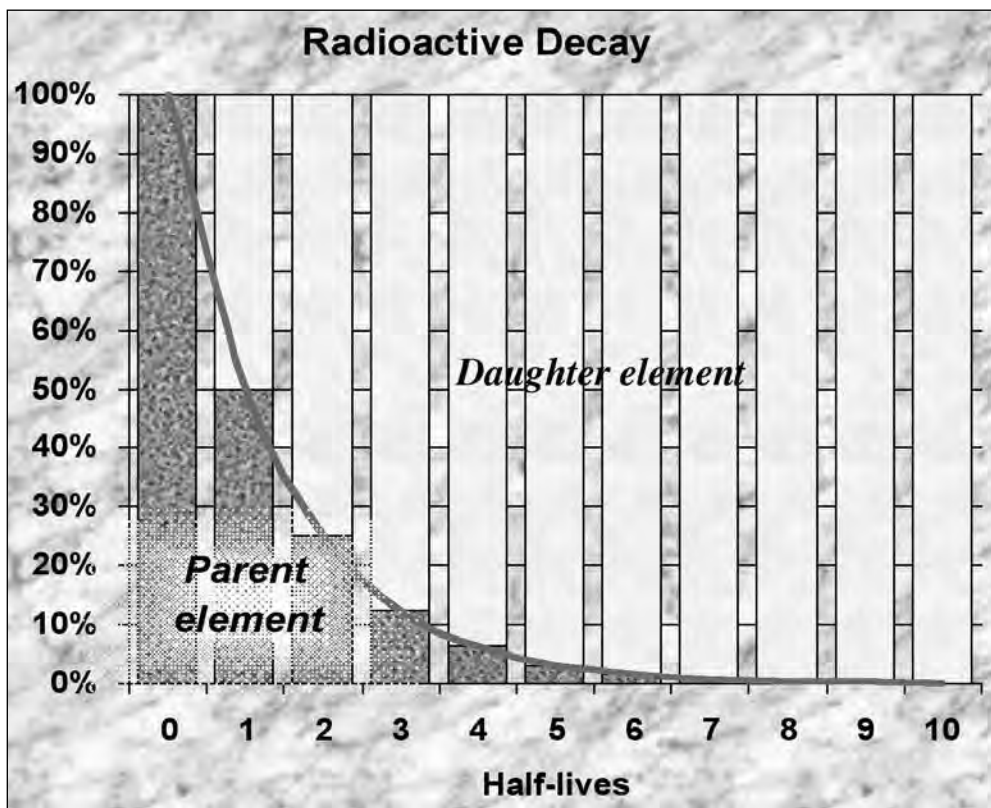


Figure 2: A simple diagram shows how radioactive decay exponentially changes a radioactive "parent" into a stable "daughter." The amount of parent and daughter shows how many half-lives have passed. The length of the parent's half life then allows calculation of the length of time that decay has been going on—hence, the age of the rock.

of a radiometric dating technique. This technique is useful for dating many volcanic rocks. One isotope of potassium, potassium-40, decays to argon-40, with a half life of 1.25 billion years (This means that in 1.25 billion years, half the potassium-40 will have decayed to argon-40; in another 1.25 billion years, half the remainder will decay, and so on, see Figure 2). Before a volcanic rock crystallizes, argon-40 just bubbles out of the lava. Solidification starts the clock, because the crystal structure traps any argon-40 produced by radioactive decay. Dating the time of crystallization requires analysis for the amounts of potassium and argon-40 in the rock, and calculation of the age using the known half life of potassium-40. Potassium-argon dating will not work on sedimentary or metamorphic rocks, or on intrusive igneous rocks, and is even problematic to use

on young volcanic rocks (because of the long half life of potassium-40), or on rocks with little potassium. But it remains a very commonly used technique on many volcanic rocks, providing many accurate absolute age determinations at Grand Canyon and elsewhere.

Many rocks in Grand Canyon have been radiometrically dated directly, using a variety of techniques (potassium-argon, uranium-lead, and others) including the igneous and metamorphic rocks of the Vishnu basement rocks and in the Grand Canyon Supergroup. But most rocks exposed in Grand Canyon can not be directly dated because they are sedimentary rocks. So how can we say that the Kaibab Formation is 270 million years old? To do this, we must use the *Geologic Time Scale*, which combines relative and absolute dating, and worldwide correlation of

Eon	Era	Period	Epoch	Age (millions of years)
Phanerozoic	Cenozoic	Neogene	Holocene	0.0115
			Pleistocene	1.806
			Pliocene	5.332
		Paleogene	Miocene	23.03
			Oligocene	33.9 ± 0.1
			Eocene	55.8 ± 0.2
			Paleocene	65.5 ± 0.3
	Mesozoic	Cretaceous	145.5 ± 4.0	
		Jurassic	199.6 ± 0.6	
		Triassic	251.0 ± 0.4	
	Paleozoic	Permian	299.0 ± 0.8	
		Carboniferous	Pennsylvanian	318.1 ± 1.3
			Mississippian	359.2 ± 2.5
		Devonian	416.0 ± 2.8	
		Silurian	443.7 ± 1.5	
		Ordovician	488.3 ± 1.7	
		Cambrian	542.0 ± 1.0	
Precambrian	Proterozoic	Neoproterozoic	1,000.	
		Mesoproterozoic	1,600.	
		Paleoproterozoic	2,500.	
	Archaen	Neoarchaen	2,800.	
		Mesoarchaen	3,200.	
		Paleoarchaen	3,600.	
		Eoarchaen	Undefined	
Formation of the Earth		4,540. ± <1%		

Sources: International Commission on Stratigraphy, 2004, *International Stratigraphic Chart*, <http://www.stratigraphy.org/GTS04.pdf>
 Dalrymple, G. Brent, 1991, *The Age of the Earth*: Stanford, Calif., Stanford University Press, 474 p.

Table 1: The Geologic Time Scale

rock units. We can then link rock units exposed in Grand Canyon to this time scale using their index fossils and other tools.

THE GEOLOGIC TIME SCALE

The development of the Geologic Time Scale (Table 1) has been a cumulative undertaking by geologists, beginning in Europe, over the last 200 plus years. Early geologists determined the relative age of rocks based on fossil correlation, and began developing a worldwide generalized rock column. They named subdivisions of this generalized rock column after areas with prominent rock outcrops from that time interval. For example, Permian rocks were first described in the Perm area of Russia, Pennsylvanian for the excellent coal-bearing outcrops in Pennsylvania, or Devonian for Devon in England's west country.

Geologists began trying to calibrate this relative time scale with absolute age determinations as early as the 1930s, when radiometric dating techniques were first developed. Most fossil-bearing sedimentary rocks cannot be radiometrically dated, but their age can be constrained by dating igneous rocks and using relative dating techniques. Dating volcanic ash beds and lava flows interlayered with the sedimentary rocks, and intrusive igneous rocks such as dikes and sills that cross cut the sedimentary rocks allow this numeric calibration. For example, sedimentary rock lying between two lava flows that were dated at 10 million years and 12 million years, must have been deposited between 10 and 12 million years ago. The Geologic Time Scale continues to be refined with more precise absolute age determinations, and with better worldwide correlation of rock units and fossil assemblages.

Geologic time scales can be confusing. Although geologists all use the same basic divisions of geologic time (like eras and periods), there are many local scales used around the world for finer subdivisions. These different scales work well to describe regional geologic histories, but they are difficult to correlate on a world-wide basis. The International Stratigraphic Chart (www.stratigraphy.org/chus.pdf) is a chronostratigraphic (time-rock) chart that emerged from the worldwide generalized rock column. It uses actual rock bodies as a reference section for all rocks formed during that time unit. The International Stratigraphic Chart is the basis for the Geologic Time Scale 2004 (International Commission on Stratigraphy, 2004), which is the most accurate and up-to-date time scale available.

GEOLOGIC DATING AND GRAND CANYON

Geologists have used these techniques at Grand Canyon to determine the age of its rocks. But science is always a work in progress, and so a wide variety of numeric ages for Grand Canyon rocks exist in both the technical and popular literature. When your objective is just to learn how long ago these rocks formed, it is confusing to sort

through subdivisions of geologic periods, the scientific names of microscopic index fossils, and the nuances of radiometric dating techniques, plus find the most up-to-date information.

In previous articles, we presented what we believe to be the best numeric ages of Grand Canyon rocks given current knowledge of Grand Canyon geology and the Geologic Time Scale. Our primary goal was to produce one set of numeric ages, a "party line" if you will, that everyone can use in interpretive situations, be they river trips, ranger talks, or publications. Armed with consistent ages and some background on where the dates came from, we hope it makes sharing the Canyon's geologic story a little easier, especially when that question comes up, "How do you know?"

Of course, some numeric ages will be revised as knowledge of Grand Canyon improves, new or improved absolute dating techniques are developed, and/or the geologic time scale is modified. Although these ages were "set by stones," it is important to remember that, like all scientific findings, they are not "set in stone." We know enough now that most changes will only be on the order of a few million years, a very short period geologically. Grand Canyon will remain a great window into the deep history of our planet, and geologists will continue to use their investigative tools to further understand the geologic stories told by these rocks. For geologists, the "case" is never closed.

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ACKNOWLEDGMENTS: Mike Timmons, Ron Blakey, and Karl Karlstrom provided valuable insight into the ages of rocks exposed in Grand Canyon and assisted us with our compilation of best numeric ages.

Second Grand Canyon History Symposium, January 25–28, 2007

THE GRAND CANYON Historical Society is pleased to announce the 2ND Grand Canyon History Symposium, a gathering of professional and avocational historians and others who will speak about historical topics specific to Grand Canyon National Park. The goals of the Symposium are to build on the highly successful 2002 event orchestrated by Dr. Michael F. Anderson, and to introduce scholars, authors, National Park Service employees, and interested members of the public to the Grand Canyon's rich history.

The 38 scheduled presentations will again include those of many GCRG members, and represent excellent research in a wide range of topics, including: the legacy of John Wesley Powell; Grand Canyon as a national park; Colorado River Runners and Controversies; Environmental and Scientific History; the North Rim Country; the Personal Canyon; Early

Grand Canyon Days; and Grand Canyon Adventures. Presentations will be at the Shrine of the Ages, South Rim of Grand Canyon National Park on Friday and Saturday, January 26–27, 2007. The fee is a nominal \$60.00, non-refundable, and pre-registration is required.

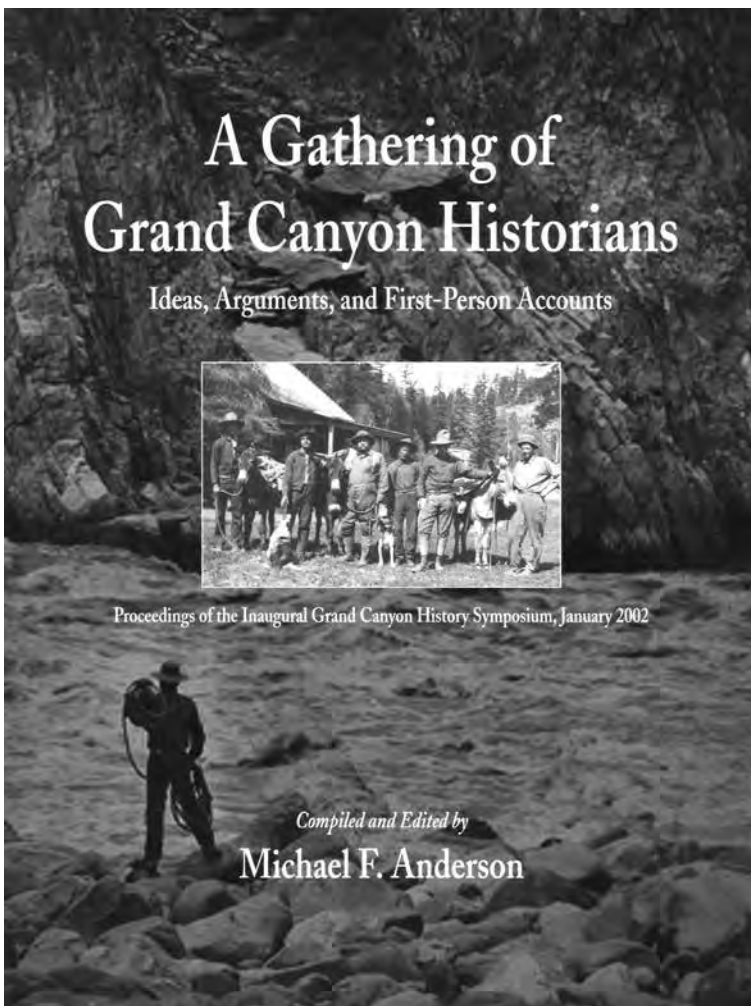
Special presentations also will be by Scott Thybony, Michael Kabotie, Steve Verkamp and his Canyon friends, and Arizona State Historian Marshall Trimble during the Symposium-sponsored meals at the Canyon Café at Yavapai Lodge. Each of these is an additional fee and pre-registration is required.

Personalized tours of the Kolb Studio, GCRP Museum Collection, the Historic Boats and Project, and a Walking Tour of the Historic Village will also be available. Tours will be on Thursday afternoon and Sunday morning. There is no fee for the tours but reservations are required and can be made during

check-in at the Shrine of the Ages. Also featured at the same time will be multiple showings of two movies at the Shrine of the Ages (no fee or registration required): *In Search of Grand Canyon's Past* by the National Geographic Society, including the archaeological excavations of Symposium presenter and archaeologist Douglas Schwartz; and *Ambrose Means and the 1917 Cougar Hunt* narrated by Linda Thompson, Means' granddaughter.

A complete list of presenters and speakers, including a summary of their presentations, along with the schedule of all activities, arrangements, and registration are available at www.grandcanyonhistory.org/symposium.html.

Richard Quartaroli





Nels Niemi

BORN AND REARED IN OREGON, back in the forties and fifties. Small town, Eugene, Oregon—not anything like it used to be. Everybody went fishing, and one of the things you need to go fishing, or catching, is a boat. We used fishing dories. They called them McKenzie river boats. Everybody had one—almost everybody. Plywood boat. This is 1940s, plywood was cheap, you could slam together a boat in your back yard—somebody’s easy design—in a couple of weekends, put it on a trailer, go up and float down, fishing.

Well, the deal about fishing is, one guy in the boat can fish, but somebody’s gotta run those sticks. So, my uncle had a fishing dory. He said, “We’re going to go fishing.” He didn’t tell me that I was going to run the boat and he was going to do the fishing. And so... I learned about rowing. White water was just something between pools where you can catch the fish. You don’t catch any fish in white water, but I didn’t think much about it, that’s what you did. So that’s how I got sort of press-ganged into boating.

I went to Oregon State University. Because I knew a little bit about pulling on oars, I wound up going out for the freshman lightweight crew. I was a nebbish, I was a nerd in high school because I went for the big science, get all that technology—Sputnik, you know, we’re going to be conquering those guys. So when I got there, I said, “Well, shit, I like to row,” so I went out for lightweight crew. I weighed a ripping 143 pounds! I learned to pull on an oar, number two, and rowed my ass off. I got an “A” in P.E. I’d never got anything but “C’s” my whole life, and I got “A’s” in P.E. because I went out there every day for about two hours, beat my brains out. It was great. I learned how to really pull on an oar. Of course Puyallup River doesn’t have any rapids. But after a while you get good at that...I still am a big believer in what I call “rowing geometry”—how you pull on those sticks, what the hell you do. Even when you’re running a rapid with a motor, that river’s running, you need to know what you’re doing. That’s how I got started!

And then, oh, a couple of degrees and some time later, in 1965, after I got out of graduate school, after the Service, I moved to Denver and ran into some crazies from the University of Colorado Medical School at Denver. A guy named Hank Tole was a lawyer, a guy named George Ogura was a medical school instructor, and a bunch of the students there started going boating with ratty old ten-mans, piece of shit old 33’s, and somehow I got rooked into this—not because I knew how to row a boat, because I knew how to pack and cook food! These were the days where it’s so tough they didn’t take women. In the good old days we could get away with that lie. Or, “You can come, honey, but you

have to do the food.” These days they punch your lights out! They say “Whap, that’s you buddy. That’s that! We’re taking over!” Well, in those days, nobody knew how to do food. I’d been on a couple of long climbing trips, so I kind of knew what the scheme was to put food in plastic bags: oatmeal, rice, tomatoes, whatever—all of the stuff that you take. And how to get...day-by-day, get it in some kind of a scheme that you’d have something down the river besides, “Oh God, wet, cold spaghetti again!?” That’s not very difficult if you’ve ever done it. But this was when boating was pretty much adventure—you didn’t really know what you were going to do down there. It wasn’t really expeditionary in terms of having to carry it on your back, because you had this boat. But people want to eat. And if you lose your coffee in the drink when you flip a boat or cut a floor out, you’re in trouble. I mean, that’s almost the end of the trip. You didn’t really care how you made the coffee, but you were pretty particular about wanting to bring the stuff.

So that was 1965, ’66, ’67, and there was a Colorado Whitewater Association...this may sound kind of “out there,” but if you saw somebody out there whitewater boating, you knew who they were. The same thing with cross-country skiing: if you saw somebody out there on skinny wooden pipes, pushing along, skinny snow-shoes—you knew who they were, or they were from Ft. Collins or somewhere else, and you knew their friends. It wasn’t a big deal. And there was a wonderful good old boy’s organization called the Powell Society. You ever run into those guys? Oh, God! A bunch of brandy-drinking lawyers and guys who were interested in the whole river “thing.”

STEIGER: That’s what they are now, or...

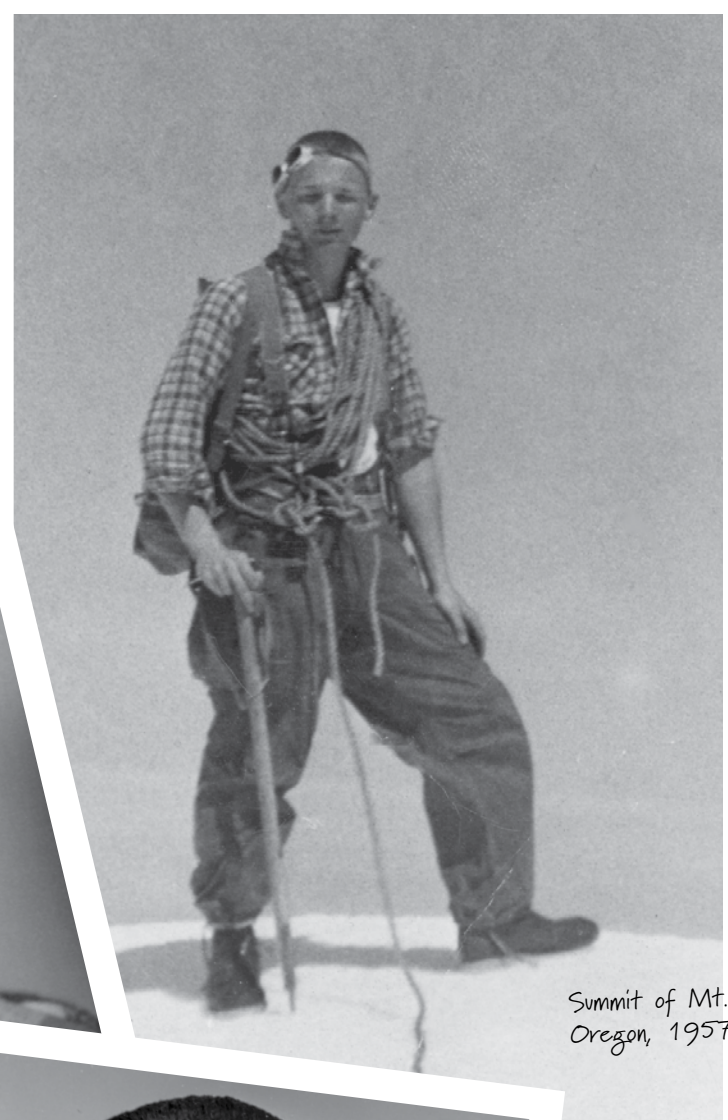
NIEMI: They were. This was in the sixties. I don’t know if they still meet, but a bunch of good old boys would get together and they’d go down boating. This was before there was a commercial opportunity. You’ve got to remember, in those days, the only commercial business was up there in Vernal, maybe a little bit. There wasn’t really, in the sixties, much going on down here. If you wanted to go boating, you had to develop it yourself. So these guys got together and they had...They even put out a couple of guide books which are kind of good for historical stuff, but they weren’t really anything that you...not near as good as Larry Stevens’ guide. But it’s historical. They did one on the Yampa, and I think they did one down here, even, or maybe in Cat. These people are still out there. You can still go out and scratch the dirt and find these people. Denver Historical Library did some stuff on them.

Then in about 1967 or so there was a movement of these—we called them “hippies” in those days, counter-

A few snapshots
from the Life
of Nels



1951.



Summit of Mt. Hood,
Oregon, 1957.



US Air Force, 1961.

culture folks wound up in places like Steamboat Springs, and they started wanting to go down the river. They would buy some ratty old surplus gear, and this was after it was twenty-five dollars a boat. This is when the prices started going up. It wasn't just an old piece of junk you bought for "I don't know what I'll do with this, put it in the landfill." But you'd buy a boat and you'd slap some two-by-fours together and put some pipes out there and strap some belting rubber with some hose clamps and some oars, and go out and go rowing. It was not technique, it was not skill—it was just survival. Probably not very many people reading this thing are going to know what a ten-man is...An old ten-man: Well, it's fifteen-foot-nine by seven-and-a-half. Neoprene raft, eighteen-inch tubes with a stupid little splash rail around the outside that never held air. That was the idea: that if you pumped that little thing up, the splash wouldn't get in. Well, a tube that big around, around the outside of a lightweight fabric boat?! Forget it! These were assault rafts originally made to paddle ashore on the beaches in the Pacific Islands. At one time they were twenty-five dollars apiece. They were, of course, cotton neoprene, which ten years later, you could go "psrhr" just like that—no problem at all there...But that was the start of it. The ten-man—paddle that thing—so damn wet and uncomfortable, the women didn't want to go, basically. I don't blame them—it was wet and uncomfortable. You were bailing your boat all the time. They were black, hotter than hell in the summer. You just fried your goddamn feet off just walking around them. Hateful wooden frames that were about six feet wide across the boat, but four feet long, along the boat. The reason is, they had to fit in the back of your pickup or your Volkswagen bus. See, by 1967, the Volkswagen bus was four feet wide across the back, and you could slide that thing in there. Or the standard cowboy pickup, you could slide that damn thing in there. And so the frames were made four feet wide by whatever length you need. They were hateful, but they worked. And the development of all that came with the development of boating. I didn't really get in on the bottom scale of it, I just liked to go boating. There's a difference in boating industrially, and boating because you like to hang out out there in the outback. Red rocks and blue sky is a pretty nice place. It's a lot better than the Pacific Northwest where I grew up. The Pacific Northwest has got rain and cold. When the fish are biting, I can guarantee you it's going to be raining.

* * *

Nels Niemi— you see this guy on the river and 500 yards away you can tell he's a character. It's not the rig he's running at the time, though some of those have been pretty memorable, or the little details like the beer keg out cooling

in the water at Lees Ferry that he's trying to enlist everybody around to help him drain now so he can leave it here and not have to carry the damn thing down the river with him. It is, rather, the glint in his eye, the tilt of his head, the motion of his hands as he makes whatever point he's driving toward at the moment...it's the passionate diatribe that never really ends, just pauses for a breath every now and again; it's the noble visage, the countenance, the chiseled features that are straight out of some classic novel—Joseph Conrad's "Heart of Darkness," maybe, or anything at all by Dostoevsky or Tolstoy, perhaps, or Stevenson's "Treasure Island," or one of those Spanish guys, Marquez or Llosa...the weathered lines of experience, the obviously full life lived outdoors, the fierce intelligence, the steely blue eyes, the fire in the belly... the hint of madness, yes, but in a good way.

He's boated privately, commercially, and scientifically in just about every kind of boat imaginable, and is still going strong, having circled back around to mostly private trips where the river jones is concerned. For the 50 percent financial life he talks about later in here he's now flying his little plane around spotting brine shrimp in the Great Salt Lake, among other things. He's been spending a lot of time out on the ice in Greenland and up in the Arctic lately, advising some crazy Danes and Norwegians on their tourist endeavors.

This interview was recorded March 26, 1994, at Marble Canyon Lodge, during the GCRG GTS that year. It was a short one only because there was a lot going on that day—people to see, stuff to do, etc.—and in no way should it ever take the place of a personal encounter with him if you ever get the chance for a real visit. Another way to get to know Nels a little, and to appreciate him, is to go back through the "Downstream News" in the ammo cans at Little C and lower Lava and check out some of his writings in those places.

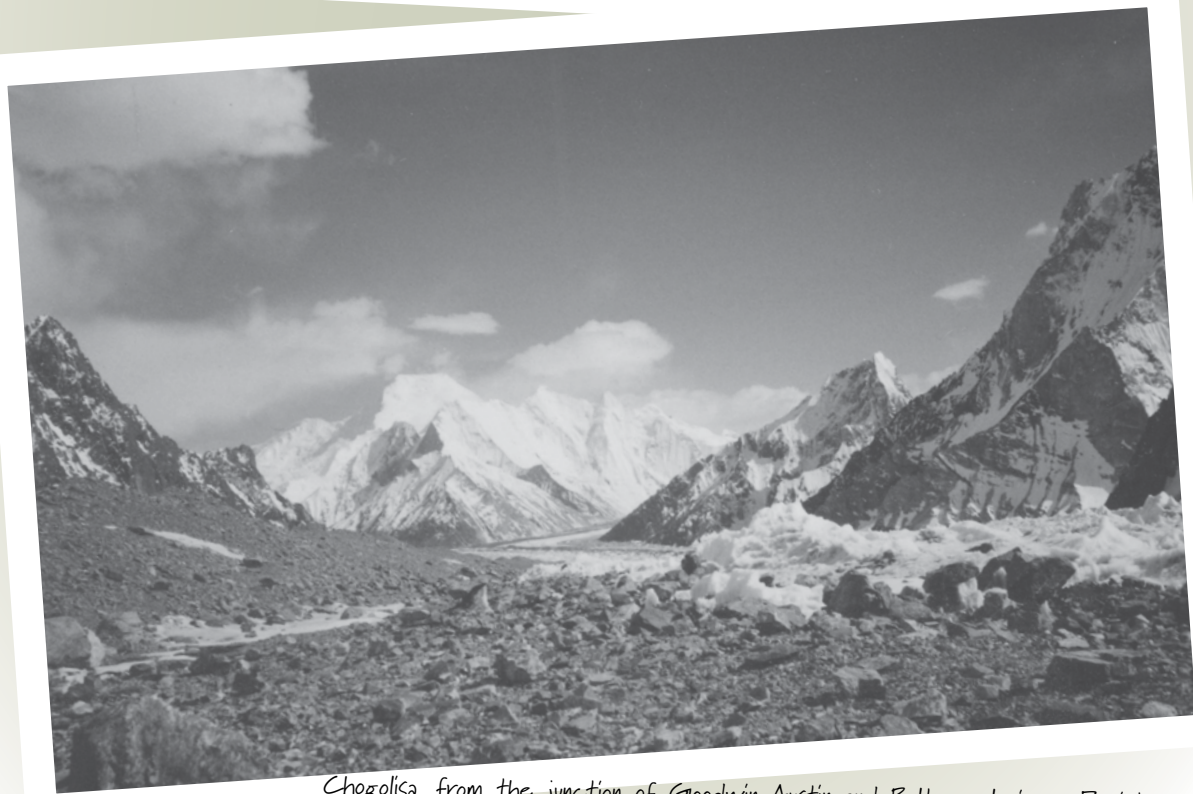
When I called to hit him up for pictures for this he said, "Well you've got to do a double: 'Nelbert and Larbert!'" referring to his son, Lars, another prominent member of our little community. I said, "Yeah, good idea but no way, 'cause this one's already overdue." Nels said "Yeah, Well...I always told that kid he had a great future in the river business if he wanted...he could work anywhere. All he had to do was change his last name." —Lew Steiger

* * *

Yeah, first trip I did in Grand Canyon was 1967 with that derelict crew. Somewhere I have an old, old sixteen millimeter movie of the thing—it's all cracked and beat up. You look at that and go, [(whispering) a few swear words here]. We were pilgrims! And then, from that, of course, came the development of better techniques of rowing. I was the best oarsman on that trip, because I knew how to pull on a set of oars—not because I knew my ass from apple butter about whitewater.



Camp III, Broad Peak, Pakistan, 1992.



Chogolisa, from the junction of Goodwin-Austin and Baltoro glaciers, Pakistan.

STEIGER: Do you remember what the water was like?

NIEMI: It was clear. About 15,000 [cfs] highs, and lows were 7,000–8,000. But we had horrible fluctuations up and down. The one thing I do remember as very important was, there was sand everywhere, dunes everywhere. The whole banks where we now see nothing but rocks, there was sand on them. It hadn't blown in the river from the high water, and it still hadn't, you know, completely deteriorated to the status quo condition. There was sand everywhere—sand dunes, sand beaches, everywhere.

STEIGER: Dick McCallum says that too.

NIEMI: Yeah, it just amazed you. When you look at those old movies and, “Oh yeah!” We camp there now, and there's just rocks up along the shore. So what you see now isn't the natural condition. We know this, we've been trying to figure out what to do about it. We can't do anything about it, but it did look a lot nicer. That's because the river would flood, and it would also carry out all your garbage.

Oh, garbage is a great story! In the good old days, we were real environmentally conscious: we'd take our tuna fish cans, we'd scratch them with an “x” on the bottom so they'd rust faster, and wing 'em in the drink. But there were 600, 800, 1,000 people a year going down the river and nobody cared much about it. The river corridor was not any different than any other place you'd been camping, because there were fires on the beaches. You just built a fire on the beach. Look at the old Belknap Guide if you want to see some of that. We have changed a lot. And that's the one thing that's really different in twenty-five years of boating out there: there are some way big differences. First off, we're real keen on protecting this place—real, real, real keen. I don't know anyplace I've ever been that's cleaner than the Grand Canyon.

STEIGER: How was it in 1967?

NIEMI: It seemed to be clean, but you weren't really aware of the fact that there were charcoal rings on the beach—because that didn't bother you, because, you know, it can't, if you're just down here the first time. The first time you go someplace like that, you don't have any aspect or any focus on, “Well, yeah, this is cleaner than...” because you're just going through there as a first trip, exploration. You're like, “My God!” You get a private trip going down here today, they don't know much about it, other than the fact it looks clean. And if they're used to seeing state park campgrounds or some normal Lake Powell beach that has fire rings and a little bit of trash around it, well, that's the way it's “supposed” to look. You come down here, and most everybody says the same thing, “This place is amazingly clean!” because even a bread tie gets picked up in the Grand Canyon. That's really important. I think that's a good ethic. Somebody will pick up a little bitty thing off

a bread wrapper or a match that somebody left behind from a stove, that got dropped in the sand. That makes sense to me. That's the way it's supposed to be. But that's because we have an ethic that we've developed from being guides and wanting to like the place. It is a pretty neat place.

Anyway after I went from those days, we'd come down every couple of years and assemble the gang and go boating. And it was a big deal to get a trip together to go down the Grand Canyon. It was like, “God, we're gonna die!” (lowers voice, to mock confidentiality) They gave us these notes about escape routes from Grand Canyon. We had to have maps of how to get out of Grand Canyon, and ropes and canteens for that were on the checkout list from Lees Ferry. The first Lees Ferry ranger I met—E. Palmer MacDougal, wherever you are, buddy, you were... There was a lot more going on here than he knew about. But he was a great guy, E. Palmer MacDougal. He showed up here, and he didn't know any more about it than we did, and we kind of scratched our heads and said, “Well, we ought to have some of this, some of that.” Of course we had four doctors, a couple of nurses, some real hard-nosed climbers. We weren't just pilgrims—we didn't just show up off the turnip truck. We may not know how to row a boat, but we knew how to take care of ourselves... We can just go do this! People get through here all the time. Those days were a lot of fun. The trip was about twelve to fourteen days, and it was hot and the wind blew. Everything else goes on, that went on—that hasn't changed a bit.

STEIGER: Well, the very first trip, does that really stick in your mind?

NIEMI: Oh yeah! Hell, I can tell you we left on June the 6, 1967, the same day that the Arab-Israeli War started. We didn't even know. We heard rumors of something going on in the Middle East. We didn't know until it was over, that it was over. We left the same day that Shorty Burton left.

STEIGER: On the trip that he got drowned on?

NIEMI: Yup.

STEIGER: Do you remember him?

NIEMI: Oh sure! I remember the rig! Whoa! There's been a lot of developmental change in commercial boating since then. It was a 33-foot pontoon with a motor off the back. I still to this day remember him turning out of Lees Ferry and going under the cable.

STEIGER: Had you guys conversed?

NIEMI: Oh, sure, we talked to him.

STEIGER: What did he look like?

NIEMI: Short little guy—looked like he was a cowboy. I think he even wore pointy-toed shoes. But that's how you started. If you were a friend of the Hatch brothers up there in Vernal, that's the kind of person you were. Vernal was not a very complicated cosmopolitan place: if you wanted a river guide, you either got some young-



Skiing in East Greenland.



Half way down the Paris Glacier, East Greenland..

ster out of high school, or one of your “good ole’ boy” farm hands to come down here and do it. Not a really...I mean, we’re not dealing with nuclear science here, we’re not shooting rockets to the moon or doing anything like that. We’re just going down there, trying to get our job done, save our butt. In those days, it was like, “Yeah!” Whatever worked. It was strictly a pragmatic school of boating. If chains and plywood and two-by-sixes worked, you bolted it together, put it on there, and went to it. Little by little, of course, different outfits showed up with some ideas like “we can do this better.” Look at George’s original photos. “Whoa! There they go! I hope they make it!” And of course you see pictures of people going over the ledge in Lava in one of those good old boats, but you don’t see the mayhem later and hear about how many broken arms there were—but hey, they had a good time.

STEIGER: On that first trip, were you pretty petrified then?

NIEMI: Ahhh, I wasn’t so petrified, because I’d done a lot of whitewater. I’d seen rapids. But we were like, “Well, yeah, we might not make it.” We had two out of twelve or fourteen that had been down before a couple years earlier, in 1965. We had no idea...We knew what was around the corner, but we didn’t know its name. “There’s a rapid down here?” “Yeah, there’s a Hance Rapid down here somewhere.” Great! We came up to President Harding Rapid, and every single boat ran up on the rock, because people didn’t know about doing a downstream ferry. You’re rowing, you’re rowing, you’re rowing, you’re rowing, you’re rowing, you’re rowing, and all you’re doing is getting closer to the rock, you know. We didn’t really know about a Powell ferry, turning the boat sideways, cutting diagonal to the current, making some kind of a ferry across the existing relative current and popping into an eddy. I was the only one—I came last, I looked at that, and I turned sideways and I pulled my guts out and I swished right through there. Right? And like, “Well, yeah!” It seemed to me pretty dumb to row upstream! Even today, when you get excited, what do you do? You row upstream. It’s not really a very effective way of boating, compared to the power of the river, right? But we’ve learned that. After a while...Well, kayakers might backpaddle, but if they want to go somewhere, they turn the whole boat and they go over there. Rafters, unless your boat weighs 3,000 pounds and is a twenty-footer, good luck! Start early, and row hard.

Wooden horse, hateful frames, food packed in just whatever you thought would work: we used biscuit tins, five gallon square tins with a paint lid in it, called a “biscuit tin,” an old British item. That worked pretty good. Of course they leak after a while. Black bags—like, sure, we didn’t know much about those—but we kind of got them and stuffed some stuff in there. Most of the boating was done in the summer, because it was warm,

and you didn’t have to worry about cold weather gear and stuff like that.

STEIGER: So how’d you end up moving from that end to...

NIEMI: Well, let’s see, how does that go? My favorite line is—it’s just like a few things: First you do it for fun, then you do it for friends, then you do it for money! In those days, the first couple of trips I did, in 1967, 1968, 1969, I met Ron Smith and his wife Sheila. We’re trying to put our trip together at the ramp and this big, curious, kind of tall, “aw-shucks” Gary Cooper kind of guy shows up with a commercial trip. We talked to him a little bit and he said, “Yeah, you should be careful down there.” “Why should I be careful?” “Make the cut in Hance.” “Okay, fellows, remember Hance. You might want to make a cut.” “Oh, good.” Of course we didn’t, and we dumped boats in there. We at least knew where we were when we got there. “Yeah, it’s a big place, it spreads out at the head of a gorge.” “Good.” “Be careful in Horn.” “Hm, okay.” We dumped a boat in Horn, you know. “Watch out for Lava.” “Oh.” “And there’s something new called ‘Crystal’ down there. You might want to have a look.” Nobody else knew anything about it either. That was the first year it existed. “Yeah, we’ll figure it out when we get there.”

* * *

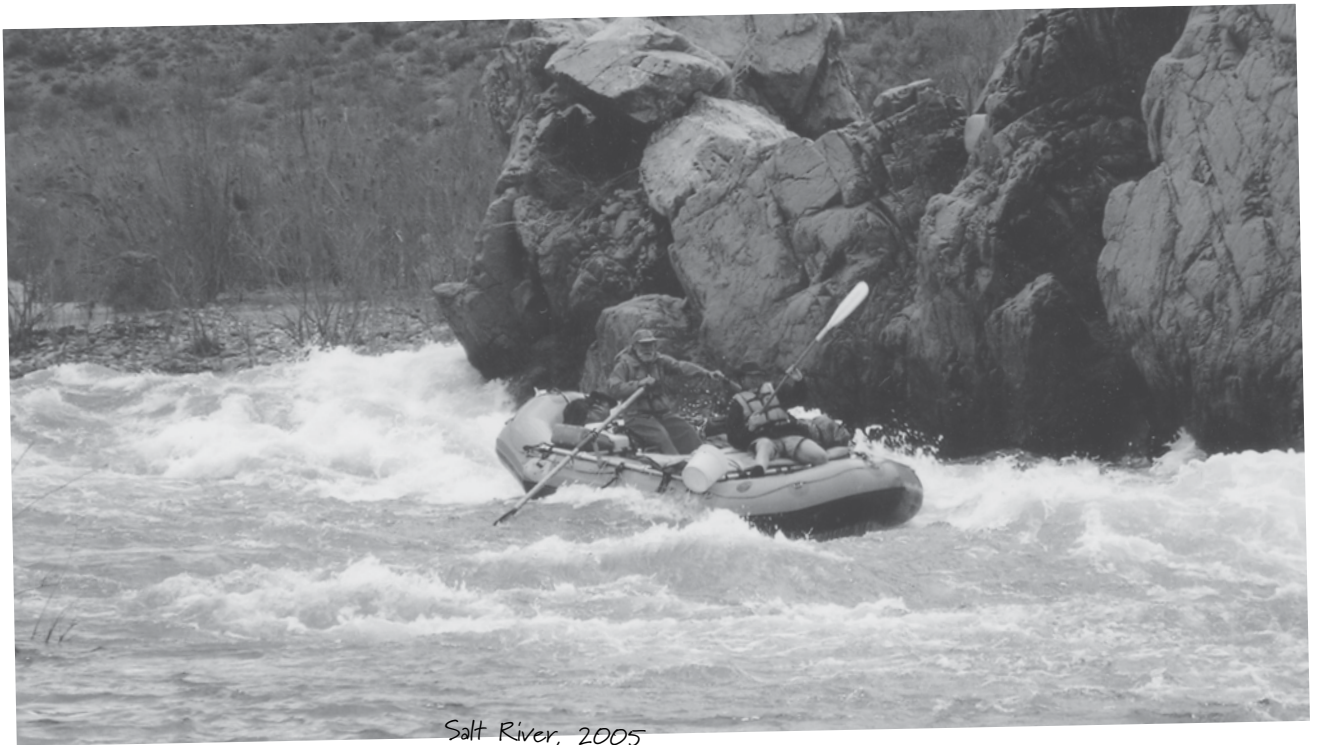
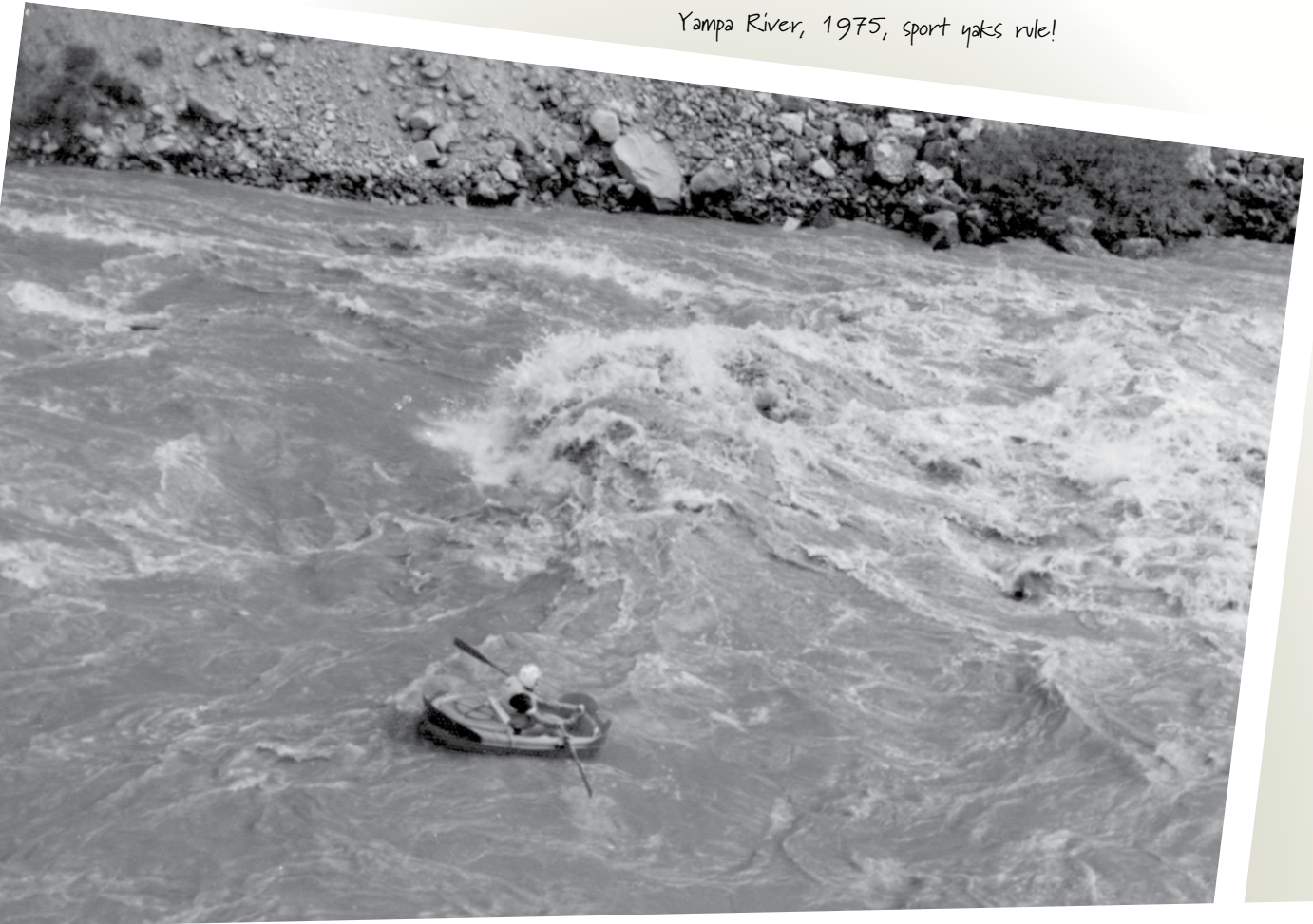
STEIGER: What were you going to be “when you grew up”?

NIEMI: Oh, hell, I’d already been to graduate school, been to Air Force pilot training and served in the Service, and had a bunch of degrees. I was trying to keep the balance at 50/50: 50 percent of your energy is enjoying life, and 50 percent is making the money that supports the other 50 percent. None of this 90 percent money and 10 percent enjoyment business! None of that! I firmly said 50/50. Screw it! I’d worked as an accountant in Denver for a big accounting company, which taught me how to figure stuff out, after I got out of graduate school. Never got to be a CPA or anything, but I’m a numbers guy.

STEIGER: What did you take your degree in?

NIEMI: I have an aeronautical engineering degree, a public affairs economics degree, and an MBA—you know, when I was trying to get that educational track...I was in the generation where you beat your head up against the wall (hits one fist into the other palm for emphasis) and you got the degree, or you didn’t get the degree. None of this twelve-year program. My daughter graduated last year at age twenty-seven. It took her ten. Dad was (breathing heavy in exasperation) “Maybe one of these days she’ll get that little piece of paper that says, ‘hey, I’m smart.’” And she did! She was summa cum laude!) Nonetheless, what you do is, you get this adven-

Yampa River, 1975, sport yaks rule!



Salt River, 2005.

ture thing going. And after a while you say, “Well, I can make enough money to keep the Volkswagen bus running.” And whatever else you do. But if you like to go rock climbing, that wasn’t too expensive, and I did. And ski mountaineering, you could just go beat your ass and freeze it off, right? And boating? Hell, that was warm weather and nice water and you had something to carry your stuff with. And there was a lot more down there, and there’s a lot of rivers to run. In those days Westwater was kind of an unknown. Now, hell, 20,000 people a year boat Westwater—some enormous number of people: a little bitty short canyon up there that’s real convenient, because it’s a day trip.

So the development has gone from “Well, we’ll go out there and see what’s there,” to...well, you’ve got guide books, you’ve got videos, you’ve got training schools, you’ve got new equipment, you can call up an outfitter, give him your credit card number, and he’ll ship you a whole rig! You put it together and go down the river! Ask Ranger Blu [Picard] down here—he sees some of these people show up every week or so. “Yeah, here you are.” So the change here was from “I hope this works—we’ll go try it, see if we can make it ourselves... get enough to eat, enough to drink, and get down the river, and get done,” rather than “Well, it’s all figured out for us, we’ll just look it up in the guide book and it says ‘camp here.’” No. It was like...Even today, the beginners don’t even remember where in the hell they’ve been, except the rock. “What color was the rock?” “Let me see, it was kind of flat.” “Okay.” or “It was kind of tilted.” “Okay.” or “It’s black.” Well, good, that’s a start. And after a while, you get a little better at it. “Okay, well, we camp here.”

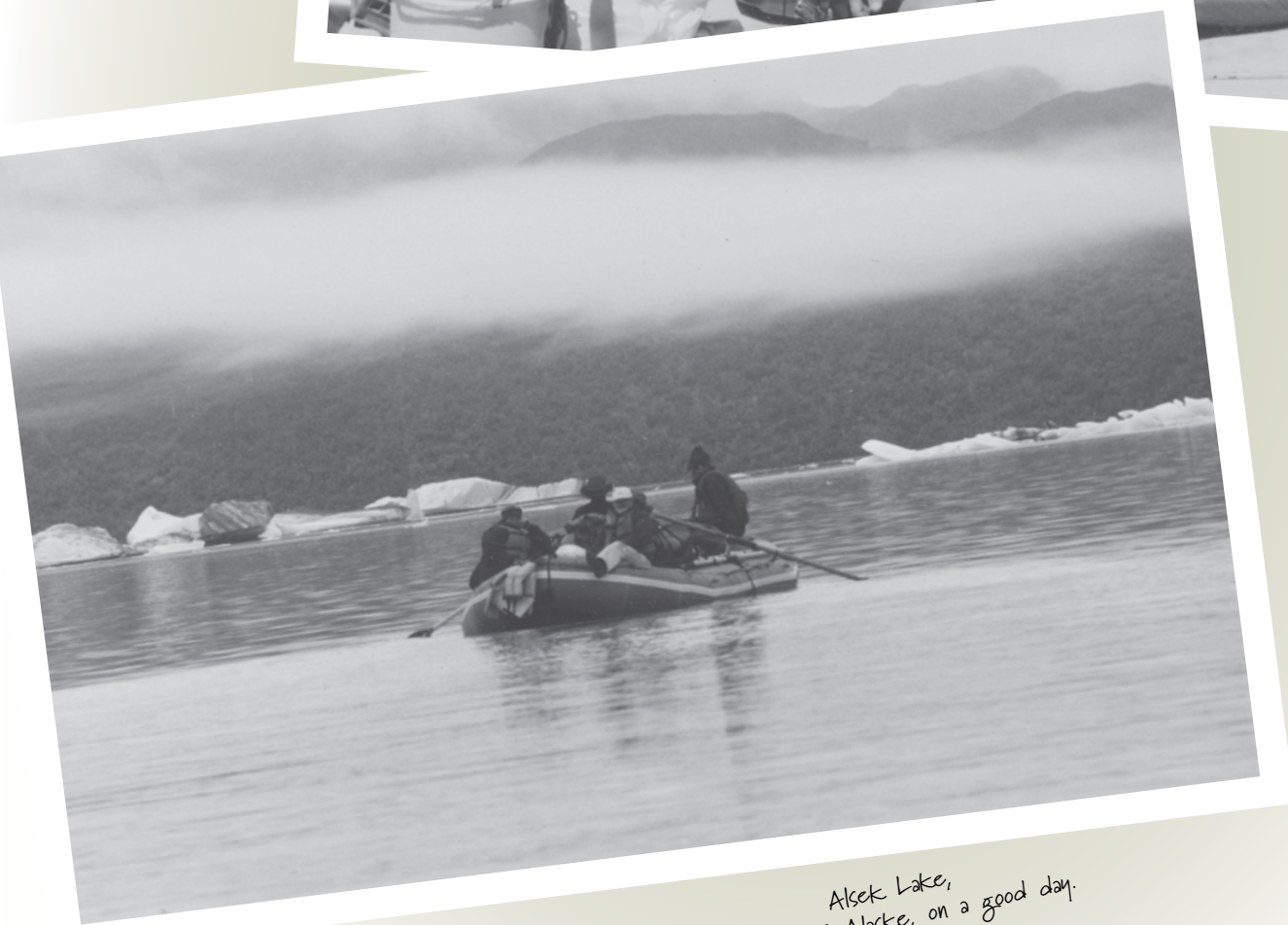
But the thing that impresses me more than anything else is the change from now...It’s a hell of a lot more industrial: you’ve got guide books, you’ve got half-a-dozen you can buy. You’ve got checklists. The Park Service sends you a nice one—big regulations, how to do this, da—da—da—da—da, sanitation, “for your benefit, the environmental health, for the river’s benefit,” courtesy and standards—it’s all available. In those days it was like, “Good luck, Pilgrim! See ya. You pass beneath that cable, your ass is grass, buddy. Hope you make it to Lake Mead.” You know? Like “Yeah, hope you do!” And most people did, somehow. We do rise up to meet these occasions. But how you got there and what you did was your own hook. And, you know, you figured it out. People do! Now, the guide community has gone from...(whew) all kinds of derelicts showed up. (And you’re going to get them on tape.) You know, there’s a bunch of them still kicking around Flagstaff: the good old Hatch boys. I still run into one once in a while. They’re great. You know, “God dang, you guys!” That was the wild and wooly days! You stirred the potato salad with your arm if you had to! Right? You didn’t have a spoon, you stirred

it with your arm. Or, “Toilet?! Here’s your roll of toilet paper and here’s the shovel. See ya!” “Environmental health?!” Yeah, we’ll try to get something to eat down there. And then little by little the community changes to people saying, “Well, I go on this...I’m a lawyer, doctor, merchant, chief, and I go on a vacation to a resort and they provide me with ice for my gin and tonic and they provide me with kind of...more service!” And little by little, the guide community started picking up on that. Tony Sparks was one of the first people who said, “Hey, let the boatman, who’s going to have to serve these people, go buy the food.” So he’ll go buy olives for their gin and tonic, or they’re going to have a little hors d’oeuvre here, something besides cheese and crackers—Triscuits and some Velveeta, right? Let them get this together. As I understand it, salad was a pretty big deal when it first happened in Grand Canyon. I remember on that first trip of ours—Harris-Brennan... old man Harris showed up and he was having a lunch at Redwall Cavern: we’re eating Triscuits and kind of doing a little thing here. He had a table, with a table cloth, and sliced tomatoes and lettuce on it, for lunch! We hadn’t thought about that. Of course we didn’t have coolers other than some little yahoo thing about that big. Cooler?! We didn’t have no coolers! We had Spam and potatoes. We knew about rice and beans and that stuff, because I’d done a bunch of climbing trips. You’d cook rice and cook beans. Anybody can do that! This development of a guide service where you went in and said, “What do these people need? What do they want?” Well, they need to get down the river without breaking themselves in half, and they need to have a good time. The Grand Canyon will take care of that, and maybe the equipment will take care of not whanging them up around too many square corners and sharp objects, and we’ll teach them how to hang on. But their needs and their wants need to be...Sometimes people, what they really need, is just to check out from their external reality in Chicago, Atlanta, Boston, big city.

* * *

NIEMI: You know, this oral history project reminds me of this little story: I’m one of the few people who can commit suicide by shooting myself in the foot with my mouth! It’s a pretty good skill. So I keep saying, well, when you’re cooking on the river, I tell the folks—so does Bego, and a bunch of us—“Hey, you get what the cook likes!” And that’s what oral history is all about too. If somebody comes along later and says, “Hey, that wasn’t quite true!” or “He wasn’t there!” Hey! I’ve got CRS disease up here. I’m almost double nickel here [55 years old] and we’re talking about memories back in... Everybody remembers “Sergeant Peppers’ Lonely Hearts Club Band,” but does anybody remember it was released

Grand Canyon, 2004.



Atsek Lake,
SE Alaska, on a good day.

the week before I went on my first Grand Canyon river trip? I do! It kind of dates you.

The development of the business goes from... You can watch the numbers of people and how the wild and wooly explosion happened in the seventies—everybody was trying to get into the business, because they could make a buck and have fun. And then pretty soon the bucks got to be a lot more serious. I mean it's a lot of dough involved. You were happy to work for forty bucks a day—do a ten-day trip for 400 bucks. Like, "Oh, yeah! Boy, I was making good dough!" But that was when it was... They wanted a boatman who could walk, talk, and chew gum and run a cooking fire—pick up all the driftwood, burn it down and cook pancakes in the rain on a cooking fire. Which is a stupid skill, by the way, because propane is a hell of a lot more convenient and a lot more hygienic and a lot easier. But that was one of the deals—you smelled like the inside of a burned-out cedar post when you got off a trip if it was rainy and cold, because you had smoke everywhere. You're cooking on the fires, and that was what it was about. Now, a fire is for esthetics and warming—as it probably should be, because it's a hot, stinking desert down there. So those skills—that's what you had to do—sometimes, because your boss didn't think that hauling propane along was the appropriate thing to do, because this was the wilderness, or this was the "good old cowboy" school, Ken Sleight kind of school.

Now we're into some very sophisticated custom stoves, custom rigs, custom tables, custom frames, custom toilets. It's all custom!... Of course the downside to this whole thing is, you're not out there learning by making mistakes. The old adage in education is, "The student who learns can solve his own problems. Learning is achieved when you can solve your own problems." Remember in geometry class? "The proof of this corollary is left to the student as an exercise." "Oh, God! I'm going to fail! I don't understand what the hell the main problem is about." But if you can go out there and solve your own problems—and one of them is, you're going to eat something, you're going to drink something. Sometimes it's in a can, sometimes in a bottle, sometimes it's out of the river. You're going to provide for your own self. If that's all laid out for you, either in an outfitted trip—as I say, a "tour"—and you can count me in on this one—it's not "expeditions" down here any more, it's tours... well, you might not end up learning all that much. And also, well, yeah, but there's a whole lot of other people out there too. A lot more foreigners now are coming, who couldn't come before, mainly, because the dollar is up and down against the foreign currencies. And it's a world-class place. All kinds of people need to have a shot at going down it. That's why I'm a big proponent of, yeah, it works a lot of different ways. If you want to show up here with a bunch of yahoos,

twelve people and three paddle boats, and eat fig bars and oatmeal and Triscuits and beanie-wienies or whatever for dinner for ten days, paddling down to Diamond, hey, enjoy yourself! You're not going to have all the amenities, but it's still the same Grand Canyon, and I'm way in favor of anybody who wants to stick their neck out and can walk and chew gum, basically, in terms of boating, they should get a shot going down here.

Now, because of anxieties, there's a pretty big problem. Everybody says, "Well, I might get hurt." Yeah, you might. You might get hurt driving over the Kaibab. You might get hurt going across the Navajo Bridge over there. But if you want to go out there and experience something, what you wind up doing is, learning by doing. And at current, boating is not doing for the customers... If you want to go down the river, you've got two choices: You can go with a bona fide amateur noncommercial outfit, or you can go with a commercial outfit that will haul you down for the money. Now unfortunately, the problem here is, that the amount of skill, and the amount of technique you need to really enjoy yourself and not be higher on the anxiety scale of making this mistake and lacerating somebody's liver on a thole pin that you forgot to put a tennis ball on top of, when you do a wild shot at Horn—okay, this happens. The problem is, the world is not black and white. The world is not a straight, linear curve: it's a series of step functions. And one of them down here is, "Well, before you go out there and run, you need to learn to walk." Before you go fly an airplane you learn to land it. You need to know enough about walking, talking, chewing gum, taking care of yourself.

If you open this up to 50/50, you'll have every yahoo on the planet wanting to be down here, because it's (whispers in awe) Grand Canyon. Ask the backcountry river office how many yahoos hike off that rim every year... But there's one thing that we have developed down here in Grand Canyon: We've got a lot better public acceptance of the fact that the Grand Canyon is not just a joy ride. It is an entity, and on a scale of anything, Grand Canyon is a whole unit, and anything you do outside of it—water, power, pollution, whatever—overflights—it affects this "phenomenon," if you want to call it that. This is a unit. So if there are a lot of overflights, it affects everybody in Grand Canyon. Sure, those people want to see Grand Canyon too: they've got eight hours, they're going to be at South Rim, they're going to buy dinner, they're going to go home. I can't change the fact that people only allocate eight hours for one of the world's gems—Seven Wonders of the Natural World, Grand Canyon is one of them. So I'm for protecting it. I just want all the people who come down here to take care of the place! If you want to come down here and trash it, you can go get yourself some public river over in the Midwest that has a state park along it,



Firth River, Canadian Arctic, 2004.



At 66, naps are good! Grand Canyon 2006.

and go camp along the river.

In the year 2020 we'll probably be driving down here in airboats, big hovercraft—if you get one that's quiet—rather than driving big pontoon rigs. There'll be some way of still coming down Grand Canyon. Oh, but one of these days, we're going to get a stopper rapid in Grand Canyon—just stick around long enough. Up at the top there'll be some mud flow come out of one of these canyons. Weather is weird enough and random, and the Pascal's triangle, sooner or later, you're going to get all the triangles to build up, and there's going to be another Horn Creek. There's going to be a mud flow off one of these drainages one of these days. You can look up right now and see gravel that's 200 feet above the river that's not more than a few thousand years old. We might get a stopper down here. Portaging is hard work. I mean, I do it in Alaska every once in a while. Gee, that's a lot of work! But you can do it. You don't like it. You pick it all up, pack it up, and carry it.

I personally, you know, well, I guess I went up to Alaska because, well, maybe they don't have so many "stinking badges" up there. And when you do see somebody on a river trip, it's like, "Yeah!" The first thing you say is, "How is your trip?" "Great!" The next thing you say is, "Seen any griz?" You talk about something besides, (angrily) "Where are you going to camp!" None of this interaction like that. (laughs) Camp wherever you want! It's no problem. It's like, well, are you going to make it down the river? "Did you see that big glacier fall in the river?" That's one thing about Alaska: there's all kinds of boating up there. Of course it might rain, a grizzly bear might walk through camp. You have a pretty clean camp. It's not because you want to keep the place clean so much as you don't want to have the bear come through and rip through your tent. Not good! And that doesn't happen very often. We make a lot of stories about it, and all the magazines write history about it, but nah, it's not that big a problem.

The Grand Canyon, the reason I think that this place needs to stay where it is—everybody who comes and works down here accepts this ethic: it's like, keep this place clean, don't beat it up, and if you don't want to see so many people, come sometime it doesn't have so many people! That makes sense to me.

* * *

NIEMI: I think probably the best thing about being a commercial guide has been influencing other people's feelings and beliefs about the natural world—not whether they saw Grand Canyon, but whether there is a place that has such beauty. I mean, the beauty in Grand Canyon is supercalifragilisticexpialidocious. There's more beauty down here than probably any other single place you can go in one trip. And that includes Kara-

koram in the Himalayas, and a bunch of other places I've been. Basically, it's pretty stunning, and nobody is there to change the external place of it. There's not a village in every little water stop. There's not a little community around Shinumo that's farming up there in the flats. It's substantially without people there. That's one thing that's different in most of the American continent, that the places of real beauty are so inaccessible that people haven't run there. We've managed to say, "Okay, 277 miles from Lees Ferry to the Grand Wash Cliffs." So Grand Canyon itself is so valuable, and I don't know how the use is going to ever balance or anything like that. I don't care! In the year 2020, hell, when I'm eighty years old, I'm probably going to do a trip. I'll be like Georgie and Bert Loper and a bunch of those people. I'll be down there pounding my damned soap-box saying, "You jerks keep this place clean! Don't screw it up! Try to have a good time."

STEIGER: Now why would you keep coming, after you've done it so many times?

NIEMI: Oh, hell, you keep coming because it's just a little magnet down there that says, (whispers) "This is a pretty neat place. You can do what you pretty much want to do, as long as you keep track of the place." Nobody—the big over-umbrella of society and all its jam-up, is not in Grand Canyon. There's no parking meters, there's no little petty annoyances of life down there...I don't know what the numbers are—probably 95 percent of the people who go down Grand Canyon have one trip. I've got a few more than that. There are people that have 200–300, right? Ask Jimmy Hall why he has 250-some trips. "I want to make a few dollars, and it's kind of a nice place. I can make a five-figure income (laughs) if I work all season down here and play my cards right, and it's kind of a nice place."...Listen, the rest of the world gets by on about a three-figure income. Right? You go to Asia, you consider some of those people: they have a family and they have a life. Sure, they don't have a vcr and a lot of other stuff, but they get by in life with a lot less than we do. Now, just the basics in life are not very complicated. Oh sure, if you want to live overlooking the ocean, and have amenities—a flush toilet and something to eat and a shower are pretty good amenities— but if you want to have a few of the other amenities like a vehicle to run you around in to run errands and go shopping and stuff, and all those consequences, that's okay. But most of the rest of the world gets along without a vehicle. Did you know that? I know most of the rest of the world doesn't travel more than 100 miles from where they were born. Sure, modern industrial Western Europe and some of the metropolitan areas, but you get to the big numbers of people: yeah, life is pretty much where they are. And so I've got a little piss-water airplane. I travel, I rub two nickels together, I'm somewhat right ahead of the wind-

shield wipers on my ratty old van right now. But that's because of the choices I make. If you want to make closer to a six-figure income, you'll trade some of those things. And the place you live in may be a little nicer, a little cleaner, a little less dumpy than a trailer in Moab, and a building up in Haines, Alaska, but it's okay. It's your choice. You get to make the choices! If you want to make a six-figure income, fine—but you got to pay a few dues. Now some people want to go make the big income and then relax. Nah, screw it! Go out there and have some adventure! Keep your health—very important—and your sanity. Don't make mistakes, and don't get busted up.

* * *

I think, personally—we look at certain people and say, “You know, I could have been that vice president in charge of personnel for that Fortune 500 company.” Dammit all, you could have been that. Right? If you wanted to go into personnel management, you could have been whatever you wanted to be with a little brains, a little bit more go-get-'em and a lot more blockheadedness than most people have. Right? That's one of the reasons most of us succeed down here—we put up with all the obstacles to stick it out, to stay down here working: the low income—in terms of relativity you know, da—da—da. I've had passengers say, “You're not living up to your

potential.” (outraged) “Excuse me! This is a pretty good potential down here. I think I'll live up to it!” But the reason most of us stay around here and keep beating our head up against it is that there's a phenomenon down here. There's that little magnet. And normally we work through the commercial sector. I encourage everybody, “Go boat with a bunch of your friends. Try anarchy. Get a boat, go boating, eat peanut butter and jelly. You'll see the Grand Canyon, have a wonderful time, eat PBJ sandwiches, drink some coffee, maybe a hard-boiled egg for breakfast...If you want to go hiking, fine. But remove the reality of other people in this wonderful place. At that point, your personal agenda, personal reality fits here real well, and all of a sudden you're going, “Dang, I really like this place! You know, I never saw that gravel up there 200 feet on that wall before. That's pretty nice. I'll have to ask old ‘What's-his-face’ why that's there.” And he'll say, “Oh, didn't you know about that?! That's such-and-such,” and “You never saw that before?” “Oh, I don't know, I've been going down there and got dozens and dozens of trips, but I was always trying to worry whether all those people in the front of my boat were going to fall off or not.” So there's a personal thing about being a guide down here where you need, also, to be a guide for yourself when going down the river. Hey, it's only a river, after all. It's pretty straightforward.

After running rivers
I tried to play tennis.
No racket grips
Are the diameter of
An oar handle, not of an
Outboard's throttle.
I gave up that game
And found others.

Al Holland

OLD BOATMEN

Old Boatmen, like old cowboys
Don't know what to do with
Themselves. They move around
Cities like feral cats. When they
Drive alongside rivers they curse
The unrunnable rapids and they
Are disappointed with the flat water.

They curse the ex-wives they
Left for the rivers. They curse
The rivers for stealing them away
From their families. They grow
Restless when they don't see a
River for a week and taxicabs
Give them claustrophobia and
Threaten them more than the
Memory of Crystal Rapid in the
Grand Canyon. Canyon sunsets
Appear when they are jaywalking
Over to the espresso for coffee.

They say the names of rapids
Over and over, afraid the oncom-
ing dementia will make them
Forget. They realize their hands
Are cupped around imaginary oars
While watching Willie Nelson
Sing "whiskey river." on CMT.

Or their right hand is reaching to
Give the old Mercury more cob.
"I reached to give her more cob
And their weren't none," Smuss
Allen would say when telling that
Story. And "old fiddles play the
Sweetest music," telling that story.

He was getting older when I knew
Him on the river. Then I quit seeing
Him and I did not want to know
What happened to him or where he
Went. I saw some of the others who
Came back. Jimmie Jordon. Dock
Marston. Mack Miller. Bill Belknap.
They had been giants on the river.

Maybe Shorty Burton did it right.
Check out early in a respectable
Rapid before the pathos of old age
Competes for your soul. Wins your
Soul. Wins your mind and body.

Old boatmen know their life was
Better than most but that brings
Little comfort. He knows he is a
Driven man and always was. It
Haunts him, even when the river
Flows gently by, teasing that inner
Child that still nestles snugly there
In the restless and troubled mind.

That inner child who stood laughing
While watching the eighteen waterfalls
Coming off the rims after a flash flood
At Saddle Canyon. That inner child
Whose heart raced with excitement and
Fear the first time he beheld Crystal rapid.

That inner child who still lives in the old
Boatmen who have outlived their lives.
All the old boatmen I have known. And
All the old boatmen and cowboys I have
Not known. Salud. I hope your journeys
Into oblivion were, and will be, as smooth
As a perfect run through Lava Falls. As
Joyous as riding point up the trail to Abilene.

Salud. To the ones I knew, it was an honor
And a privilege. It is a gift beyond my
Expectation. It is beyond my comprehension.

It is sublime.

Amil Quayle



Kate Thompson

Ballot Comments 2006

GOOD THINGS GCRG IS DOING:

BQR.
Everything except the item below (survey cans on the river).
Helping the NPS with river management (CRMP) implementation.
BQR.
BQR, voice for all guides, all that stuff.
BQR, email incident reports, email list.
Atta-boy!
Keep up the good work.
Newsletter publication.
Active with CRMP. Putting the canyon before commercial or private. Great **BQR,** **GTS** trips.
Lynn Hamilton!!!
BQR: Yes; **GTS:** Yes; Addressing issues: Overflights, **CRMP,** etc., Keeping Lynn!
GTS, BQR.
GTS, BQR, epi issue, Lynn Hamilton.
Everything. Keep it up!
BQR. Lynn always awesome.
Everything, especially Lynn. **BQR** is awesome always.
Unifying and providing a collective voice to the Grand Canyon and river community.
Integrity/commitment, information/balance, action/inspiration.
BQR, Circle of Friends, providing monetary support.
Oral histories.
BQR, keeping folks involved.
Great **BQR** and **GTS.**
Still one of the finest newsletters ever!
Comments to public input processes.
Staying on top of the issues.
So cool to connect with the oral history project.
Oral history projects and interviews, **BQR,** **GTS,** guide training trips, involvement with the **CRMP** process and all **NPS** issues.
Thank you for all your hard work!
BQR—love it! I especially love the geology articles.
Whale Foundation & Sandy Reiff. A+, A+!
GTS, both land and river, **BQR.**
Adopt-a-Beach! Epi pen legislation!
Taking peeps down the river.
Newsletter! Shirts! E-blasts! Building a sense of community, professionalism.
Everything else.
Keeping the guiding community's finger on Canyon issues—all encompassing!
Everything!
BQR.
Keeping us informed.
Communication. What the world needs now is love.

And you got it. Spread the joy.
BQR—fantastic as always.
Land session and river trips.
Lynn Hamilton! Oral Histories! **BQR!** **GTS!** Standing up for the resource!
BQR, **GTS.**
Everything!! **BQR,** education, **GTS.**
Keep up the great work!

Note: We feel warm and fuzzy all over! Thanks for your inspirational thoughts. They keep us going!

MISGUIDED THINGS GCRG IS DOING:

Ammo cans in the Canyon? I don't know; I need more info (this relates to Matt Hermann's statement on the mailing).
First I'd heard of the survey cans on the river. No, no, no. At the Ferry, or the helicopter pad, sure. Nowhere else.
The ammo boxes at major sites was incredibly offensive to me too (also somebody left equipment—game—at Zoroaster camp, which is not okay). There should be no signs of humans left in the canyon.
Not communicating with members about recent **CRMP** monitoring.
Ammo can surveys on the Rio. Breeds resentment among companies.
Read Herrman comments on boxes in the canyon—I agree so much I wrote him in as president.
Putting **GCRG** ammo cans in the canyon—are you nuts!
Leaving ammo cans everywhere? What is that all about? Can we have an explanation in the next **BQR?**
Making decisions that involve outfitters directly without getting input from outfitters first. Board makes too many important decisions without polling the membership.
Screw the surveys which have been going on for twenty years. Someone needs to be fired in the Park Service—twelve motor boats and two privates at Deer Creek shouldn't be happening for twenty years straight.
Misguided things lead to good things. You cannot please us all.
Seems like you're doing pretty good.
Zip
Hmmm. Hmmm.
Not fighting more to highlight how unconstitutional drug testing is. Sanitizing stories in **BQR** for oversensitive eyes.
Nothing.
Nothing.
Not scolding guides for bullying private parties over

campsite selections. Parking ammo can boxes in the Canyon.

Needs to be more vocal against the plug at Glen Canyon.

Informal “mailbox” surveys of use at attraction sites. No hard data will be realized from these attempts.

The resource is damaged. The river corridor is a mess from overuse, insane dam operations, tamarisk, piss, algae in the sand, motors on the river and in the skies. GCRG needs to draw the line in the sand—what’s left of it.

Just keep goin’ downstream, with the flow...

Ammo cans in the bottom of the Grand Canyon?

I agree with Matt H. No advertising in the Canyon. The end does not justify the means.

S’all good!

Putting survey ammo cans all over the canyon!

I didn’t care for GCRG ammo cans showing up on the river.

Not letting us know who Joy is (alludes to “Spread the joy” under “Good things GCRG is doing.”)

Hate the boxes at the major hiking sites. Stop it! Take them out.

Surveys inside the canyon.

Attraction site ammo cans.

I voted for Matt H. to get those ammo cans out of the Canyon.

Note: Point well taken on the ammo cans. By now, many of you will have read our explanatory note in the last bqr. For those who haven’t, here are a few salient facts:

What this pilot project was meant to be:

- An attempt to capture current baseline data (pre-CRMP) of the number and type of trips at four major attraction sites.
- A temporary pilot project that would “test the survey instrument” for a single season.
- A way to provide assistance to Grand Canyon National Park because their financial resources for monitoring activities are slim at best.
- A means by which to augment and hopefully ground-truth a modest GCNP data collection effort this summer (one week, one site).
- A citizen science effort with easy-to-fill-out datasheets.

What this pilot project was not:

- It was not permanent—the ammo cans will have been collected by the time you read this, the data is being entered into a database and will be provided to Grand Canyon National Park.
- It was not “everywhere”—just at four sites—Deer Creek, Havasu, Elves and the LCR.
- It was not advertising or propaganda of any kind. The datasheets were designed by GCRG with input from Grand Canyon National Park.

What we might expect in the future:

- Monitoring will be a big focus of Grand Canyon National Park in ensuing years.
- Grand Canyon River Guides will work with the Park, social scientists and other stakeholder groups (such as the commercial river outfitters and private boaters) to determine new ways to gather the needed data and make it as useful and as scientifically credible as possible.
- Less intrusive monitoring options.
- More communication from GCRG about possible monitoring plans.
- GCRG will stand firm as a proponent of education, communication, flexibility and river courtesy as the best mitigation measures to address crowding and congestion along the river corridor. We feel that restrictions, closures, campsite scheduling, additional regulations and enforcement will adversely affect the Grand Canyon river experience—a quality that should not be compromised.

THING GCRG SHOULD BE DOING:

Using the website to disseminate timely information.

Group health insurance policy

Developing a strategic plan?

Perhaps having elections not during the busy season. Some of us don’t get our mail on a regular basis and could miss the deadline.

Yearly outfitter survey ala 1998 (that one was good).

Audio library of GCRG interviews, please. (*Note: some of them can be found through nau Cline Library’s website, www.nau.edu/library/speccoll/. It’s a great resource—check it out!)* Theresa Yates photographs, bumper stickers? Y’all got it going on.

Stay true to the canyon.

Open GTS to privates (*Note: The GTS land session is open to the general public and always has been. The GTS river trip is specifically for training working guides in Grand Canyon, and it is sponsored by the commercial river outfitters both logistically and financially. Our new space restrictions, courtesy of the CRMP, will reduce our maximum GTS river trip participants from 32 down to 24 people, including speakers. So, even the outfitters will need to prioritize their guides as we’ll be working on a space available basis. Nevertheless, we urge you to attend the GTS land session. It is the most comprehensive interpretive training available.*)

Keep doing what we are doing well.

Find ways to connect with younger guides, to get them involved with the community and GCRG. Find ways to get more boatmen to entice their passengers into becoming general members. (*Note: Couldn’t agree more on both counts! We’ll work on that!*)

Workshops: motor repair, motor rig extrication, oar preparation (bring yours!), river literature/history? Sandal repair? Winter lecture series? Could bring in

more community awareness. Pimp BQR /membership in opening introduction.

Try to bring more unity and cooperation to the community at large—companies, privates, etc... *(Note: Great ideas, all!)*

Guidelines for negotiating: camps, stops, and passing boats (trips). More cooperation. *(Note: Have you seen Grand Canyon River Guides "Courtesy Flyer". It really covers these topics very well and is a great resource. It should be available through a number of venues, including Lees Ferry.)*

Notify us earlier regarding dates of GTS and Fall Meetings, allowing time to plan attendance.

Jointly publishing river etiquette guides with NPS, GCRGA, GCPBA, GCHBA, and GCRRA. *(Note: The River Courtesy Flyer mentioned above was put together by Grand Canyon River Guides in cooperation with the Grand Canyon Private Boaters Association. These cooperative endeavors go a long way to bring our diverse community together. When it's time to update the flyer again, we may reach out to additional groups to make it even more comprehensive. Thanks for the suggestion.)*

More anti-dam.

Keeping up with educational information and presenting it in relative ways to members.

Leading the effort to have "private" use of the Colorado River permanently banned in Grand Canyon.

Helping with guide benefits—group health care.

Some of us older GC boaters are hoping to see the river protected by designation as Wilderness someday and we wonder how many young GC guides and boatmen want the same thing.

Keep on keeping on!

Help foster in all guides, especially young/new ones, that we are there to guide and take care of customers!! If there were no tourists, we'd all be out of a job. Besides care of the canyon resources, which is very, very important, customer relations are key! Bad or superior attitudes can only come back to you in a bad way.

Don't cop an attitude!

GCRG is doing great!

Demand a living wage and healthcare for guides from outfitters. Start the "Old Boatman's Home" and the Department of Peace.

Pressure river companies for 401K's, insurance and higher wages

Unionize!

Working to designate the river corridor as wilderness.

Erecting a statue to Jeri Ledbetter—hi Jeri!

Study the prospectus and help get that American Indian perspective interpreted better. Reach out to the Hualapai. *(Note: We included Hualapai river guides on our GTS river trip this year to mutual benefit—their guides brought so much to the trip, and the trip was greatly enriched by their participation. It is impor-*

tant for us to foster those interactions and we will continue to do so.) I voted for Matt H. to get those ammo cans out of the Canyon. Get back up to speed, involved, and advocate for natural quiet (National Parks Overflights Act). *(Note: GCRG just jumped back in with two feet with our recent comments in April to the FAA regarding the development of an Environmental Impact Statement related to overflights at Grand Canyon National Park. Refer to Volume 19:2 of the Boatman's Quarterly Review for those comments. Hopefully our comments and those of other concerned Canyon advocates will make the EIS as relevant and comprehensive as possible, and we plan to be involved in this process going forward. You can be sure that we will provide updates on the process through the bqr, and through our guide and general member email lists. Thanks for asking!)*

Oral history *(Note: Absolutely! Our Colorado River Runners Oral History Project is ongoing, with almost 80 interviews to date. Quite an accomplishment! GCRG feels that it is our responsibility to capture and record our unique legacy, so we will continue to seek funds, conduct the interviews, publish them in the bqr, and utilize Cline Library at Northern Arizona University as our archival repository. If you want to help out, check out our new Adopt-a-Boatman program where members can sponsor an interview with a person of their choice. Refer to information in Volume 19:1 of the Boatman's Quarterly Review. We will also post more oral history and Adopt-a-Boatman information on our website very soon, www.gcr.org).*

Note: Thanks very much for the suggestions! Of course, we can't be all things to all people. We are a small non-profit that relies heavily on volunteerism to fuel our efforts, but certainly some of these suggestions are very worthwhile and achievable.

BETTER WAYS FOR YOU TO BE INVOLVED IN GCRG:

Seems just right now.

Funniest fart jokes.

Put me on the email list please *(Note: Quite a few guides asked to be added on to our email list. Just email us at gcr@infomagic.net and let us know!)*

I will write an additional check. *(Note: Sounds great!)*

Dude, I live in Germany!

Wish I knew! *(Note: See our suggestions below!)*

Get my ass back to the ditch.

Stop being a smart ass and come to board meetings. *(Note: We'd love to have you attend. Everyone, "even smart asses" are welcome!)*

Help with the Whale Foundation, I suppose.

More free beer.

Attend all training seminars, meetings—become activists.

Stop being lame and volunteer, serve on the board, attend fall meetings (*Note: Right on! Who are you?*) Making someone laugh reading this damn card. No really, thanks so much for being you. Tell those you love that you love them. Open the door for some damn fool. Remind myself that we can make a difference.

Union!

More parties and social events for background members too.

Write more poetry for the BQR and maybe an article on... "What Concession contract renewal means for the GCRG guide."

Note: For those of you who want to come to a board meeting once in a while, we would absolutely love to have you attend! Just call the GCRG office around the first of the

month, and we'll let you know the date. It does tend to float a bit. For those of you who can't come to board meetings, just write us an email, send in a "Dear Eddy," submit something to the BQR (articles, art, photography, poetry) so we can show off the creativity of our guide community. There are many, many ways to be involved, and all of them are helpful. Lastly, one of the best things you can do for GCRG is to promote us to other guides and to your passengers. Just have a BQR in your hand, and it will practically do the talking for you. Our membership is our most important asset, and your active support is our best tool!

Businesses Offering Support

Thanks to the businesses that like to show their support for gcrg by offering varying discounts to members.

Humphreys Summit—boating & skiing supplies 928/779-1308
The Summit—Boating equipment 928/774-0724
Mountain Sports—928/779-5156
Aspen Sports—Outdoor gear 928/779-1935
Teva—928/779-5938
Chaco Sandals—Pro deals 970/527-4990
Sunrise Leather—Birkenstock sandals 800/999-2575
River Rat Raft and Bike—Bikes and boats 916/966-6777
Professional River Outfitters—Equip. rentals 928/779-1512
Ceiba Adventures—Equipment and boat rentals 928/527-0171
Canyon R.E.O.—River equipment rental 928/774-3377
Winter Sun—Indian art & herbal medicine 928/774-2884
Mountain Angels Trading Co.—River jewelry 800/808-9787
Terri Merz, MFT—Counselling 702/892-0511
Dr. Jim Marzolf, DDS—Dentist 928/779-2393
Fran Sarena, NCMT—Body work 928/773-1072
Five Quail Books—Canyon and River books 928/776-9955
Canyon Books—Canyon and River books 928/779-0105
River Gardens Rare Books—First editions 435/648-2688
Patrick Conley—Realtor 928/779-4596
Design and Sales Publishing Company—520/774-2147
River Art & Mud Gallery—River folk art 435/648-2688
Fretwater Press—Holmstrom and Hyde books 928/774-8853
Marble Canyon Lodge—928/355-2225
Cliff Dwellers Lodge, AZ—928/355-2228
Laughing Bird Adventures—Sea kayak tours 503/621-1167
Rescue Specialists—Rescue & 1st Aid 509/548-7875
Wilderness Medical Associates—888/945-3633

Rubicon Adventures—Mobile CPR & 1st Aid 707/887-2452
Vertical Relief Climbing Center—928/556-9909
Randy Rohrig—Rocky Point Casitas rentals 928/522-9064
Dr. Mark Falcon—Chiropractor 928/779-2742
Willow Creek Books—Coffee & Outdoor gear 435/644-8884
KC Publications—Books on National Parks 800/626-9673
Roberta Motter, CPA—928/774-8078
Flagstaff Native Plant & Seed—928/773-9406
High Desert Boatworks—Dories & Repairs 970/882-3440
Hell's Backbone Grill—Restaurant & catering 435/335-7464
Boulder Mountain Lodge—800/556-3446
Marble Canyon Metal Works—928/355-2253
Tele Choice—Phone rates 877/548-3413
Kristen Tinning, NCMT—Rolling & massage 928/525-3958
Inner Gorge Trail Guides—Backpacking 877/787-4453
Sam Walton—Rare Earth Images, screen savers 928/214-0687
Plateau Restoration/Conservation Adventures—435/259-7733
EPF Classic & European Motorcycles—928/778-7910
Asolo Productions—Film and Video Productions 801/705-7033
Funhog Press—AZ Hiking Guides 928/779-9788
Man of Rubber, Inc.—800/437-9224
Capitol Hill Neighborhood Acupuncture—206/323-3277
CC Lockwood—Photography books 225/769-4766
Canyon Arts—Canyon art by David Haskell 928/567-9873
The Kirk House B&B—Friday Harbor, WA 800/639-2762
Sanderson Carpet Cleaning—Page, AZ 928/645-3239

Wilderness First Aid Courses 2007

Sponsored by Grand Canyon River Guides

Desert Medicine Institute (Dr. Tom Myers & Dr. Michelle Grua)

WILDERNESS FIRST RESPONDER—February 5–11, 2007 (seven-day course)

Prerequisite: None

Location: Arizona Raft Adventures, Flagstaff, AZ

Time: 8:00 AM – 6:00 PM

Lodging & Meals: On your own

Certification: 3-year WFR certification and 2-year CPR certification

Cost: \$435

WILDERNESS REVIEW (RECERT) COURSE—January 19–21, 2007 (two and a half days)

Prerequisite: DMI will accept anyone who has had and kept current a WFR certification (80-hour course) through Wilderness Medical Associates, WMI, SOLO, NOLS, DMM and other Wilderness medicine providers.

Location: Arizona Raft Adventures, Flagstaff, AZ

Time: 8:00 AM – 6:00 PM

Lodging & Meals: On your own

Certification: Renews your certification for three years plus 2-year CPR cert.

Cost: \$180

Class size is strictly limited for the GCRG/DMI Review & WFR classes. Send your \$50 non-refundable deposit with the application below to us at PO Box 1934, Flagstaff, AZ 86002 to hold a space. Checks can be made payable to GCRG. If you work for an outfitter who pays a hundred percent of course costs, just send in the registration form by itself and we'll take care of the rest. The courses are already filling, so act now! GCRG reserves the right to cancel any classes due to insufficient enrollment. Call the GCRG office at (928) 773-1075 with any questions.

FIRST AID COURSE REGISTRATION

Circle one: Review Course Wilderness First Responder

Name _____

Address _____

City _____ State _____ Zip _____

Phone (important!) _____ Email _____

Outfitter _____

Type of current 1st aid _____

Announcements

JOB

Hualapai River Running (HRR) wants to hire two dynamic crew supervisors to help improve the customer service aspect of HRR. Individuals will be responsible for training, mentoring and supervising HRR River Guides.

HRR is also looking to hire river guides with experience and excellent customer service skills.

HRR has an excellent maintenance department which keeps our equipment and vehicles in good working order. HRR offers competitive wages, paid sick leave, workers' compensation insurance, longevity pay, profit sharing and periodic raises based on evaluations.

Interested individuals may submit an application or fax a resume to Earlene Havatone at 928 769-2410. Applications are available in the GCRC Human Resource Department in Peach Springs. These positions will remain open until filled. All offers of employment are conditioned upon passing of a drug screen.

FOR SALE

22-foot Snout: Almost new reinforced aluminum diamond plate frame made by Waterman Welding, 54 cu. ft. hold, foam/fiberglass decks w/ padded pvc cover. 1 large dry storage box and 4 smaller side boxes. 50 gal. baffled fuel tank w/ spare motor mount. Transom

jack and additional twin motor transom. Two 15HP Honda motors (very low hours). Two sets of tubes plus miscellaneous parts, props, fuel lines, etc. Excellent motor support, science, NPS, or private river boat.

Contact Joy Staveley at Canyoneers (928) 526-0924 or joy@canyoneers.com

INVITE

Celebrate Kent Frost's 90TH Birthday at Pack Creek Ranch on January 7, 2007 at 2:00 TO 4:00 P.M.

Preview showing of Sageland Media's documentary film, a work in progress; Kent Frost, his stories and guiding career. Potluck desserts are welcome.

Please RSVP, preferably by email: susettes@livingrivers.org or by phone: 435-259-8077

ANOTHER WFR REFRESHER OPTION

Instructor: Shoshanna Jensen Sack – WEMT

Location: Flagstaff, AZ (exact location TBA)

Dates: February 23, 24 & 25 2007, 9 AM-6 PM

Cost: \$165

For more information or to sign up call Shoshanna (928) 607-1589 or send an email to remoterescue@yahoo.com.

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 501(c)(3) tax deductible non-profit organization, so send lots of money!**

General Member

Must love the Grand Canyon

Been on a trip? _____

With whom? _____

Guide Member

Must have worked in the River Industry

Company? _____

Year Began? _____

Number of trips? _____

Name _____

Address _____

City _____ State ____ Zip _____

Phone _____

\$30 1-year membership

\$125 5-year membership

\$277 Life membership (A buck a mile)

\$500 Benefactor*

\$1000 Patron (A grand, get it?)*

*benefactors and patrons get a life membership, a silver split twig figurine pendant, and our undying gratitude.

\$100 Adopt your very own Beach: _____

\$_____ donation, for all the stuff you do.

\$24 Henley long sleeved shirt Size _____

\$16 Short sleeved T-shirt Size _____

\$18 Long sleeved T-shirt Size _____

\$12 Baseball Cap

\$10 Kent Frost Poster (Dugald Bremner photo)

\$13 Paul Winter CD

Total enclosed _____

“You might want to get out of the way”



Bert Loper testing motor capability on his new boat, Grand Canyon, May 27, 1949.

Thanks to all you poets, photographers, writers, artists, and to all of you who send us stuff. Don't ever stop.
Special thanks to the Walton Family Foundation, "Circle of Friends" contributors, and innumerable GCRG members
for their generous and much appreciated support of this publication.

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boatman's quarterly review

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