

# boatman's quarterly review

the journal of the Grand Canyon River Guides, Inc. • volume 29 number 1 • spring 2016



Richard  
Quartaroli

Prez Blurb • Whale Foundation • Better Angels • Workman Retires  
Book Review • LTEMP • Arch Site Preservation • Viruses • GTS 2016  
Howland Brothers • Letter to a Young Swamper • Beverage Cooling Rate

## 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

TO IGNORE THE ELEPHANT in the room is not only a disservice to those whose voices need to be heard, but it is also not in my nature. I tend to tackle things pretty head on. My sister would say it is a trait of a Northeasterner; we have been called bold, blunt, direct, and a whole host of other names. I chose to think I just speak my mind and tell it like I see it.

What has been revealed by the report of the investigation into abuses at Grand Canyon National Park is shocking. Yet, I am not all that surprised. I am saddened and I can't imagine the layers of pain, humiliation, and hurt that the victims of this report have experienced in their years interacting with some employees of the River District unit at the park.

Why am I not surprised? Because as one river guide reported to *Men's Journal* last week, "Harassment takes on different forms across different industries, but it's the same problem at the core." What is that problem at its most basic and deep place...the desire to have power over someone? To make them feel small? I suppose psychologists would say that those who knowingly try to overpower someone are trying to compensate for their own insecurities. It is hard to say what would compel someone to knowingly assert their power over another person to the point of humiliating them, taking away their ability to do their job, or ultimately having them removed from their workplace because they weren't willing to give sexual favors or tolerate sexual harassment, whatever form it took.

Several of the articles that have been written since the release of the Office of the Inspector General (OIG) report, the actual *culture* of the river has been scrutinized. This is one of the many areas where I have difficulty. The Grand Canyon river community is something that is so sacred to me that I feel I want

### Carl Rice photo captions:

Page 11 Carl  
Page 18 Kristen & Neysa  
Page 19 Down climb Audrey Gehlhausen  
Page 29 Ode to Alice Grey  
Page 46 Sam  
Page 48 2 up Hermit - M. Dahle

Cover Photo: Q, first year at the motor, WWRE  
June 1979.

to respond, to shout out... “not everyone in the river is a hedonist and a raging alcoholic waiting to take advantage of the fact they are thousands of feet below the rim and many hours from civilization.” I believe there is a profound freedom that all people who do a river trip in Grand Canyon feel when they turn the corner, out of sight from Lees Ferry, and are swept downstream with friends and others who they have yet to know. I believe the choice to take that freedom for yourself and take it *away* from others is at the very least selfish. Whether someone decides to dance to the sounds of music in the moonlight...just because; whether someone finds a moment to bathe or swim naked in a side stream; whether someone drinks a little too much and laughs till their cheeks stick in a permagrin, we as a river culture support these moments of self-discovery, joy, and exploration in a wilderness environment.

The people accused in the OIG report took away not only their coworkers’ ability to do their jobs in some cases, but also their ability to feel safe, supported, and respected. In the letter (in this issue of the BQR) entitled, “*The Better Angels of our Nature*,” written by Grand Canyon River Guides (GCRG) in response to the release of the report, this idea of supporting each other in life, in *all* areas of life, to ‘achieve our best selves’ is beautifully spoken of. One of the core objectives of GCRG is to help protect the Grand Canyon. But, before we even talk about picking up micro-trash and leaving the place better than we found it, don’t we need to take care of each other?

To me, the release of this report brings up a much broader question and maybe even a call-to-arms, to see if we as a community, specifically the river community of the Grand Canyon, can hold each other and ourselves to the highest standards of how we treat each other. The broader umbrella here is, can we be the vibrant, highly independent people we are and allow each and every person on our trips the mutual respect they deserve? Yes, the report is about Grand Canyon National Park employees, but this idea applies to everyone.

What I love about being a guide is seeing people unfold and release and become who they truly want to be; I spoke of that in my last “Prez Blurp.” It would be such a shame that this report did the opposite of what it could. I am an eternal optimist, that is true, but I believe it is possible that out of this terrible, unthinkable, shameful action and its aftermath can come some good.

Can we help each other, whether on the river or anywhere in life, by supporting kindness towards one another? Can we lift each other up rather than

tear each other down? Can we recognize injustice and speak about it openly and honestly? Can we have systems in place so that when something occurs that doesn’t feel right, there is someone to go to who will listen and take appropriate action? One of the details that struck me in the report was that depending on who was accusing and who was being accused, the whole process from the initial reaction all the way to the repercussions, was different and inequitable. How was that allowed?

The river community is not perfect. No one is claiming that we are immune from these same injustices. I am not perfect, that is for sure, but I try my best to take care of every person that I am with on the river and I hope they do the same. The optimist in me would like to believe that we all operate from this place of mutual respect, but the reality is sometimes people need to be called out; sometimes you need to have difficult conversations, and I am certain of one thing...the need for change. Change comes from learning from mistakes. I am hopeful that we all can hear the cries of the victims and help them heal by always speaking up, standing up for one another, and making changes in the way we all treat each other for the better.

Laura Fallon

## Correction

IN REFERENCE TO THE ARTICLE *Guide Profile*—  
*Siobhan McCann*, IN BQR VOLUME 28, NUMBER  
4, WINTER 2015-2016

**W**E APOLOGIZE for printing a mistake in Siobhan’s *Guide Profile* last issue. Her dad did not take her on a dory trip when she was fourteen. In her own words Siobhan says, “My first trip I was a passenger on a motor trip, with Wilderness. That was my first experience on a river. I fell in love with the canyon more than the boat. I was hooked, but my buddy who took me was laughing when I told him I would work down there. I was very much a city girl. I’m a lifer now.” Sorry for the mix-up.

# Back of the Boat— The Whale Foundation News Bulletin

## TIM WHITNEY WELLNESS INITIATIVE—HEALTH INSURANCE ASSISTANCE PROGRAM

In 2012 the Whale Foundation was given several substantial donations in memory of Tim Whitney with the intention to promote physical wellness in the boating community. We introduced the Health Insurance Assistance Program (HIAP) in 2014 and have extended it into 2016. The goal of the program is to encourage those without insurance to purchase a policy, and to help those with insurance afford it. It is intended for boatmen who pay for their own health insurance out of their own pocket. Any river guide who has worked at least one full season in Grand Canyon is eligible to apply. Applicants must have a current health insurance policy in place. Awards of up to \$400 will be made to help applicants pay for their insurance and are scored on financial need. Please see our website for more information and to download an application. Deadline is May 1<sup>ST</sup>, 2016.

an application and more information. The next application deadline is June 1, 2016.

If you are interested in volunteering for the Board or in other capacities, or are looking for info or to provide feedback, please give us a call; we always look forward to hearing from you!

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## GTS HEALTH FAIR—FREE

The Health Fair will be held at the spring Guide Training Seminar on Saturday, April 2<sup>ND</sup>. Last year almost 100 guides took advantage of these free services. At lunchtime, look for our tents outside the warehouse where our healthcare professionals will offer the full package: screenings for skin cancer, breast cancer, diabetes, cholesterol, blood pressure, oral exam, eye exam, family health histories, and more. We strongly encourage you to take advantage of this incredible opportunity. Early detection can save your life! Better yet, it can save your buddy's life, make him or her visit the tents. Did we mention it's *free*?! Many, many thanks to the doctors and clinicians who volunteer their time, Sonora Quest Labs, and especially to Wyatt Woodard who oversees the program.

## KENTON GRUA MEMORIAL SCHOLARSHIP

Support from the community has allowed the Whale Foundation to award up to three \$2000 scholarships annually. Guides with five or more years' experience in Grand Canyon and enrolled in any educational endeavor are encouraged to apply. Grants are awarded to guides with traditional and non-traditional educational paths and can be received up to three times. All applications are blinded before a rigorous review to insure impartiality. See our website for

# My Time at the Whale Foundation

**A**LMOST FIVE YEARS AGO I wrote an article for the BQR introducing myself as the new Executive Director of the Whale Foundation. Brimming with trepidation, I told the story of my transition from working full time on the river to spending significant amount of time in an office. I was fortunate enough to keep one foot in the life I knew, working a couple of river trips each summer, while I waded through the weeds in my new position. Gratefully, the years of my tenure have been good ones for the organization, allowing me to develop a new skillset along the way. I'm not the only boatman to appreciate that, most of the time, it's better to be lucky than good.

At the end of last summer, John Napier was chosen to fill the position of Executive Director. It is hard to imagine anyone better qualified. He is the right person at the right time and I know he will take this organization to a new level of effectiveness and outreach. I am so impressed with John's skills and experience that I feel a bit unqualified to announce his ascension to the directorship. His dedication to our community is unparalleled.

Our present board is comprised of some of the most caring and competent members of our community. You would all be very impressed and grateful to observe these individuals advocate for those who work in our industry. They excel at wrestling with the bigger philosophical discussions that guide our foundation. I have been honored and humbled to serve the board and I believe they have the good common sense to continue to grow our organization in ways that best meet the needs of us all.

Alongside Grand Canyon River Guides (GCRG) and Grand Canyon Youth (GCY), the Whale Foundation is one of three non-profit organizations that are touchstones for our community. As its director, I found the foundation to be enigmatic in nature, separate from who Curtis "Whale" Hansen was as a person and certainly not reflecting his strengths and weaknesses. An organization cannot embody Whale's warmth of character, but it can provide an avenue that honors it. The heartbreaking story of our origination began with Whale tragically taking his own life. Considering that a guiding principal for the founders was to create an organization that might keep *one* person, just one person, from going down that same path, one can't help but be amazed at what has been accomplished.

There are those who wonder if the Whale Foundation has outgrown its usefulness. Honestly,

I believe that is a necessary question to ask because it allows us to evaluate where we have been and how we can continue to meet the changing needs of our community. I don't begrudge those who might wonder, but I'd redirect the question to those we've been in the position to help. Every person who has called our helpline to ask for assistance in getting through a tough patch is *my personal hero*, and we should all applaud their efforts.

Seeing it from the inside, the answer is so clear to me; the Whale Foundation's network of services are still as vital today as ever before. The need for confidential counseling services for those who seek it continues to prove itself as necessary as ever, year after year. In fact, while the annual number of calls to our helpline (1877.44WHALE) has remained constant, the numbers of individuals remaining in our program for longer periods has increased. When I consider this resource alongside all of the proactive programs we have meeting the varied needs of the guiding community, I am so proud to have been a part of something that has provided so much to so many.

With that, I'd like to thank our case managers and behavioral health providers, the board members past and present, and the many who have volunteered their time and services over the years, including the wider community of artists, business owners, and donors who have made our annual Wing Ding such an annual success. And to everyone who has donated to the Whale Foundation and helped make it what it has become today, thank you.

Finally, I am grateful to the commercial outfitters in Grand Canyon, who have embraced what we do and sincerely care about the guides who work for them. They have shifted the culture immensely in Grand Canyon and added value for those who work loyally season after season.

I encourage everyone to find out more about the Whale Foundation and stay actively involved in both what we do and our efforts to maintain the wellness of the Grand Canyon guiding community. It's been an honor to be a part of. See you downstream!

*Dan Hall*

## “The Better Angels of our Nature”

**T**HAT UPLIFTING CONCLUSION to Abraham Lincoln’s first Inaugural Address resonates because of its personal appeal to citizens to take care of their community by building, and not corrupting, bonds of affection which held them together. It speaks of optimism, and the absolute necessity of tapping into and achieving our best selves for the common good. Those carefully crafted words also speak to something deeply personal—core values that unify us by appealing to the very best in our human nature. Lately we have come face to face with the profound failure of this ethic as described in the Office of Inspector General (OIG) report into the longstanding pattern of abuses at Grand Canyon National Park. The investigation’s findings have left us all feeling deeply troubled, although whatever outrage we feel must surely pale in comparison with the magnitude of distress experienced by those who have been directly affected by the abuse.

In light of this, it behooves Grand Canyon River Guides, as an inclusive organization that embraces all facets of our river community, to closely examine what we stand for in order to tie our goals and mission to core values that bind us together.

### PROTECTING GRAND CANYON

At the very top of our list is our profound responsibility to protect and preserve the iconic landscape we all deeply cherish. This extraordinary place draws us back again and again—it renews us spiritually and emotionally, and it feeds the beating heart of our river community. Protecting Grand Canyon is achieved by fostering a strong stewardship ethic that is grounded in high-road values: enthusiasm and passion; a positive, open-minded approach; a willingness to speak up (but also to listen); and a strong commitment to build positive and lasting relationships with the NPS and other river stakeholders (as well as each other!) in order to achieve a brighter future for an incredibly special place we consider to be our collective “home.”

### SETTING THE HIGHEST STANDARDS FOR THE RIVER PROFESSION

GCRG focuses on utilizing continuing education and community-building as a means to help guides flourish in their chosen profession, as well as to provide a strong pathway to stewardship and advocacy. There are extensive NPS and company-specific rules and regulations, and many other safeguards, policies,

and procedures in place that contribute to the professionalism, extensive training, responsibility, safety, and stewardship that are the hallmark of commercial river trips. The values we cherish are an insatiable desire to learn and to share that knowledge with others; a strong commitment to open communication and active listening; an emphasis on empathy, cooperation, and self-control; and a dedication to ensuring safety for everyone, including the peace of mind and personal security we all deserve in a workplace based on mutual respect.

**CELEBRATING THE UNIQUE SPIRIT OF THE RIVER COMMUNITY**  
GCRG is extremely proud of our unique river community and we continue to celebrate our long and storied river history within Grand Canyon. The river community has always been chock full of exceedingly colorful, fiercely independent-minded people who live large in keeping with the grand scale of the landscape itself. We would like to emphasize the best the guide community has to offer in this very non-traditional workplace—expertise, resilience, a wealth of creativity, incredible intelligence, humor, a dash of weirdness, and a ton of passion that infuses each and every river trip with unbridled joy and meaning.

### PROVIDING THE BEST POSSIBLE RIVER EXPERIENCE

We’ve all heard the phrase “trip of a lifetime”—the hallmark of a premier whitewater trip through the heart of Grand Canyon. But what does providing the best possible river experience mean? We’ll just let the eloquence of the GCRG Mission Statement speak for itself:

It is Grand Canyon River Guides’ belief that the Grand Canyon and the Colorado River offer an experience of wildness and connection between the human spirit and the land that can be equaled in few places on earth today. The Grand Canyon has the ability to change people’s lives in lasting positive ways - providing confidence, awareness, understanding and peace in its silence, beauty, and the mystery of the unknown. We see with the passing time of a river trip that people leave more of the unnecessary concerns of their lives behind, and begin to connect with what is truly important for them. We watch people learn to accept the canyon on its

own terms, take responsibility for their own actions, and leave happier, stronger and healthier than they came. We believe that these experiences stem directly out of separation from the trappings, rules, conditions and technology of the outside world. They come from the ability to take mental and physical risks, to immerse oneself in the natural world, rather than being protected from it. And we believe ourselves to be caretakers of this experience for the river visitor.

We especially appreciate the use of the word “caretaker”—it is our belief that we should be not only be caretakers of the river experience and the resource itself, *but also of each other*. And that’s exactly the kind of community we want to build and be a part of.

One of the most important functions of Grand Canyon River Guides is to provide an open forum for an honest exchange of ideas, as we do here within the pages of the *Boatman’s Quarterly Review*. We can’t shy away from issues just because we find them uncomfortable. What we sincerely hope this frank discussion will lead to is:

- Earnest conversations throughout the river community, so that abuses such as those outlined in the OIG report can no longer be tolerated or ignored.
- Learning more about sexual harassment, what it looks like, and what to do about it.
- Utilizing available resources such as the expertise of the Whale Foundation, a non-profit organization dedicated to the health and well-being of our river guiding community.
- Each of us doing our part to ensure that professionalism, safety, and respect rule the day.
- Forging a positive path forward firmly grounded in a foundation of commonly-held values.

As a community our greatest hope is that we can continue to strive towards “the better angels of our nature.” Let us be the best caretakers of each other and of this place. Let’s move forward together.

*Grand Canyon River Guides*

### **The Whale Foundation has been**

participating in the effort to assist and heal those in our community who have sought to tackle challenging personal matters for the sake of their own health and well-being for over twenty years.

In addition, we’ve taken a proactive role in publishing articles, conducting trainings, and starting conversations both in the BQR and at the Guides Training Seminar about the unique environment we work in and the greater demands on our community for individual accountability and self-reflection that come with it.

Our providers are experienced in treating clients for a host of matters which can be both universal but also are distinctive to the climate of working in Grand Canyon. Assisting in resolving everything from domestic and relationship concerns to alcohol and substance abuse issues, as well as working with those dealing with anxiety, depression or anger, our providers have been supporting the river community for years and have come to better understand the challenges we face.

If you call our help line (1.877.44WHALE) and speak to a case manager, you can be connected with a professional who specializes in career concerns or others who work with victims of sexual abuse. If you are going through a period of loss or grief or any other kind of difficulty, our broad staff of healthcare providers can support your efforts to work through it.

Since I took this position in the late summer, I’ve had the chance to get my head around the great amount of assistance the Whale Foundation has provided over the years. I can only say I am so *encouraged* by the number of folks we work with in Grand Canyon who have shown the integrity and courage to ask for help when it was needed. For those who hope to find “the better angels of our nature” the Whale Foundation is here to help in that process.

John Napier

EXECUTIVE DIRECTOR, THE WHALE FOUNDATION

## Former Lees Ferry Ranger Tom Workman Retires from the National Park Service

ON JANUARY 23RD, Tom “The Big Kahuna” Workman celebrated his retirement as Cabrillo National Monument Superintendent and from over “40 years of hard work and dedication” to his career with the National Park Service. There are still plenty of boatmen, outfitters, private boaters, and Park Service personnel who remember Tom from his outstanding 17 years of duty as the Lees Ferry ranger. In 1974, he graduated from Northern Arizona University with a B.S. in parks and recreation; during that time he served internships with the Arizona State Parks and Glen Canyon National Recreation Area (GCNRA). From 1975 to 1980 he was a seasonal ranger with GCNRA, stationed at Lees Ferry, and then became assigned there with Grand Canyon National Park until 1993. In 1991, Grand Canyon River Guides awarded him the first Michael Jacobs Award, “for outstanding service to the Grand Canyon: “His helpfulness and good cheer have kept communication, cooperation and river trips moving smoothly” (BQR, Summer 1991).

From 1993 to 1995, Workman was Ranger-In-Charge at American Memorial Park, on Saipan in the middle of “Typhoon Freeway” in the Pacific Ocean, 6500 miles from Grand Canyon. The BQR editors had this to say: “Tom has been a good friend to the Canyon, the River and the river community during his



At Tom's retirement party: (Left to right) Donny Foster (Marble Canyon Lodge); Tom “The Big Kahuna” Workman; Neal “Bear” Shapiro (White Water River Expeditions, Grand Canyon Expeditions). Photo credit: Debbie Marino Shapiro.

many years at Lees Ferry. We all express our heartfelt thanks for his efforts. While we realize Grand Canyon has not asked him to leave, and it is Tom's decision, we have encouraged Superintendent Chandler to do whatever is in his power to keep Tom” (BQR, Fall 1992). That didn't work, but he was back to the Southwest from 1996 to 2001 as Chief of Visitor and Cultural Resource Protection, Canyon de Chelly National Monument. In 2001 Workman became Superintendent at Kalaupapa National Historic Park and in 2007 Superintendent at Cabrillo National Monument.

“In his years at the Ferry, Tom continually diffused problems, working with cooperation and education, being a friend while still holding the line of the law. The respect and admiration he gained went far towards smoothing the flow of traffic at the crowded boat ramp, protecting the Canyon and enriching the boating community” (BQR, Winter 1992–93). I have no idea if Tom has done a Grand Canyon river trip in the ensuing years, but here's to hoping we all see him soon and often in the Big Ditch. And enjoy your retirement! (Thanks to Terry Petrovich, Chief of Administration, Cabrillo National Monument, for Tom's years of service appointments.)

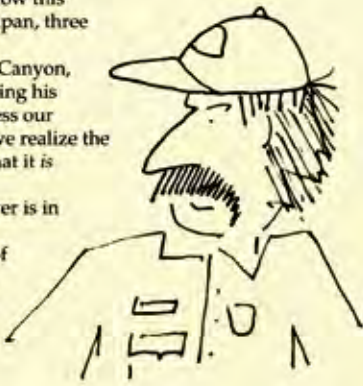
C. V. Abyssus

**Tom Workman**

**T**he rumors of Tom's departure from Lees Ferry to Saipan, north of Guam, are still flying, but neither Tom nor anyone else seems to know if he'll be going. We know this much: although Tom hasn't gone to Saipan, three typhoons have. Maybe it's a sign.

Tom has been a good friend to the Canyon, the River and the river community during his many years at Lees Ferry. We all express our heartfelt thanks for his efforts. While we realize the Park has not asked him to leave, and that it is Tom's decision, we have encouraged Superintendent Chandler to do whatever is in his power to keep Tom.

Or think of it from Saipan's point of view: Three typhoons are enough! In Saipan's interest *and our own*, we urge the Superintendent *not* to allow Tom to leave.



From BQR volume 5, number 4, fall 1992.



## Book Review!

*Grand Canyon: A History of a Natural Wonder and National Park*, DON LAGO, University of Nevada Press (America's National Parks Series), 2015, 202 pages, ISBN 978-0-87417-990-3, \$21.95.

GRG MEMBER Don Lago has written over a dozen book reviews and articles for the *Boatman's Quarterly Review*, most having to do with John Wesley Powell, his river expeditions, his crews, and various little known or unknown connections they have to historical events and personages. He has been able to ferret out incredible details, some overlooked by historians for over 100 years. However, Lago has penned more than BQR and other journal articles. Issued Autumn 2015, *Grand Canyon: A History of a Natural Wonder and National Park* is his seventh book.

Following in the footsteps of his previous book, *Canyon of Dreams: Stories from Grand Canyon History* (2014, The University of Utah Press; please see review in the Spring 2014 BQR), some may think that because of the words "Grand Canyon" and "history" in both titles that this is a rehash of previous material. *Canyon of Dreams* is an eclectic compilation of individual historical narratives, while *Natural Wonder* is one of a "very few books that offer a general summary of the canyon's rich human history... It is for both canyon visitors and history lovers who would like to know the whole story, something about everything... [through] both intellectually sophisticated and enjoyable storytelling" (p. ix). Unlike some titles by others, in the current *Natural Wonder*, Lago has written in a style that will stimulate your thinking without getting so convoluted that it would put you off from reading all the way through. In other words, it's accessible and readable.

A very significant theme, for me, runs through the entire book and seemingly within each chapter: although not stated as such, the conflicting feelings of image and reality and our perception of the Grand Canyon has evolved and been built up over decades, perhaps even centuries. It took that long for us as a culture to accept the Grand Canyon on its own terms. Americans had the preconceived idea of natural beauty from a predominantly European view, one of features like the Alps, wherein Yosemite fit that bill, as did Niagara Falls through the Hudson River School of art. Nobody was ready for the sparseness of the Grand Canyon and the desert Southwest, which "defied the experience of both pioneers and poets" (p. 5). Robert Frost wrote in his poem "The Gift Outright," that "The land was ours before we were the land's,"

meaning "that Americans had lived upon their land for a long time before the land began to live within them, to influence them with its own character, its own possibilities and logic and spirit" (p. 4). Woody Guthrie foretold Robert Frost when he sang "This Land Is Your Land" (p. 171).

*Natural Wonder* is comprised of a well thought out "Introduction" ("Reverence and Conquest") and a worthy "Conclusion" ("The Land Was Ours Before We Were the Lands"), with ten topical chapters loosely arranged in chronological order, with, of course, some overlap: "Geology" ("The Land Writes the Human Stories"); "Native Americans" ("The Canyon as Home;" this is an important inclusion in a book about written history, as a chapter and also observations throughout); "Explorers" ("The Great Unknown"); "Exploiters" ("The Wild West Canyon"); "Conservation" ("Leave It as It Is"); "Culture" ("Pioneers of Perception"); "National Park" ("If You Build It..."); "Architecture" ("Buildings Grown by the Canyon Itself"); "The Environmental Era" ("Seeing Nature from the Inside"); and "Adventure" ("The Mount Everest of River Trips").

The chapters need not be read in numerical order, as the references to thoughts in previous chapters are few and do not require having to search backwards. Since I have read these stories during the winter, I remember the Native American practice of winter being a time to tell and share stories. But these can be read in any season, and I think of spring, summer, and fall river trips, lying on a river-rocked boat reading them either with a darkened star-filled or moon-brightened sky overhead. By the time you see this review, spring and the river season are nigh, so my recommendation for Grand Canyon river runners is to read the Preface, Introduction, and the last chapter, "Adventure: The Mount Everest of River Trips." *Natural Wonder* stands pretty much alone among "general history books to take river running seriously as a meaningful human endeavor," but then we already know that it is. This should certainly help to get you in the mood and ready for some upcoming river trip adventures. Good runs!

C. V. Abyssus



## LTEMP Update

**T**HE LTEMP IS OUT! (That's the Long Term Experimental and Management Plan for Glen Canyon Dam). It's been a long time, a lot of work behind the scenes, and some very helpful river guide input. And get this:

It's good! Okay, it's not cure-all make everybody happy amazing, but for the real world that we live in, it's good. I think we should support the preferred alternative. They call it Alternative D.

The draft Environmental Impact Statement is about 800 pages of class IV reading. Here are highlights that I've gleaned:

- A whole lot of factors were studied, modeled, and compared to produce this document. Lots of work and time went into puzzling this all out. I think the LTEMP folks, led by Bureau of Reclamation and NPS, did a good job.
- Input from river guides, from the original LTEMP scoping, from more recent opportunities, and from years of effort going back to the '80s, has been included here. The folks in charge don't understand us and what we do perfectly, but they've come a long way.
- Chapter 3, "Affected Environment," is an excellent 230 page summary of Grand Canyon science. Worth a look to sharpen up your interp!
- Alternative D isn't a drastic change from what we've seen for the last twenty years. Minimum daily flows will still be 5,000 to 8,000 CFS, and maximums up to 25,000.
- High Flow Experiments (HFE's) are an important part of Alternative D. On average there will be about 21 HFE's in the next twenty years. Some of them will likely be extended high flows, with longer run times for better beach building. The high flows are key for those of us who like beaches to camp on.
- Non-flow management activities, such as trimming vegetation to improve campsites, may be part of this alternative. This is good, because flows can only do so much.
- With Alternative D there will be a 0.29% increase in total cost to meet electrical demand over the next twenty years. I think we get good value for cost.

So, if the changes aren't likely to be huge, and the preferred alternative looks like a good way to go, what is left for us to do? *Submit comments!*

This process only works when people get involved. You can only get what you want if you ask for it, and it could be taken away from you if you don't stay on top

of it. It's one way you can contribute to making things work in this country. This is your chance!

And if you need more specific reasons:

- Some Water/Hydropower interests aren't going to be all that happy with Alternative D. One proposed alternative improved the situation for hydropower, and would take us backward for key resources we care about, like beaches and daily fluctuations. They'll likely push against Alternative D, and if we don't push for it, we may well lose ground.
- Support the High Flow Experiments! I think they're the heart of this plan, from a river guide point of view. They're the best chance we've got to preserve and rebuild sandbars in Grand Canyon. If the High Flow protocols are removed or diminished, we lose a lot.
- Comments become a permanent part of an Environmental Impact Statement. They'll be considered as this one takes effect, and twenty years from now when (if) another is begun.
- They still don't fully understand what we do, what we care about, and why. You could read the section on Grand Canyon River Running (Chapter 3, page 169—it's about eight pages) and tell them what they've got right and what they've got wrong.
- The Bureau of Reclamation and National Park Service need to hear that you care about the canyon, and that you care about how it's taken care of.
- Comments we make now will be heard and included in the process. This is your chance!

I hope you're on board, rigged and ready...Go to [ltempeis.anl.gov](http://ltempeis.anl.gov) to check out the draft EIS and submit comments. You can also register to attend public meetings:

- Webinar: Tuesday, Feb 16, 6:30 MST
- Flagstaff: Monday, Feb 22, 6:00 MST at the USGS GCMRC building next to Buffalo Park
- Tempe: Thursday, Feb 25, 6:00 MST at Embassy Suites, 4400 S. Rural Road
- Webinar: Tuesday, March 1, 1:00 MST

The deadline for comments is April 7, 2016. Let them know what you think and feel!

Thank you all for sticking through this process, caring about the canyon, and jumping in to make a difference. See you on the river!

*Sam Jansen*

AMWG REPRESENTATIVE FOR GCRG

## GCRG is Looking for an Advocate!

WITH THE COMPLETION of the ITEMP Draft EIS, our Adaptive Management Work Group (AMWG) representative, Sam Jansen, is ready to step away from the program and let a new voice and energy come to the table. Many thanks to Sam Jansen (AMWG) and Jerry Cox (TWG) for steering the course so exceptionally well over the past five years!

Would you like a side job where you'll get to speak up for the Grand Canyon and learn a whole lot in the process? The Grand Canyon River Guides AMWG representative is a part-time paid position (with travel reimbursed by the BOR) where you get to mix it up with high level representatives of the Department of Interior, the National Park Service, the Bureau of Reclamation, seven basin states, and lots of other smart and interesting people.

GCRG is looking for someone special who could lend their expertise, enthusiasm, and firsthand knowledge to this incredibly important role as the recreational river running stakeholder for this Federal Advisory Committee. That person will be working hand-in-hand with Ben Reeder, our new Technical Work Group Representative who took over from Jerry Cox as of the first of this year. Sam will help get everyone up to speed so they can hit the ground running.

To have a seat at the table within the Glen Canyon Dam Adaptive Management Program is an enormous responsibility and a distinct honor. It would not be possible without the longstanding support of the Grand Canyon Fund (GCF), a non-profit grant-making program established and managed by a group of the licensed river outfitters. Thank you, GCF! We are all in this boat together, so to speak.

Since the inception of the program, all of GCRG's Adaptive Management and Technical Work Group representatives have been such staunch advocates for the place we love. Their input, knowledge of the river corridor, advocacy, and collegiality with other stakeholders has helped the process immeasurably, which translates to river resources that are better protected over the long term in keeping with the Grand Canyon Protection Act. Thanks to each and every one of you for your dedication and hard work on behalf of Grand Canyon and the Colorado River. We look forward to continuing that outstanding tradition of advocacy. That could be you! If this piques your interest, please contact GCRG.

*Lynn Hamilton*



# 2015 Colorado River Archaeological Site Preservation Project

**IN SEPTEMBER 2015, NATIONAL PARK SERVICE** and Museum of Northern Arizona archaeologists and members of the Hopi tribe and Canyoneers, Inc. completed a 16-day archaeological preservation project at South Canyon, Nankoweap Granaries, Beamer's Cabin, Cardenas Hilltop, Bright Angel Pueblo, Boucher's Cabin, the Backeddy site, located along the Colorado River. The sites fall into two culture periods; ancestral Puebloan period (AD 1050–1150) and Historic period (late 1800s–early 1900s). This cooperative service project was supported with funding from the National Park Service and with assistance from Grand Canyon River Outfitters Association.

These sites are Class I and Class II sites that have been stabilized in the past and are ideal classrooms for visiting river trip groups. Visitors to the sites can easily see the original building techniques and intricate stone and mortar work in the well-preserved living rooms, cabins and storage granaries, and imagine how people lived at various sites along the river. The park is committed to managing these seven sites for maximum public benefit, including mitigating (architecture preservation) natural erosion and the unintended damage from high volumes of visitors. The park had not conducted hands-on preservation on most of the sites since 2002.

The crew replaced aged and eroded stabilization mortar, reset loose wall stones, buttressed and wedged support stones in wall faces, lightly patched loose original mortar and removed stones added to wall tops. Each site has a unique set of preservation issues, and the crew had to decide how best to approach each wall of each room, including what type of mortar to mix. For the crew, the most satisfying part of doing stabilization was mixing and applying the mortars to the walls. We used shovels to gather local sediment (soil, sand or gravel), as the original builders had, and ran each batch through ¼" or 1/8" mesh screens, then added water. It was like mixing cake or cookie dough. Because local sediments along the Colorado River do not contain much clay (an excellent natural binder), we added a small portion of soft masonry cement or Rhoplex to help strengthen the mortar. At Nankoweap, the crew mixed small batches of only local sediment and water, with no added amendment. Using buckets and shovels to gather the sediments, measuring cups to get the correct ratio of wet to dry ingredients, and trowels and hoes to mix the mortar, the crew then wet the wall face work area with spray

bottles and squeezed and pushed the wet mortar into mortar joints, cracks and around loose stones. The dirtier our hands, the more enjoyable the day became! Keeping track of the recipe, and proportions and ratio of ingredients was a fun challenge too.

From a park managers' perspective, the benefit of completing this work cooperatively with museum archaeologists, Hopi preservation specialists and professional river guides is the opportunity to learn from various professional organizations with varying perspectives on resource management. This is a dynamic way to get work done as each entity brings a set of concerns and professional skills to the project and the willingness to learn from one another about site history and management. The cooperation experienced on the September 2016 trip will be documented in a comprehensive preservation report and will influence the decisions about future preservation work.

Long-term management of archeological sites along the Colorado River takes into account three primary values: cultural, public and scientific. It is Grand Canyon National Park's responsibility to attending to these values, which requires measured balance, but not necessarily absolute resolution of on-going concerns and tensions between value holders. This is another direct and lasting benefit of conducting preservation work cooperatively; values are learned, tensions exposed and solutions explored. The following contributions bring out the diversity of perspectives on Colorado River archaeology and what it means to do preservation on these precious resources.

*Ian Hough*

ARCHAEOLOGIST / CULTURAL RESOURCES PROGRAM MGR  
NATIONAL PARK SERVICE

**DURING THE LAST DECADE, THE MUSEUM OF Northern Arizona (MNA)** has partnered with Grand Canyon National Park (GRCA) and other national parks to undertake field research and documentation at archaeological sites. Most recently, this partnership involved preservation efforts at high-profile cultural sites within Grand Canyon, where intensive visitation sometimes results in unintended damage. MNA staff involved in the work last September had minimal previous experience with hands-on preservation projects,

and the work gave us a real sense of stewardship and appreciation for the effort that GRCA has long put into maintaining sites within and outside the river corridor.

It is relatively easy to argue for preservation of archaeological sites from a scientific perspective. These are “non-renewable resources” and they embody cultural information that is of interest to descendant communities and the broader public, as well as archaeologists. Each site is unique in its construction and design, how it integrates with its setting, and the artifacts that are associated. Each site has a different story to tell if we take the time and effort to explore the physical remains. In a broad sense, archaeological sites in GRCA are preserved by NPS mandate. But the detailed photographic and descriptive documentation that occurs at sites that undergo planned preservation efforts extends into the scientific realm of “data recovery”. Keeping walls intact and standing provides insight into how they were built, but also preserves the cultural material contained within them. These preserved floors, fire pits, and storage cists further contribute to our understanding of the people who lived there; how they made a living, where they got the materials necessary to make tools, who they traded with, and ultimately, why they moved on.

Some people may not feel the same, and may argue that spending time and money to preserve sites is not the best use of limited resources. This is a discussion that regularly occurs within the archaeological community because there are always sites that could be preserved or more fully documented if there were unlimited funds; deciding which sites are most significant involves factors that cannot always be quantified. In some cases, there is no way to preserve archaeological sites that lie in the path of roads or other development. These are the realities that face archaeologists working in settings outside the protected land of national parks. There is sometimes criticism of the NPS for their consistent focus on monitoring impacts to sites, rather than excavating and then expending no further effort at sites with severe erosion problems. Consider that the mandate of the NPS, however, is to preserve natural and cultural resources for future generations. Excavation is a destructive process, even when carried out using state-of-the-art techniques. It is therefore appropriate that cultural sites within NPS units be protected whenever possible, even if, or perhaps because, this would not be the approach taken on other public and private land.

*Kim Spurr*

ARCHAEOLOGY DIVISION DIRECTOR/BIOARCHAEOLOGIST  
MUSEUM OF NORTHERN ARIZONA

## ONE “TRADITIONAL” HOPI PERSPECTIVE

believes that our ancestral Hopi homes should be left to decay in a natural state. Sites unoccupied for generations should return to mounds of rubble and soil, crumbling into pieces of disarticulated architecture, spewing out the traces of Hopi ancestors.

This is the cycle of life and death; the homes and places of worship now only contain the spirits of those who built and occupied their spaces. The memory of a place and those who lived there is held within oral histories of their descendants. Thus the very act of preservation goes against these beliefs. So why do it at all?

Another Hopi perspective believes that these sites are referred to as the “footprints” of the ancestors, physical proof of previous generations occupying vast tracts of the American Southwest and beyond. Included in this ideology of “footprints” is the material culture of Hopi ancestors; the ceramics, lithics and groundstone, textiles and burials. All of these were left behind to verify Hopi oral histories of our ancestral clan migrations across an ancient landscape.

It was foretold that these “footprints” would later be used to teach future generations about Hopi longevity and survival, of our covenant to be stewards of this earth for time immemorial.

Preservation can mean maintaining the scientific value of a site for possible future study. Is this only of archaeological value? From the Hopi view, applying our understanding that this architecture represents tangible landmarks of Hopi history, the maintaining of these sites affords this legacy to live on. Thus, ruins preservation enables more than preservation of architecture, but also promotes Cultural Preservation.

Hopi oral histories contain the memories and essence of Hopi ancestors and these histories remain viable aspects of Hopi culture. These histories can be reinforced through visitation of sites. Being able to actually experience the landscapes they occupy and seeing first-hand how and where our ancestors lived aids in the understanding of what a “Cultural Landscape” really is.

I thought about this idea as our group made our way down river, from site to site, applying mortar and stone to homes that my ancestors once lived in hundreds of years ago. I distinctly remember sitting at the edge of the alcove at the granaries at Nankoweap, watching clouds cast shadows on the opposing cliff wall across the river. I thought about why I chose to be there, doing work which was counter to what “traditional” Hopi beliefs stated should be allowed to happen.

At the heart of preservation work, lies an inherent

act of respect; maintaining our living culture, while honoring our ancestors of a long ago era. Today when a Hopi person visits ancestral villages, we don't simply see the remnants of a by-gone era, we see reflections of who we once were and what we have now become. We witness the artistic and technical accomplishments of Hopi ancestors, but we recall the spiritual accomplishments of our ancestors as well. We are reminded that in order for the present generations of Hopi to flourish and prosper, we are dependent upon the gifts of our departed ancestors. This is a concept which is based on the Hopi thought that the meaning of the past is what it contributes to life in the present. Thus I will continue to conduct preservation work.

*Lyle Balenquah*

HOPi CULTURAL PRESERVATION SPECIALIST

### **OUR SEPTEMBER 2015 COOPERATIVE TRIP**

with the Grand Canyon National Park and the Museum of Northern Arizona was a first time experience for Ethan Dyer and Erin Brugler (guides of Canyoners). For myself, it was a great trip down memory lane to all the cooperative trips I was able to be a part of in the late '90s. Ian, Lyle and Kim, and employees from the park and MNA were excellent teachers, crew bosses and fireside companions. We were able to spend ample amounts of time enjoying each site we worked on because of Ian's fine schedule planning.

South Canyon, Nankoweep, Little Colorado River, Hill Top ruin and a few to be left unnamed were our first locations. This upper portion of the trip saw most of the heavy lifting from the crew and the rest of our volunteers, however, the one-day project at Phantom Ranch turned into two and a half days of hot, sun exposed work for all. The temperature jumped up to the high 90's and didn't relent for nearly the rest of the trip. I've never spent enough time there to do anything but take a quick glance at the ruins on the north side of Black Bridge. They're actually amazing, it turns out. One of the several rooms has four walls well above my head. The stone work is tight and sturdy. There are large matates on site and visible roasting pits as well. This is a spot well worth taking clients to see and I'll be sure to linger here more often and for a longer time in the future.

Before heading down river we had to say goodbye to four of our buds as they had work to return home for. It was down to Boucher rapid, and an interesting pull in for camp. Wasting no time we took our tools up to Boucher Camp/orchard that night before supper. It was a great hike, one I'd only done a few times over

the years. The next day was the usual; that is, carrying bucket loads of rocks and sand to fill in washed out ravines, both in and around our sight. I snuck off mid-morning for a walk up stream. Not too far off I came across a wine bottle half-buried in the creek bed. I brought it back thinking that some romantic couple was happy to carry this guy down for their big night but didn't want to walk it out; however, the more we handed it around the clearer it was that the bottle was actually hand blown, probably on the older side. Ethan inserted his thumb into a recess at the base and pretended to pour some champaign to us "customers." This cavity, evidently, was a vintage technique used in bottles decades ago. Ian figured it had to be a champaign bottle from the times Boucher was coming to this camp. For Ethan this was the highlight of the trip, saying "I felt as though I was truly connecting with the folks from the past."

That evening we went down river. This is what I liked about the schedule of this trip: anything goes. We headed into Crystal rapid in the middle of the afternoon. Spin run down the right and away for more rapids. We came into Back Eddy for the night, and it turns out that Erin is a fine fisherman, bringing in a giant carp and enough trout to feed the gang. About this time the three of us start to romanticize the "Honeymoon Couple's" demise. On our previous trip we were honored to have Dr. Larry Stevens aboard. He suggested the theory that Kolb (who had gone to rescue the two) and Bessie may have killed old Glen. This wasn't news to us, but Dr. Stevens also brought up the idea that Kolb might have brought Bessie back up the canyon to Pumpkin Springs in winter to lay low for a bit. What if? After some drawn out and interesting banter Ian acquiesced and we spent a night at the Pumpkin. The next day we boated across and began our reconnaissance. What we would unearth, we knew not. The nasty little hike up to the cabin and springs, however, was not in vain. To our amazement a woman's shoe, size 5 and badly worn down by the years lay waiting in the remains of the fire place. Didn't Betsy wonder aloud "I wonder if I'll ever wear fine shoes again?"

For the three of us, the trip ended too soon. We gathered so much information from the fire side talks and the technical lessons at the sites. Much appreciation to Ian.

*John Crowley*

COLORADO RIVER GUIDE/PROJECT TRIP LEADER  
CANYONEERS, INC.



Left to Right: Preservation Crew at Bright Angel Pueblo: L to R (top), Kirk Anderson, Gwenn Gallenstein, Eric James, Lyle Balenquah, Ethan Dyer, John Crowley; L to R (bottom), Kim Spurr, Erin Brugler, Ian Hough.

All Photos by Ian Hough, National Park Service



Preservation Crew at Beamer's Cabin



Preservation Crew at Beamer's Cabin



Erin Brugler at work repointing at Beamer's Cabin.



Preservation Crew at Nankoweap Granary



Preservation Crew at South Canyon

# How do Viruses Spread & Where do they Hide?

**L**AST APRIL DURING THE 14-day river portion of the Guide's Training Seminar, a Tracer Study was conducted. The goals of this study were to demonstrate how viruses may spread, and assess effectiveness of existing hygienic and cleaning practices for river operations. This study demonstrated how readily viruses, such as norovirus, may spread to different surfaces and remain there until contaminated surfaces are properly disinfected.

The Centers for Disease Control and Prevention (CDC) has identified norovirus as the primary cause of acute gastrointestinal illnesses in the United States (CDC, 2016). This virus has caused outbreaks affecting restaurants, casinos, cruise ships as well as river trips on the Colorado River. A bacteriophage known as MS2 was used as the tracer for this study. Bacteriophages, also known as phages, are bacterial viruses (Thomas, 1973). The MS2 virus occurs in *Escherichia coli* bacteria that do not pose a health threat to humans (Gerba, 2014).

Prior to the launch, MS2 phage were introduced to several common surfaces on a packed raft. After the trip launched, various surfaces were swabbed every other day for phage for the first part of the study (Lees Ferry to Phantom Ranch). The second part of the trip (Phantom Ranch to Diamond Creek) MS2 phage were introduced to the hands of 29% of the total participants as part of a blind study. Various surfaces were swabbed four different days for the remainder of the trip, and all swabs were analyzed by Dr. Charles Gerba's Laboratory at the University of Arizona.

The results from the first part of the study showed that sixty-seven percent (67%) of the total surfaces swabbed were positive for MS2 phage; whereas, only ten percent (10%) of the total surfaces swabbed during the second part of the tracer study were positive. These dramatically lower results for the second part of the study compared to the first part may indicate that hygienic practices were rigorously followed after inoculation of hands. The results from the first part of the study may indicate that there are greater challenges associated with disinfection of the many potential surfaces on a raft on a day-to-day basis during a river trip. Preventative steps will be developed in an effort to continue to lower the risk of acute gastrointestinal illness on river trips.

Special thanks to all participants, Lynn Hamilton for assisting with the coordination, and Joy Staveley owner of Canyoneers for volunteering their raft and equipment for this study.

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2. THOMAS EDITOR, 1973. *Taber's Cyclopedic Medical Dictionary 12th Edition*. F.A. Davis Company, Philadelphia, PA.
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## On Returning from The Canyon

We return with brown skin  
Sand-etched Nalgene bottles and  
River-stained clothing  
The timelessness of this place has made us  
Humble  
Younger  
Say yes  
Shed tears  
Fill with awe  
Play and  
Laugh out loud

We open to the risk and unpredictability  
In surrendering we become  
Freer and exhilarated

Our guides are like good parents  
Helping us access what we are capable of  
Fear and fun intermingle like the Zoroaster  
granite and Vishnu schist  
In the end it is up to us  
What we bring  
Take away  
Keep at arms' length  
Hold dear  
Open up to

We are a new tribe in an ancient place  
The river will always welcome us back

—Cheri Forrester



# Mark Your Calendar—GTS 2016!

## BACKCOUNTRY FOOD MANAGER'S COURSE

- Friday, April 1, 2016.
- 10:00 AM to 2:00 PM at Hatch River Expeditions warehouse in Marble Canyon, AZ. Please arrive early.
- To register contact: [mgaither@coconino.az.gov](mailto:mgaither@coconino.az.gov). Cost: \$20.
- Bring a chair, mug, bag lunch, and your driver's license (ID is required).
- Dress warmly and in layers (the warehouse can be chilly).

## GUIDES TRAINING SEMINAR LAND SESSION

- Saturday and Sunday, April 2–3: Land Session (note: we will also have dinner on Friday night for anyone arriving early).
- 8:00 AM till whenever (at Hatch River Expeditions warehouse in Marble Canyon, AZ).
- Cost \$45 (includes all meals from Friday night dinner through lunch on Sunday).
- If you're sponsored by an outfitter, just let Lynn know. If not, you can send in a check or register/pay online on the GTS page of our website.
- Open to the public—come one, come all!
- Bring a chair, a mug, dress warmly and in layers
- The draft agenda is posted on the GTS page of our website.

The primary theme of this GTS is *Water is Life*. From climate change, to seeps and springs, to an examination of why the law is set up to take more out of the river than it puts in, this GTS will hone in on pressing issues that affect Grand Canyon. The Native Voices on the Colorado River Program, a talk showcasing female river guides, other fascinating talks, and Peter McBride films will round things out. Plus we'll get our Grateful Dead groove on with "Deadwood" on Saturday night!

GTS 2016 will be one for the history books! Don't miss it! By the way, both days will be *very* worth your time, so please be courteous to our speakers and stay for the duration.

## GUIDES TRAINING SEMINAR RIVER SESSION

The GTS river session is available for guides who have work in the canyon for the 2016 river season

- April 4–10, 2016 (upper half, Lees Ferry to Phantom Ranch)—\$275.
- April 10–19, 2016 (lower half, Phantom Ranch to Pearce Ferry)—\$375.
- If you're sponsored, let Lynn know, and your outfitter will pick up the tab. If not, then you'll need to go to the GTS page of the GCRG website to see if you meet freelance requirements and download the application.
- All GTS river trip participants must be current members of GCRG.
- This is the only fully cooperative training trip on the water. Whether you're experienced or a new guide—this is the training trip for you!



Water is Life. Photo credit: Lynn Hamilton.





## What's Eating the Howland Brothers?

EVERYONE IN AMERICA knew the story. It was such a dramatic story. It was one of the most dramatic stories in the American national saga of conquering the wilderness and building a great nation. It was dramatic partly because it was not supposed to happen; it was a miscarriage of national mythology. Yet it seemed to hold some sort of moral lesson, even a message from God to the nation. It was shocking, gruesome, unspeakable, and utterly fascinating. For Oramel and Seneca Howland, this story held more personal meaning than for most Americans. Some of the most famous figures in this story were their cousins.

John Wesley Powell blamed Oramel and Seneca Howland for everyone else going hungry and constantly worrying about running out of food.

As usual Powell and Jack Sumner were in the lead boat, the lighter and more agile boat, scouting out the way, scouting out trouble, when Powell saw a rapid he judged too dangerous to run and raised his signal flag to warn the other three boats to pull ashore. The first boat behind him stopped readily enough. But in the second boat Oramel Howland wasn't paying attention. Oramel and his brother Seneca in the *No Name* were swept into the rapid (soon to be called Disaster Falls), lost control, crashed into a boulder, and were thrown overboard. They clung to the boat and climbed back inside and careened downstream, swamped and unmanageable, and struck another boulder broadside, breaking the boat apart. Oramel and Seneca climbed onto an island in the middle of the river, just above another rapid. Jack Sumner had to take a big chance to row to the island and bring the men back.

Powell couldn't get to sleep that night. All the men knew they were in trouble. The *No Name* held a third of their provisions. Now lost, all lost. They were only two weeks into a trip that was planned to last for months. They would spend the rest of the expedition worrying about running out of food and desperately hunting for food in desert canyons. A few days later George Bradley, reflecting their gloomy mood, wrote in his journal:

Our rations are getting very sour from consistent wetting and exposure to a hot sun. I imagine we shall be sorry before the trip is up that we took no better care of them. It is none of my business, yet if we fail it will be want of judgment that will defeat it, and if we succeed, it will be *dumb luck*, not good judgment that will do it.

The men have all come in from hunting as ever without game. We frequently see mountain sheep as we pass along, and if we kept *still*, we might kill them. But as soon as we land, the men begin to shoot and make a great noise and the game for miles around is allarmed [sic] and takes back from the river. This make me think that these are not *hunters*, And I believe that if left to maintain themselves with their rifles they would feed worse than Job's turkey. They seem more like school boys on a holiday than men accustomed to live by the chase.

The hapless hunters included Oramel and Seneca Howland, who might be trying to make amends for losing their boat's grub but clearly were not getting any respect from George Bradley.

\* \* \*

The Howland connection to the story was back in Vermont, and back in their family tree. The Howland brothers were actually half-brothers, Seneca being the son of Nathan Howland's second wife, Elvira Graves, and nearly a decade younger than Oramel. Elvira belonged to an old New England Graves clan that started when Thomas Graves emigrated from England to America in the early 1600s. The Graves family proliferated and spread to Vermont. Elvira was born in Barnard, Vermont, in 1808, which was just down the road from Pomfret, where she married Nathan Howland and raised Oramel and Seneca. About forty miles away was the home of Zenas Graves, who had served as a fifer for the Minutemen in the American Revolution; his son Franklin Ward Graves was born near Wells, Vermont, in 1789. Eliza and Franklin were third cousins once removed. Their lines had branched off three generations into the Graves family tree. Franklin's great-grandfather (Daniel) and Elvira's great-great-grandfather (Samuel) had been brothers.

Like many New Englanders in the 1800s, Zenas Graves saw little reason to continue struggling with New England's stony soil and cold climate when he was reading about much more generous farmlands to the west. Zenas took his family west to Indiana, where his son Franklin married Elizabeth Cooper and they began raising a family. Franklin continued following the national dream of better lands to the west and moved his family to Illinois in 1831, to rich farmlands

on the Illinois River in Marshall County. His oldest child, Sarah, married a young man named Jay Fosdick, who, like the Howlands, traced his ancestry to the *Mayflower*. The Fosdicks too had become heavily involved in the New England whaling business, some serving as captains, perhaps captains on Howland-owned whaling ships. Franklin had a bad case of westering fever, for after years of working to build a successful farm he decided to head for the new promised land, California.

\* \* \*

Oramel Howland did not entirely accept Powell's blame for the wreck of the *No Name* and the loss of their provisions. In a June 19 letter he wrote for publication in the *Rocky Mountain News* he defended himself by saying that while he had not immediately recognized Powell's warning flag, he still would have had time to get to shore if his boat was not already swamped with water from the last rapid. He had tried his best to get to shore. But Oramel knew the wreck meant serious trouble: "With this boat we lost 2,000 pounds of provisions."

A few days later a campfire turned into a wildfire, forcing the men to flee in their boats and leave behind much of their cooking gear. The cargo compartments Powell had designed turned out to be far from watertight, and the remaining food continued getting soaked and spoiled. Powell was acutely aware of their deteriorating food supply. In the book he wrote years later he described their situation a month after the wreck of the *No Name*:

The day is spent in...spreading our rations, which we find are badly injured. The flour has been wet and dried so many times that it is all musty and full of hard lumps. We make a sieve of mosquito netting and run our flour through it, losing more than 200 pounds by the process. Our losses, by the wrecking of the "No Name," and by various mishaps since, together with the amount thrown away to-day, leave us little more than two months' supplies, and to make them last thus long we must be fortunate enough to lose no more.

The men looked to the river for food, but had little success. Bradley wrote: "I am fishing while I write, but the fish in this cañon are scarce for the water is too swift for whitefish and too muddy for trout." At the mouth of the Bear River: "The fish were so large they broke four hooks and three lines for me in a few

moments. I could haul them to the top of the water, great fellows, some of them quite a yard long. But the moment they saw me they were off and the hook or line must break." At Bright Angel Creek: "There are fish in it. But Howland had tried in vain to catch them."

\* \* \*

John Wesley Powell knew all about Franklin Ward Graves and his wife Elizabeth. For three years starting in 1858 Powell had taught school in the town of Hennepin, Illinois, on the Illinois River, less than twenty miles upstream from the former Graves home. The Graves farm was located just across the river from Lacon, the seat of Marshall County. Many mornings Franklin paddled his canoe across the river to take vegetables to sell, and many afternoons Elizabeth paddled across the river to sell butter, eggs, and soap. Powell arrived in Hennepin only a dozen years after the Graveses left. They were well remembered in the area, and now that they had become national legends, Powell must have heard plenty of talk about them. Powell knew and loved the Illinois River and boated right past the Graves farm.

Andy Hall knew all about Franklin Ward Graves and his wife Elizabeth. Hall grew up in the town of Kewanee, Illinois, about thirty miles from the Graves farm. He must have heard plenty of talk about them.

It's plausible that after the Howland brothers wrecked the *No Name* and lost a third of the expedition's food, Powell and Hall thought to themselves: "Damn, we've gotten mixed up in a wilderness expedition with cousins of Franklin Ward Graves, with people who are incapable of obeying instructions and finding their way, and now we are going to starve."

\* \* \*

Almost every day in their journals the men noted their food situation. They continually tried to hunt but mainly caught frustration. On June 13, Jack Sumner wrote: "There is nothing in this part of the country but a few mountain sheep, and they stay where a squirrel could hardly climb." On June 28, he wrote: "Saw four antelope, but failed to get any." On July 15: "Saw several beaver but got only one. Got one goose out of a flock that we have driven before us for 3 days." On July 27: "Killed 2 mountain sheep today—a Godsend to us, as sour bread and rotten bacon is poor diet for as hard work as we have to do." On July 30, they settled for "a half-starved coyote." They settled for young geese with

little meat. The crew did have brief feasts when they caught a batch of trout, a deer, and two bighorn sheep. But they continually lowered their hopes, Bradley writing: "I have found a lot of currants and have picked about four quarts which will make a fine mess for all hands."

\* \* \*

George Bradley knew all about Tamsen. Bradley was born in 1836 in the town of Newbury, Massachusetts, which had originally included what became the town of Newburyport, a sea port that became the birthplace of the U.S. Coast Guard. We don't know much about Bradley's youth, but he was still living there as a young man, working as an apprentice shoemaker. Tamsen Eustis was born in Newburyport in 1801. At age 23 she journeyed alone to North Carolina and became a school teacher, and then she moved to Illinois to help take care of her widowed brother's children. There she met George Donner and married him in 1839. When Donner got the fever for California in 1846, Tamsen wrote to her sister Betsey back in Newburyport: "It is a four months trip. We have three wagons [sic] furnished with food... We take cows along & milk them & have some butter though not as much as we would like." When Betsy received this letter, George Bradley was ten years old and possibly walking down the street in front of her house. The next year, George probably heard Tamsen's friends and family talking about what had happened to her.

It's plausible that after the Howland brothers wrecked the *No Name* and lost a third of the expedition's food, George Bradley thought to himself: "Damn, I've gotten mixed up in a wilderness expedition with cousins of Franklin Ward Graves, with people who are incapable of obeying instructions and finding their way, and now we are going to starve."

\* \* \*

Bradley's mood was darkening. On July 17 he wrote: "We have only about 600 lbs. left and shall be obliged to go on soon for we cannot think of being caught in a bad cañon short of provisions." Actually, it's likely they were all thinking of what might happen if they were caught in a bad canyon without food. On July 21 Bradley wrote that they were avoiding running rapids to save their food from getting soaked, but this meant they had to labor hard at portaging: "We are afraid they will spoil and, if they do, we are in a bad fix." When Powell stayed two nights in the same camp to make scientific observations, Bradley showed his

impatience: "He ought to get the Latitude & Longitude of every mouth of a river not before known and we are willing to face starvation if necessary to do it but further than that he should not ask us to waite [sic] and he must go on soon or the consequences will be different from what he anticipates. If we could get game or fish we should be all right but we have not caught a single mess of fish since we left the junction." Nine days later: "The men are uneasy and discontented and anxious to move on. If Major does not do something soon I fear the consequences. But he is contented and seems to think that biscuit made of sour and musty flour and a few dried apples is ample to sustain a laboring man. If he can only do geology he will be happy without food or shelter, but the rest of us are not afflicted with it to such an alarming extent." A week later, after a camp accident had dumped their box of baking soda into the river: "Our rations are not sufficient to anything more than just to sustain life. Coffee and *heavy* bread cannot be called *light* rations, but one feels quite light about the stomache [sic] after living on it awhile." Three days later: "I feel more unwell tonight than I have felt on the trip. I have been wet so much lately that I am ripe for any disease, and our scanty food has reduced me to poor condition."

\* \* \*

Four months after setting out from Illinois in 1846, Franklin and Elizabeth Graves and their nine children and son-in-law Jay Fosdick in their three wagons caught up with the Donner wagon train, which had started from Springfield, Illinois. The Graveses had made their own way across Illinois and Missouri to St. Joseph, where they purchased supplies, joined with other emigrants, and headed across Nebraska on the Oregon Trail. But at Fort Bridger in western Wyoming, Franklin Graves made the same decision the Donners had made soon before them. They would take a new route across the deserts and mountains of Utah and eastern Nevada, a shortcut being promoted by California booster Lansford Hastings—who had not actually traveled this shortcut and had no idea how difficult it was. It was longer than he promised; its mountains held only the sketchiest trail; its forests were almost impenetrable; its deserts were brutally hot and dry in summer. When the Graves family joined the Donners and their partner families as they struggled through the Wasatch Mountains, the party added up to 23 wagons and 87 people, half of them children. The Graveses had hired a teamster named John Snyder, and when his wagon got entangled with a wagon belonging to James Reed, the two got into a

fight and Reed stabbed and killed Snyder, adding to the tensions among the party. Their painfully slow progress across Utah and Nevada meant they got to the eastern wall of the Sierra Nevada in mid-October, seriously late. Looking up, they saw dark clouds over mountains already covered with snow. They started up anyway. At the top they were caught in a blizzard that dumped many feet of snow and closed the passes ahead of them and behind them. There would be eight more blizzards that winter.

Fearing they were trapped for the winter, Franklin Graves built a sturdy cabin at Truckee Lake. Even slaughtering their oxen, their food supply dwindled far too fast. Drawing on his Vermont boyhood and winter survival skills, Franklin began making snow shoes for an attempt to escape and bring rescue to the dozens who had to stay behind, including his wife and most of his children. Franklin led fourteen of the ablest, including his two oldest daughters and his son-in-law Jay. But in the snow they lost the trail, made a disastrous wrong turn, and headed into a dead-end. A new blizzard caught them; they ran out of food; they went hungry; they began freezing; they began dying. As Franklin Graves lay dying, he told his daughters that they should save themselves and the rest of the family by eating his flesh.

\* \* \*

“We have but a month’s rations remaining,” wrote Powell when they had more than two hundred miles to go in the Grand Canyon. “The flour has been resifted through the mosquito-net sieve; the spoiled bacon has been dried and the worst of it boiled; the few pounds of dried apples have been spread in the sun and reshrunken to their original bulk. The sugar has all melted and gone on its way down the river. But we have a large sack of coffee.” Four days later: “How precious that little flour has become! We divide it among the boats and carefully store it away, so that it can be lost only by the loss of the boat itself.” A few days later George Bradley wrote: “We have commenced our last sack of flour tonight.” And a few days later: “We have only subsistence [sic] for about five days.”

Powell and his men must have started thinking about the Donner Party. Everyone in America knew the story. It had become a part of national mythology. America’s creation story held that Americans were destined to spread west, carry God’s blessings, conquer the wilderness, find abundance, build a great nation, and become heroes. Those who took larger chances would win larger rewards and become larger heroes. Yet twice within a few years this myth had gone

seriously wrong, first with the Donners in the Sierra, then with the 49ers in Death Valley. Both stories deeply fascinated the American people and would retain cult followings nearly two centuries later, with monuments, museums, organizations, books, movies, and pilgrimages. The Donners and Death Valley 49ers were treated as heroes who had suffered, almost Christ-like, for the sake of America. Yet somehow national mythology had failed. Why had they been punished? Was it for personal foolishness, or was it for national hubris, the arrogance of Americans lusting for wealth or imagining they were more powerful than nature? Did their punishment come from God, or from being men without God? Preachers and historians drew moral lessons. The Graves family had carried a small horde of silver coins, but what good had it done them? Whatever the moral of the story, it was a riveting story, scarier than any ghost story.

As Powell’s food ran lower and his men got hungrier, the possibility of running out of food became increasingly real. What were they going to do then? They looked at one another with resentment and fear. They looked at one another and saw the cousins of Franklin and Elizabeth Graves.

\* \* \*

The survivors cut off Franklin’s head to make the whole matter less personal, and buried it in the snow. Then, just as they would with a pig, they slit open his body and extracted the kidneys, liver, and heart, then carved into his thighs and arms. Since he had already lost a lot of weight, he might have only thirty pounds of meat left on him. They stuck the meat on sticks and held it over a fire to roast it, and in spite of their horror, the odor of cooking meat was exciting to them.

Jay Fosdick too died and was eaten.

Back at the Graves cabin, the rest of the family was going hungry and freezing. Franklin and his promised rescue party were long overdue. The Graveses were losing hope. Finally, Elizabeth died. The survivors cut out her liver, kidneys, and heart. They cut off her breasts. They stripped the flesh off her legs and arms. They threw it all into a pot, added snow, and boiled it into a soup. Her youngest child, five-year-old Franklin Graves, Jr., also died. He was added to the feast. Nine-year-old Nancy Graves would be haunted for the rest of her life by the idea that she had eaten her mother.

Five miles away the Donner family, which had fallen behind the rest of the group, had built their own shelter. They ran out of supplies sooner than the Graves family and died sooner and in larger numbers. Seven Donners died. They too resorted to cannibalism.

The day after some of the Donner children left with a rescue party, George Donner died. His skull was split open and his brains removed. Tamsen Donner disappeared; her body was never found. Some people, including later historians, speculated that she was murdered by a non-relative, and eaten.

\* \* \*

The crucial question was: who was going to get eaten?

The Howland brothers had caused everyone's misery by wrecking their boat and losing their food, so rightfully they deserved to bear the burden. There was Graves family karma at work. The Howlands had repeated the Graves' incompetence at navigating a wilderness and now they would repeat the Graves' punishment. When Powell reached civilization and had to explain that they had committed cannibalism to survive, it would be a scandal if they had eaten someone innocent, but if they explained that they had merely eaten the cousins of Franklin and Elizabeth Graves, the country would say: Of course, it was merely those Graveses again; this was their old way of doing things.

Then again, this whole trip had been John Wesley Powell's idea. He had promised everyone it would be manageable. He had designed the leaky boats. He had called the shots on the river. He had kept everyone waiting and starving so he could make silly scientific observations. He had never gone hunting or shot any game. He was the Lansford Hastings of this trip. In the 1850s Hastings would settle in Yuma, Arizona, and become a booster for the idea that the Colorado River was navigable, all the way through the Grand Canyon and beyond. The Colorado was "destined to become the Mississippi of the Pacific," Hastings wrote to Brigham Young in 1861, "I learn from persons well acquainted with that country, that [the Colorado River] is certainly navigable...to the mouth of the Green river." Powell was the hustler who had gotten them into all this trouble, so he deserved to take the punishment. On the other hand, Powell didn't have any other hand. He had only one arm. This limited his value as meat. If anyone shopping for a Thanksgiving turkey had to choose between a turkey with two drumsticks and a turkey with only one, would anyone choose the turkey with the missing drumstick?

Another problem was that both the Howlands and the Powells came in pairs, as brothers. What brother would want to eat his own brother? And if they tried to sacrifice a Howland or a Powell, the brother might help fight back, making the whole matter far more complicated. It would be easier to pick on someone

without allies.

Better forget about Hawkins—he was the cook, and you might need him to cook the meal. Besides, he wasn't very tall. If you went by a line-up and body size, then one guy stood out, at 5 feet 10 inches: Bill Dunn. And he had already fallen out of favor with Powell.

But seriously, it is plausible that as the Powell expedition revealed its poor planning, ran low on food, and got trapped within cliffs as formidable as cliffs of snow, the fate of Franklin and Elizabeth Graves was running through the minds of Oramel and Seneca Howland. They had ignored the advice of Mary Ann Graves, who had watched her father Franklin die but escaped the mountains and written to her family: "I will now give you some good and friendly advice. Stay at home—you are in a good place, where, if sick, you are not in danger of starving to death." Oramel and Seneca had left a good place. It is plausible that the Donner story played at least a small role in the Howlands' decision to leave the expedition. Their decision was a complicated equation with many factors in it, and other factors loomed larger than a historical event of two decades before, but even historical memories, when they were such bad memories, would have magnified their hunger and their doubt.

*Don Lago*

## Letter to a Young Swamper

IT IS THE SUMMER OF 1976, you have just turned twenty, and you have landed your dream job. You arrive at Lee's Ferry in a U-Haul truck full of vintage World War II rubber. And as you are blowing shop-vac air into two long outrigger tubes soon to be strapped to an aluminum frame which is itself strapped to an elongated rubber donut that holds this whole scow together, you realize that, yes, this boat is a pig compared to those powered only by muscle and oars, but at least you won't have to run that triple-rig on the beach beside you, where an old and leathery LA woman in a faux leopard-skin bathing suit orders around her harem of boatmen who are inflating not one, but three big rafts lashed side-by-side. Your boat is a 33-foot barge, sleek in comparison, which will ferry you, the head boatman, fifteen passengers and a weeks worth of groceries to feed them, cases upon cases of cold Coors, and a porta-potty, also known as the groover, down the Colorado to Lake Mead. You will spend ten days riding in the back of the barge, savoring the changing palette of limestones, sandstones, and shales that seduced you after that first trip down the river years ago. And you will breathe in the fumes of a Mercury outboard, admiring the skills of your ex-army boss boatman who pirouettes your barge around massive boils of whitewater foaming up out of huge river craters that could swallow a mobile home without spitting out the evidence. Clearly, the river says, you do not know your ass from a hole in the ground.

Now you have a few trips under your belt and you are a seasoned swamper, which is really just another way of saying Big Ditch longshoreman (without union pay) who occasionally runs a rapid or two, but who mostly ferries stuff from boat to beach and beach to boat, bushwacks through tamarisk thickets looking for a weedy trunk thick enough for a bow-line tie down, pumps air back into the neoprene pig in the cool canyon morning, digs holes underneath the groover. This is not glamorous work, but at least you know the difference between your ass and *this* hole in the ground.

Soon you are beginning to dream the river at night. It helps that you sleep out on the boat—your barge is good for that—although you do wake from time to time imagining you have come unmoored and are headed downriver to Crystal. You jump up and check the rope and thank Tao you are still tethered to solid ground, so you climb back into your bag. And before it is time to get up and kindle a fire for morning coffee,

you savor a few dreamtime lines—gracefully steering your rig down through the rocky-fanged gap at the head of Horn Creek or gliding down one tongue of glassy green water after another into the shining good time waves of the rapids you have come to know as the gems—Turquoise, Sapphire, Ruby. And later during your waking hours, you accept a pinch of Copenhagen from your boot camp boss after Havasu, which will help you stay awake as you motor the long stretch of post-lunch flat water down to Lava Falls, where you go up on the ledge above the river, and stare into the great frothing mess of the *big-one* until the columnar lines in the basalt across the river seem to be melting in the sun. Your mind wanders while your boot camp boss describes his line through Lava. And then he says, “Well, are you ready to run it?” And you hope like hell, as you walk back down that rocky trail toward your nervous passengers, that at least for a few choice river moments, you will know your ass from a hole in the ground.

It has been five years or so since you abandoned your motor-rig apprenticeship, and you have been rowing smaller boats down smaller mountain rivers in Colorado and Utah. And now the time has come for your first private trip back down through your old swamping grounds. You row a thirteen-foot Miwok down the river you once knew only on the big rigs and you feel incredibly small, but not so small that you don't chase a line between two huge holes, which erupt into a cauldron of foam that sends you ass-over-teakettle faster than you can say Sockdolager, and you are gasping for breath under the bottom of your boat for the first time. But the rest of the trip goes well, and then you run into your old outfit at Diamond Creek and there's your boot camp boss loading rubber into a U-Haul and you remember your first run through Lava and how he toasted you out on the barge after dinner that night. On the road out of Diamond Creek, you also recall the terror of treading water under your boat after that run gone wrong in “Sock,” but even a bad line will likely get you further down the river...a little closer, if you're paying attention, to knowing your ass from a hole in the ground.

A few decades later, you will drive your daughter up the old road past Marble Canyon and the turnoff to Lees Ferry, past Vermilion Cliffs where your boot camp river boss once lived and maybe still does and where there used to be a great little honkytonk for boatmen between trips, where you vaguely recall chasing a girl or two, where you once listened in awe, albeit from



a few barstools down—you were only a young punk swamper after all—to your river elders telling tales... Jimmy Hall, like one of Huckleberry's riverboat gamblers, bragging about running the table with a shovel handle pool cue, or that big-hearted soul you knew only as Whale recalling a close-call-of-a-run through Crystal. You will think of them as you drive up the switchbacks of the Kaibab, which you once rode down on the roof of the company U-Haul, and then you will forget about them as you follow the dirt road out to the North Rim. And as you look down from Point Sublime, through the Big Empty, toward that thread of a river, which you have not been on for over thirty years, you will wonder, since you're now approaching sixty, if you will ever row your daughters down that river. Sure you will. You must. You have to show them the canyon from the river up, this place where maybe you learned the difference between your ass and a hole in the ground. Where at least you know now, they really aren't that far apart.

*Peter Anderson*

NOTE: Peter Anderson was a swamper with Cross Tours in the late 1970s. He later led trips on rivers in Colorado, Utah, and Alaska. He hopes to get back down the Canyon with his daughters soon. Peter and fellow poet Rick Kempa edited *Going Down Grand: Poems from the Canyon* (Lithic Press, 2015), an anthology of Grand Canyon poems. His other publications include *First Church of the Higher Elevations* (Conundrum Press, 2015) and *Night Drive on I-80 and other Notes from the Big Empty* (Conundrum Press, 2016). He teaches writing at Adams State University in Alamosa, Colorado.

### **After the River Trip**

I have arranged all the chairs in the house in a circle,  
set up a hand-washing station next to it:  
two five-gallon buckets and a pump.

Dinnertime, I pile the grub in a mound  
on my plate, scuttle to a corner to scarf it.  
Later, I pass a vat of hand cream around.

Evenings, in bed beside her with my headlamp,  
I chew on peanuts from my private stash.  
I sleep in two pair of long johns, a wool hat, mittens.

In the middle of the night I struggle awake,  
head for the orange pail in the corner.  
Tomorrow I'll heave its contents off the deck.

In the morning, bright and early, I take a deep breath  
and bellow, Coffeeeeeeeee! Hot waterrrrrr! Later:  
Last call for the groover! Now or never!

Day after day, week on week, the same sorry clothes,  
two sets that I rotate, stripping down in the afternoon,  
wherever I am, whomever I'm with, suiting up.

Laundry: I squat beside the tub, swish them around—  
a pair of socks, some undies, maybe a shirt.  
I hang them on the bushes out in front.

Shower? Forget it. I splash cold water on my parts.  
Shave? What's that? Never do I look at a mirror.  
But oh how clean are my poor cracked hands!

—Rick Kempa

# Analysis of the Cooling Rate of Fermented Beverages in the Grand Canyon

## INTRODUCTION

EACH YEAR, AN ESTIMATED 18,000 people travel down the Colorado River and through the Grand Canyon. Of those, an estimated 97.6% (personal observation, data not shown) consume beverages consisting of the hops flavored fermentation products of *Hordeum vulgare* and *Saccharomyces cerevisiae*, colloquially referred to as beer. In order to maximize the refreshing characteristics of this beverage, the consistently low temperature of the Colorado River and excellent thermal conductivity of the aluminum packaging are used synergistically to chill the beer for consumption. In accordance with the drag bag protocol, beer is placed in a mesh bag, immersed in river water, and towed behind the boat.

Although formal records are not available, oral accounts indicate that this method has been in use since the times of John Wesley Powell, the first person of European descent to transnavigate the Grand Canyon. Subsequent river-goers who received traditional training in river beer cooling procedures (i.e. river guides) abide by the rule that beer will cool to river temperature when immersed for seven minutes. This has come to be known as the Seven-minute Immersion Conjecture.

Despite the prevalence and longevity of the seven-minute Immersion Conjecture, to the authors' knowledge there has been no objective assessment of its validity. This paucity of quantification is a significant source of distress to the authors of this article and many of their colleagues, as well as the major limiting factor in rationally developing an optimized beverage cooling protocol. The implications of a shorter cooling time would be profound. However, basic moral standards surrounding beer temperature during consumption dictate that standard protocol should not be changed unless sufficient cooling can be concretely proven at earlier timepoints.

To address this pressing issue, we performed a time course analysis of solution temperature at five different locations. The results of this study

provide novel insights into solution cooling and will, the authors hope, lead to more timely enjoyment of cold solution.

## MATERIALS AND METHODS

To assess the time period necessary to cool beer to river temperature, the authors sampled beers at pre-appointed time periods on five different days.

Beers were removed from the hatch. The temperature of one beer was immediately measured and that beer was consumed. The remaining test beers were inserted into a drag bag on the outer side of the outside boat. The beers were subsequently removed at predetermined intervals; the authors measured the temperature of each beer, and consumed it. All experiments were performed with cans of Tecate (volume: 355 mL, Cuauhtémoc Moctezuma Brewery). River and beer temperatures were measured using Cooper Model 1246-02 thermometer (0–220 degree F range, 2 degree gradations).

## RESULTS

Data from river miles 76 and 87.5 (Belknap 2011) support the validity of the Seven-minute Immersion Conjecture. When there is a significant difference between river temperature and hatch solution temperature, the solution does cool to near river temperature in approximately seven minutes, with

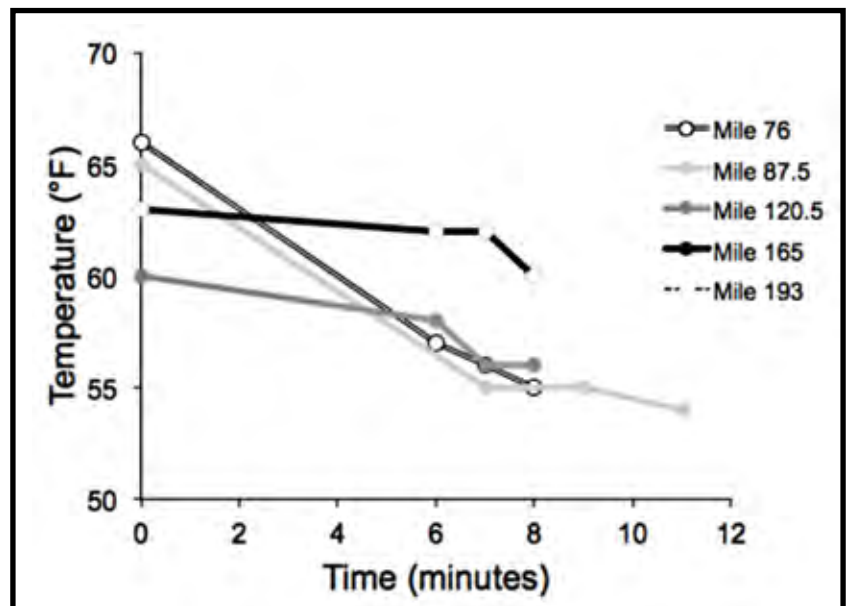


Figure 1.

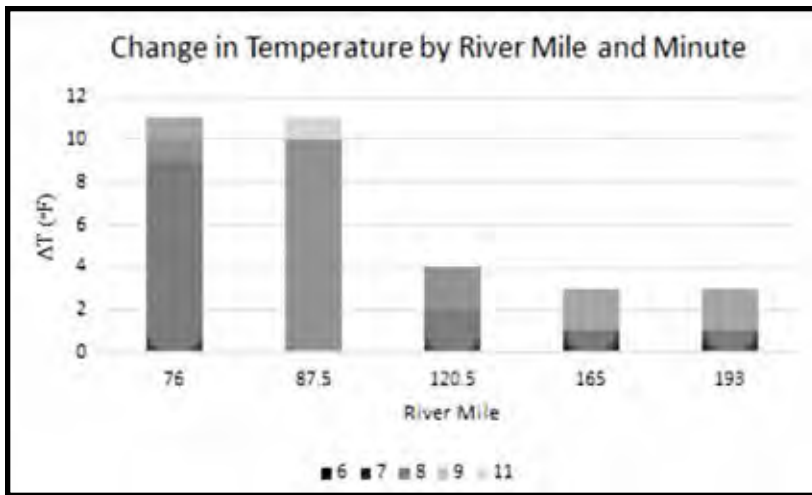


Figure 2.

significantly diminishing continued cooling after the seven minute time point. Figure 2 presents the temperature measurements by minute at five different locations on the river (note the data for mile 165 and mile 193 are identical).

The data demonstrate that starting at river mile 120.5, cooling provided by the drag bag is minimal due to the increasing ambient temperature of the river water. Figure 2 presents the change in temperature by minute for each of the five trials. It clearly demonstrates the diminishing impact of drag bag cooling starting at river mile 120.5.

#### DISCUSSION

The results show that while the Seven-minute Immersion Conjecture holds true for the first 88 miles of the River, drag bag cooling provides significantly diminishing returns by mile 120.5. These results suggest that solution can be consumed directly from the hatch from Phantom Ranch downriver with minimal difference in beverage temperature. The authors note, however, that individuals who are abnormally sensitive to the temperature of their beer should consider continuing to utilize the drag bag cooling protocol after mile 120.5, though they will be able to achieve only a three to four degree cooling of their beer.

#### CONCLUSION

The implications of these results are profound. Using a conservative estimate of 250,000 passenger days on the river each year, passengers drinking hatch cold solution on the lower half ( $([225.9-120.5]/225.9 * 250,000 \text{ passenger days} * 97.6\% \text{ beer consumption rate} * 7 \text{ minutes})$ ) would save a combined 1.52 years

waiting for their first beer of the day (Beer Adjusted Life Years, or “BALY’S”). Additional research is needed to determine the impact of drag bag treatment of solution in the critical window between river miles 88 and 120.5, which may result in a suggested tapering of drag bag application time in this range of the river. Ultimately, the authors envision sufficient evidence may be gathered to develop an algorithm to optimize the delicate balance between solution cooling and time to first daily solution consumption.

*Rebecca J. Zaunbrecher & Virginia M. Zaunbrecher*

#### ACKNOWLEDGEMENTS:

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## Richard Quartaroli

I WAS BORN IN SAN FRANCISCO in 1948. Tim Whitney, Ringo Starr, and I all have the same birth date, July 7, and we were all drummers, too (some, of course, more successful than others). So Tim and I used to try to get together on our birthday every year. Grew up in the Bay Area just south of San Francisco, down the peninsula a little bit. Lived in the suburbs. I had a friend I skied with, who started going out with this girl who was at a community college there on the peninsula. They had a small kind of ad hoc Sierra Club chapter. I don't think it was really official or anything, but they were going to do a rafting weekend [*on the Mokelumne River*]. One of the guys had some gear and I wrangled an invite to go along. Nobody knew what they were doing. Everybody took turns being paddle captain, but nobody had a clue, really. It was just kind of, "Okay, it's your turn," and "Everybody left!" "Right!" The river had a road along it, and you could do this little five-mile stretch over and over again. We took turns driving the shuttle and paddling. I started doing it with this group, just weekend things, no over-nighters. You'd camp out, but didn't have to pack all the gear on boats.

When I was growing up, we camped a lot because it was a cheap vacation. We never went to any national parks, just state parks in California. I'd never been to the Grand Canyon. But about the time I was starting this rafting, I came out to the South Rim, Mather Point [*in 1971*]. You know, just drive up and walk to the rim. When I looked down I was really speechless. Almost immediately I thought, "When I come back here the next time, I'm doing a river trip. I'm going to be at the bottom."

Then, where I was working, I was reading a magazine like *Field and Stream*, and there was an article about a Grand Canyon river trip. I can't remember what magazine. It listed all the commercial outfitters, or said "Write to the park service for a list." I wrote to, and got brochures from, every outfitter for 1973. There were twenty or 21 outfitters

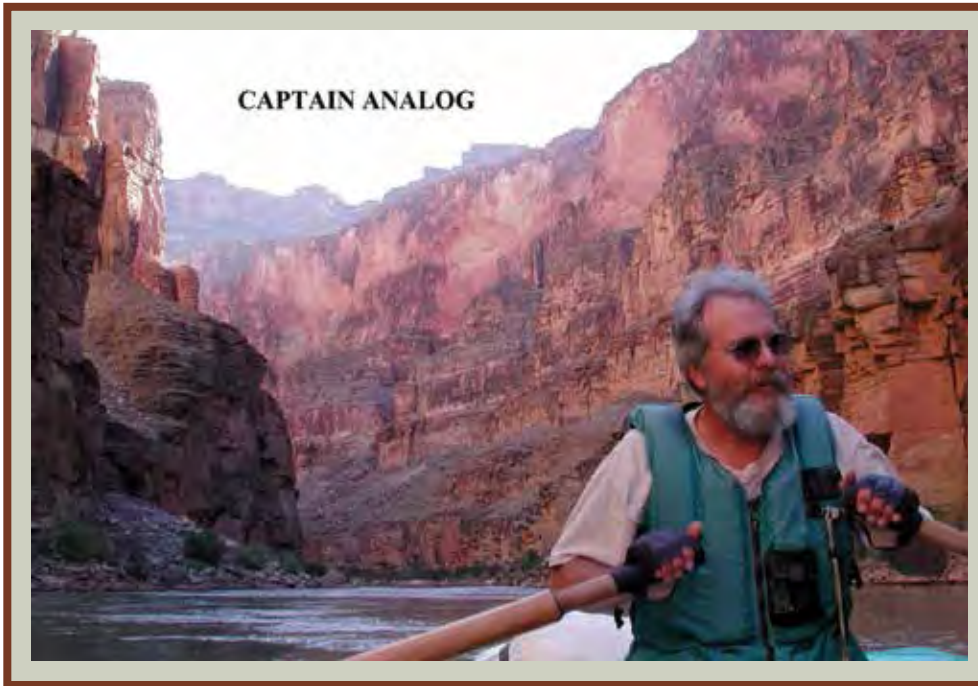
back then...22 outfitters. I don't know why I didn't save those, but it would have been great to have had that set of all the brochures from that particular year. I actually made a comparison chart of all these outfitters. But I knew right away that I wanted to do the longest trip available, because I was paying for this trip. I paid \$500 for an 18-day trip.

That was with Dick McCallum, Grand Canyon Youth Expeditions [GCYE]. The only other 18-day trip was a dory trip, which of course was more expensive. I don't know what the price was. The thing about the GCYE trip was it said "you're going to be rowing, you're gonna be cooking." I thought, "Well, these dories are pretty cool, but I'd just be sitting on a boat. This other one is more activities involved, more participation." Once I started flipping through these brochures, I knew, "Okay, I'm gonna spend some money. I'm going to spend it this one time." I figured, "As long as I'm paying for it, I'm going to do the longest trip out there. Might as well just go for it." [*"Trip of a lifetime!"*]

\* \* \*

*Richard Quartaroli [nicknamed Q] worked as a boatman for White Water River Expeditions, Arizona River Runners, Grand Canyon Expeditions, AZRA, and on many science trips as well. In 1983, he helped orchestrate the historic benchmark up in the rocks at 220 mile, which marked precisely the peak flow of that year. In*





my hat and sunglasses. Didn't have any spares or anything. I think about it now, going down in the middle of the summer without protective clothing, I can't do it. I stay bundled up, I stay covered. But here I was running around in a pair of cutoffs and some sneakers. Did Thunder River and over, Tapeats to Deer Creek, on the trip. McCallum and David had never been to Royal Arch, and we did Royal Arch on that trip. I haven't been back since! And it took longer than expected. On the campsite study I was doing [*in*

2009 he went down the river with Martin Litton on what turned out to be the last trip Martin ever did.

After getting a Masters degree in Library and Information Science, he worked for Dave Wegner at GCES as research librarian and later for Special Collections and Archives at NAU's Cline Library.

A true champion of river history in general and the River Runners Oral History Project in particular, Q gives money for that effort every year. He instigated a classic interview with Paul Thevenin in the late 1990s that appeared in these pages. Single-handedly, in 2006, Q dreamed up the entire Adopt-a-Boatman project.

This Adopt-a-Boatman interview was conducted in 2012 at his house in Flagstaff. —LEW STEIGER

\* \* \*

Dan Dierker was the shuttle driver. Yeah, on that first trip. 1973. Dick McCallum was one of the boatmen, and Jim David was the other boatman. There were two snout rigs and a bunch of youth. I was 25, the oldest one on the trip. There were some high school kids and some college kids. One guy was in the military... he was college age. There was a guy I'm still in contact with, after, well, almost forty years.

It was a group, two snout rigs' worth, with the double sets of oars. You had four rowers and then the boatman had a sweep oar—fourteen-foot oars or whatever on this 22-foot snout boat. It was eighteen days, and this was in July. Nowadays we think of July as monsoon season. We didn't have any rain at all in eighteen days. It was blistering hot. I remember I lost

1991] I stopped there once and looked around to see. There was plenty of sand, but it was kind of dune-y, so we had to level out some places to sleep. We didn't care. You know, it was no big deal. I mean, we went up there, I don't even know if we had any snacks. We certainly didn't have lunch, because we were gonna go up there in the morning, come back, have lunch, then go downstream. Well, you know, you got back to camp at four in the afternoon to eat.

STEIGER: Everbody's all low blood sugar, about to go into...?

QUARTAROLI: Well, I don't remember any of that, whether we were or not. But hey, youths, what the heck. You know? I haven't been back up there since, but nowadays when you go down, you see more and more trailing going up there.

STEIGER: Yeah, I've seen several guided groups lately. I think that accounts for the trail being so much more visible. I remember going up there a couple times, too. There's one spot that scared the shit out of me, up through the travertine. Maybe they got that fixed now. We just free climbed it. I'm sure you guys did too.

QUARTAROLI: Well, there were two guys at Flag High that McCallum knew who were kind of work-your-way—they did stuff, painting boats and repairing equipment—to work out a scholarship-type thing, or internship, to go on this trip. They were eighteen or so,

Left: "Yes, that's snow in the background." Jan. 4, 1989, bald eagle research trip at Lee's Ferry.

Above: "Captain Analog" enjoying the 2003 NAU Grand Canyon Semester. Photo by Sandy Swift



"Honest, Henry, the motor cavitated!" Q down the right side of Lava Falls, ca. Aug. 1983 after the flow had peaked. Flyin' Brian Mitchell photo

and they had done a little climbing. They free climbed it and threw a rope down. It wasn't a very long stretch, but it was enough that...some people, even with the rope, couldn't go up through it. But it turns out with that rope for protection, it seemed like it was—I don't remember it being any big deal, but yeah, that one sketchy spot. Then very cool when you get up there and the Royal Arch is there, and there's this pillar when you look toward the river. I remember that pillar there. *Very cool spot.*

The next day we went down to Elves, and climbed up as far as we could. I don't know, how many levels do you go up above...four, five six. What else did we do? They went up—I didn't go that day—way up above Stone Creek. They hadn't been up there before. We'd pulled in at the Galloway Camp, and it was low water. It was low enough they were waiting for water in Deubendorff, so they did this long hike up Stone Creek, and came back, the water never came up. We spent all this time thinking there's gonna be a little more water coming by the time you get back, and it's not there, so you just run it anyway. I don't remember runs in rapids. Of course it was my first trip. Didn't seem like any of 'em were a big deal except Lava. I

remember I was on McCallum's boat, and we touched the black rock at the bottom.

STEIGER: It must have been low.

QUARTAROLI: That was the pre-'83 Crystal, too. That was the '66 to '83 Crystal. You know, I remember scouting rapids, but I can't associate any particular runs with any of the rapids except for Lava.

STEIGER: Well you guys had to sit facing backwards too, didn't you? Couldn't watch where you were going.

QUARTAROLI: Yeah, we didn't know what we were doing, we were just following orders. You know, you had one oar. You weren't at two oars. It was like galley rowing.

STEIGER: Boy, you must have been able to really move those boats, though, huh?

QUARTAROLI: You *could*. Dick had been running these boats for several years anyway. When we did the loop, from Tapeats to Deer Creek, up to Thunder, they [*Mac and Jim*] took the snout rigs down and met us at Deer Creek. They each rowed a 22-foot snout by themselves. We picked up this guy at Phantom Ranch who was a high school principal, and [*I think*] he hiked with us. I guess Dick and Jim may have hiked up part way, maybe to Thunder, and then went back



down and got the boats. I remember hiking by myself up there, because people have different paces. It's July and there are no clouds or anything. It was blazing! You know, that big rock there, you can kind of hunker, get a little bit of shade at that thing.

STEIGER: Had you already lost your hat and glasses?

QUARTAROLI: Let's see, I think I lost my sunglasses at Ledges Camp. So I probably had sunglasses, but I don't think I had a hat. I never saw Dutton Springs when I went by there, because I could see the valley down below, and see the water down there, and I got down there and fell into the creek, drank all this water. Just fell in the creek—I just walked by Dutton. And the Ledges, we called 'em "the oven shelves." They were so hot. It was like pre-heat those things and bake all night. And what other places? I remember camping at Upper National. There was a commercial trip at Lower National, and we did this late-night run for beer. We couldn't find any beer.

STEIGER: You were gonna swipe it from 'em?

QUARTAROLI: Well, we were gonna borrow it.

(laughter) A lot of it was dehydrated food. I remember the Richmore brand, and some canned stuff—canned ham, Spam, and not a lot of fresh stuff. There were eggs. I don't remember what the meals were, but just typical backpacking dehydrated food and canned food. Coleman stoves.

STEIGER: What a great introduction to the Grand Canyon!

QUARTAROLI: Yeah. I was trying to think of what else went on that trip. I was never much for photography, never took a lot of photos. I've got some from that trip, and I've got some movies from that, too. I haven't

looked at those in ages. They're buried here in the house somewhere.

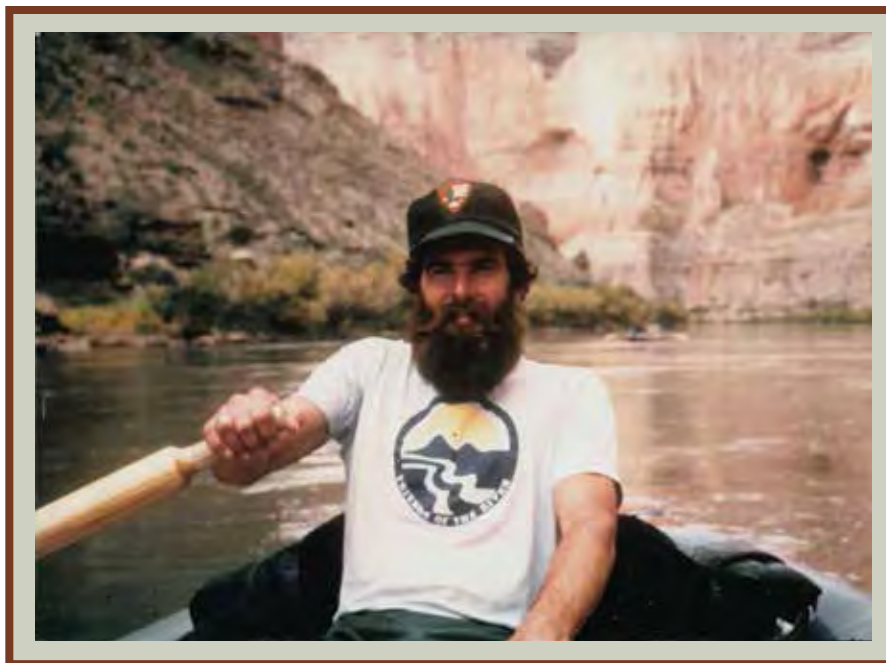
STEIGER: Did you have an inkling on that first trip that this was a place you were going to spend so much time in?

QUARTAROLI: No thought of that. I just continued cross-country skiing and backpacking and doing these other river trips, not thinking about the Grand Canyon again. That was it, I paid for my trip. I went back to work, and then the next year, '74, we were boating on the Kings River, and we're camped out. The Kings River is right out of Fresno. It's just a daily stretch again, we're clueless—well, not completely clueless, because we've been doing this for a while now. But we're still, you know, everybody takes turns being paddle captain and trying to follow instructions. We're camped out there on forest service land, and we had to have a fire permit to camp, and so the ranger comes along to check the permit, and there's a seasonal ranger with him. It's a guy that went to high school with a buddy of mine, and I went to school with his older sister. He said, "You know, if you guys want to do a Grand Canyon trip, there's a company, this guy out of Turlock, who you just call him up, and you can go out and work your way on this trip." You know, you work and you get your Grand Canyon trip. I thought that was a pretty good deal—saves \$500. We didn't do it that year, but my girlfriend at the time, she and I followed up on that.

In 1975, we called this guy in Turlock, Henry Falany, White Water River Expeditions. My girlfriend and I sign up and drive out to Kanab, and go work this six-day commercial motor trip, with White Water.

We were told to ask for Paul Thevenin. We knock on the door of the trailer, and Paul's wife, Loretta, answers. "We're lookin' for Paul." "Well, Paul's not here, he's down at the Ferry. Come on in." We said, "Well, we're here to do this trip. We were told to show up on this day." Loretta says, "Oh, you just missed it. That trip is down there now." It turned out there were two trips a day apart, and Paul was down there for the first one. We were gonna be swampers on the next one. So we weren't there late, we didn't get

"Post-Halloween party costume as an NPS ranger." Around Nov. 1, 1981, on WWRE's second crew training trip.



anything crossed up, but we had to wait for Paul. So you know the Thevenins, “Come on in. Did you eat?” Loretta’s fixing food for the kids. Let’s see, Arthur [*now a boatman and GCE manager*] was in diapers. I think it was Fred’s [*now a boatman and AZRA etc. co-owner*] fourth birthday party. We just had birthday cake with the family. That was before little Henry was born [*Becky and Theresa were a bit older than Fred*].

White Water usually ran six-day motor trips, to Diamond. The trip that went on before us was a geology trip out of Fresno State. They went two extra days, because they stopped and did a lot of geology. The trip we were on was a regular commercial trip, six-day, one-boat trip with Bill Taylor, Wild Bill Taylor. But we passed this other trip, the geology trip. I didn’t really meet Michael Denoyer then, but he was the boatman on this geology trip. Don’t remember much about that trip, except my girlfriend and I were real gung-ho about it all, said, “Okay, we’ll get up in the morning and get to work.” And we were always up, packed, ready to go, in the kitchen, ready to help, do whatever needed to be done. We thought this was a pretty good deal. I don’t know what the cost of this trip was, probably \$350 or \$400. We thought of it as getting paid \$350 for working six days. And that was more than we were making working back home. So we were just on top of it. We had enough camping experience and cooking experience to do it all, so that wasn’t a big deal, but we didn’t know the whole routine. Wasn’t that hard to figure out. We were ready to go, ready to do anything, we didn’t care.

STEIGER: Now Bill Taylor, he had like a receding hairline and he was real muscular, right?

QUARTAROLI: Oh yeah. He was not real tall.

STEIGER: But *strong*.

QUARTAROLI: Oh yeah, he worked out. He was older, like ten years older.

STEIGER: Oh shit, he must have been thirty!

QUARTAROLI: This was really funny. We’d come back every year and do a trip or two, vacation trips. I remember one where they

said “Guess what, the Old Man’s turnin’ forty!” And everybody thought, “Wow, he’s forty years old, and he’s still working down here. He’s still doing all these trips! How can *he* do that at forty years old!?” Yeah, he was the old man back then. “God, how does he do it?!” He was a teacher in California, and he’d come out summers. And his story, it was kind of funny how he got started. He came on as a passenger, too. They were supposed to pick him up at Page and take him down to Lees Ferry. Well, it was one of those typical things with boats and motors. He’s sitting at a motel in Page, and he’s supposed to go on the river that day, and he doesn’t get picked up ’til five that night, because of whatever conflagration was going on with boats and equipment. [*Bill*] Gloeckler and [*Bruce*] Winter [*now co-owners of Arizona River Runners, etc.*] may have been involved...I think Bill Gloeckler got out at Diamond, and Bill Taylor ended up, as a passenger, taking the boat from Diamond Creek down. I think that may have been how Taylor got started. Because, you know, they were going to Temple Bar, but Gloeckler had to get out to start another trip or something like that.

STEIGER: “Well, find the best guy you can to get that trip out of there.”

QUARTAROLI: Yeah. Here’s this guy in really good shape, and outdoorsy, he kind of knows what a motor’s all about. And so I think that was Bill Taylor’s first one.

This first trip we did in ’75, the Diamond Creek Road washes out. The bus came down to the junction. We hiked the passengers up with their bags. Then we went down to Pearce Ferry, and we got down there and there’s no truck. This is back when you’re de-rigging everything. Those White Water boats, all steel and plywood and forty-horse Johnsons, full-length side tubes—you know, this big, heavy stuff. We took all the stuff and put it on the beach—the truck’s still not there. So Willie Taylor drills this plywood board—drills some holes in it, ties this rope on it—and I’m boogie boarding behind the White Water rig in Pearce Bay while we’re waiting for the truck. We still had enough fuel



Michael and Q get duded up. WWRE June 1980.

Photo courtesy of the Bear

to do that. Willie's just driving around in circles, I'm on this plywood board—water skiing boogie board. As the sun sets, here comes the truck and trailer. This is where I met the Bear, Neal Shapiro. He and Kim Huffman, whose nickname is Steamboat—they tried to get down the Diamond Creek Road when it was washed out, and they broke something on the trailer, jack-knifed trying to turn it around to get out. They had to get some welding done in Truxton or wherever, and finally came around to pick us up. The truck drives up, the sun's setting, and I'm boogie boarding around Pearce.

And then the *next* White Water trip we did, got out at Diamond Creek. A lot of times the crew was doing back-to-back trips, the boatmen, so we'd go up to the Grand Canyon Caverns and they'd fly back. Well, as swampers, we weren't going on the next trip so we're driving around in the truck, back around through Flagstaff and back to Fredonia. Paul Thevenin's driving the truck. Who knows how much sleep he's gotten, and how long he's been up and driving around? Paul asked me if I knew how to drive this truck with the split axle. Well, I worked at a trucking company, in their shops at night, to work my way through college. I worked with the mechanics and ran parts and cleaned trucks and shuttled trucks back and forth. So I learned how to drive all these different types of trucks, because I'd have to move 'em from the trucking yard to the shops and back. They were diesels and gas rigs, you name it. They'd send you down from the shop, and you go to the yard, get in a truck, you have to figure out how to drive it. There are untold numbers of different types of trucks and transmissions. Anyway I said, "Yeah, I can drive that." Paul said, "Okay, you drive while I sleep." This is my second White Water trip as a swamper, and I'm driving the truck and trailer back.

STEIGER: You've got the whole wide world in your hands.

QUARTAROLI: Well, that's no big deal, I know how to drive this truck. But Paul still tells that story. When I saw him at the GTS last year, he was telling people, "We hired him because he knew how to drive a truck." (laughter) He still tells that story of how I got to be a boatman: because I knew how to drive a truck. I said, "Yeah, Paul, I've regretted it ever since, too," admitting that I could drive this rig, you know.

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In 1979, I'd switched jobs. I got into an apprenticeship as an electrician in Silicon Valley [*in* 1974]. I finished my apprenticeship early in '79, and suddenly I had more flexibility because I was a journeyman now,

I could take more time off. I could do more trips! I talked to Henry Falany about being a boatman. I came out for the month of May. I was gonna do three training trips in May and then the *fourth* trip I was going to be a boatman. White Water used to go down to Belize in the winters, and they had just come back: Michael and Roxanne [*Denoyer*], and Jake and Peggy Luck. Jake was working for White Water as a boatman at that time. They'd just come back from Belize—I mean, just rolled through the doors and turned on the lights and the water and everything at the warehouse and started packing for this trip. So my first training trip was with Jake Luck and Dave Kloepfer. Dave had just sold Harris [*Trips*].

STEIGER: Tactical error, but oh well, you'll have that.

QUARTAROLI: Yeah. He had just sold Harris Trips to Sanderson [*so they could resolve*] the partnership with Sanderson and Diamond and all that. Kloepfer, he wasn't running a company anymore, so he came on this trip as a second boatman. It was the first week in May and it was low water, and I was supposed to be training. It's a typical White Water trip, six days to Diamond. Sunday start—it's always low water. So I didn't drive that much. I didn't really have *that* much of a clue. I'd driven *some* as a swamper. You know, you get to drive a little, on the flat water. I had an understanding of the whole thing, but still I wasn't...

STEIGER: Didn't have every run firmly fixed in your mind?

QUARTAROLI: No. So with Jake, he's trying to tell me stuff. But I didn't drive much, and it was cold and rainy. Kloepfer got hung up in Crystal, so we camped at Esmeralda's Elbow, Willie's Necktie, right below Crystal where you make the bend, above Nixon Rock, Hundred-Mile Rock.

STEIGER: In the middle of Tuna, as it were, on the left?

QUARTAROLI: On the left. Because Jake and Dave had to patch Dave's boat. I don't know if you remember the menu that White Water had, but do you remember the fried chicken? It was Southern fried chicken, where you dip it in the milk batter, and then you dip it in the flour. It was really good, but it's a pain in the ass. It takes a *long* time. Because they had to patch this boat, we camped early—well, "early"—it was an hour earlier than we would have—four instead of five—and it's cold, it's raining, we haven't even pulled the chicken out to start thawing. It's in there with dry ice. Peggy was doing the cooking—I was helping. Jake says, "This is gonna be the longest amount of time you have to do fried chicken, so do it tonight." And we're out there in the rain, doing thirty-five pounds of chicken. It's usually in these big pans with Crisco in there, open pans. Peggy says, "Well, it's rainin'. We'll never be able

to keep the grease hot enough, plus water splashing in there, it's gonna catch fire." She said, "Get these big pots, and we'll do it in those. We'll put a lid on 'em to keep the rain out and everything, and just keep the thing going." It gets dark and Jake and Dave patch this boat, and we're frying chicken, people are eating. Then at the end, we get to the gizzards and the livers. You're supposed to have a batch of those, and that's the last thing you do. We're doing those in the dark. I said to Peggy, "Well, I guess that should be it, huh?" She said, "No! we got a bunch more here!" I said, "Really?! I thought we did them." We do some more of what we called "chicken ickies." "No," she says, "we've still got some more." Finally Jake yells at us, "What are you guys doing?! Eat! Why are you still cooking?" I said, "Well, we've still got more chicken ickies goin' on here." Jake said, "Everybody's eaten! Shut 'em down!" It turned out the butcher had misread the number on the order. Instead of three point five [3.5] pounds of chicken ickies, he read it as thirty-five [35] pounds. So we had thirty-five pounds of chicken and then thirty-five pounds of chicken ickies, too.

STEIGER: Seventy pounds of chicken! Oh my God!

QUARTAROLI: And Jake, even the last time I saw him before he died, he still brought that up. He said, "You and Peggy saved my ass that night, doin' all that chicken in the rain." That was the highlight of my career with Jake Luck. I said, "Jake, it was just dinner, for crying out loud." But that trip, on the way out at Diamond Creek, Jake says, "I can't do this anymore. I gotta quit."

STEIGER: Just right out of the blue he decides?

QUARTAROLI: Yeah. He said he'd done all these seasons with White Water [*and Western River Expeditions*], and winters in Belize, too, and, "I'm getting too old for this. I'm goin' back to Waterman Welding." He said, "Yeah, now I'm going over to Waterman and I'm gonna put all this leather on, and a helmet over my head, and sit with a fire between my legs." And Jake stayed there at Waterman 'til he died.

So, we're back in the office at White Water in Fredonia after that trip and Jake's talking to Henry on the phone. I'm only hearing Jake's side of it, "No, Henry, nope, he's not ready. Nope, needs more time... No, Hank, he needs more time." Finally Jake says, "Okay." Jake hands me the phone. "Henry wants to talk to you." I take the phone, "Hey, Henry, how's it goin'?" Henry says, "Well, boy, are you ready?" I said, "I guess so." So I was a boatman the next trip, because Jake quit [*I had a total of seven trips: one as passenger, five as swamper, and one as trainee*].

\* \* \*

It was a three-boat trip, that next trip—Michael [*Denoyer*] and me and John Cross Jr.—because John Cross Jr. had been down in Belize with them. He'd gone down there as the dive master. They get John to do some trips. It was already set up: it was supposed to be Michael and Jake and John on this three-boat trip. Well now Jake's gone, so they put me in the middle, so they could watch me. I'm supposed to be following Michael, and then John's supposed to be coming along and saving me, whatever I do. I've still got my Belknap guide with drawings of rapids. At Lees Ferry they draw out the diagrams of the rapids we're gonna run the next day. And then the next night they'd draw some more diagrams, how I'm supposed to run these rapids.

We start out in Badger. Michael runs. Then I run. I had an okay run, but I hit a prop, and those had shear pins. The shear pin breaks and then you've gotta pull the cotter key out, the prop nut off, the lug nut, the tightening nut, and then the prop, and put a new prop on [*really, put a new shear pin in*], and put everything back in. Meanwhile you're hanging off the back of the boat, changing all this stuff while the boat's flopping around the rest of the rapid. So I'm doing that, and I get everything changed, then I look around, because I'm thinking the third boat's gonna be coming along here, and I've got no control. Am I in the way of the other boat, John's boat? But I look around and he's stuck in Badger Rapid. He's up there on the rocks. I thought, "God, I wonder if I caused that, because I was in the way and he had to maneuver around me, and then he got stuck on the rocks?" No, it turned out that his lower end bolts were loose, and the lower unit slipped down just enough it went out of gear, and *he* didn't have any control. It didn't fall off, it just loosened enough that it dropped out of gear, and he went over.... He can't do squat. So he's sitting on the rocks on the left. I thought, "Oh, God, I screwed up, because I was in the way," because I didn't have a motor and I couldn't finish my run. Well, Michael and I pull over, we walk back up there. You could shout, but not really. We had to convince all the passengers on John Cross Jr.'s boat to jump off the boat, in the rapid, and Michael and I'd pick 'em up, we'd shuttle 'em to the beach. But none of these people wanted to jump off this boat! (laughter) You know, this is their very first rapid, and they're stuck there, and we're trying to tell 'em to jump into the river. We finally convinced 'em to do that. Meanwhile, we build a big ol' fire on the beach and get the hot water going, because the food is packed in different boats. John had the propane, so we had buckets and water and soup and stuff like that—coffee or whatever—and started heating up these buckets of water on the fire for

people who are now swimming Badger Rapid.

STEIGER: So you guys are both out there in your boats, collecting these people?

QUARTAROLI: Right. So he'd get a couple at a time to go. You don't want to be chasing a whole boatload of people down there at one time. And we're picking 'em up—they're now all wet—and getting 'em to the fire. Roxanne's got soup going, and we're unloading duffle bags and getting sleeping bags out for these people. This is the second week of May.

STEIGER: Oh, and that water was *cold* then, too. That lake was full, Lake Powell.

QUARTAROLI: John and his girlfriend and a swamper spent the night on the boat, and we get everybody fed and dry. Then we took turns, two-hour shifts, staying up, keeping the fire going and everything—waiting, just in case....

STEIGER: The water would come up enough.

QUARTAROLI: Come up. You know, if there was a boat coming loose. We took turns, sat up all night, and it didn't come loose. Then the water drops off overnight, so it's even higher and drier, but you can get out more to it, you can get more gear off, and end up getting ropes on it, and we got the boat off that next day. I don't remember how long it took us—it took us a while. Had lunch there, and then went down to our regular camp, which is down around North Canyon somewhere. That's our camp for Day One, and we camp there on Day Two. We're a day behind on a six-day to Diamond, it's my first trip as a boatman, and I don't know what I'm doing. I think the boat needed some repair, needed some patching—stitching and patching—took care of that. So now we're a day behind. We're movin' the schedule up quite a bit, not stopping at a lot of places.

STEIGER: "There's Nankoweap up there." (waves)

QUARTAROLI: Yeah!

STEIGER: "That's the Little Colorado over there on the left."

QUARTAROLI: Yeah. Well, the Little Colorado was probably muddy anyway, so that's okay. You know, we're a day behind, and I haven't had the chance to screw up yet. I'm pretty sure I'm gonna screw up somewhere on this trip, you know, and what's gonna happen then? But I didn't! Who knows what happened? But I did hit props and I sheared pins in this low water.

STEIGER: Once you shear a pin, that prop ain't turnin'. (QUARTAROLI: No.) You're done.

QUARTAROLI: Because the pin goes through. You are done. And so where else did I shear pins? God, I don't know, did I do one in House Rock? No, I got *thrashed* in House Rock. I was trying to make the cut



George and Q cooling off from a hot de-rig at Pearce Ferry, ca. 1988.

Owen Baynham photo

and I dropped the ass in sideways, into that hole at the bottom, and just got thrashed. I got thrown down, you know. I was in this boat they called the "Tiny rig." It was a smaller boat, but it had this funky wooden frame on the back, with this bench on it that was always in the way. Willie and Bear used to stand up on it. They were a little shorter. But Michael and I would straddle it, and you were always getting thrashed. You had all these jerry cans down there of fuel, and you had a spare motor right there with the prop towards you.

STEIGER: Strategically pointing right at your face, yeah.

QUARTAROLI: Right in the wrong place. I just got thrashed. I only drove that boat one or two other times. The new guy [*usually*] took that boat because it was smaller and lighter, but this back frame was way funky. I remember shearing a pin in Hance. We were doing the turn-around run in low water. John and Michael explained how to do a turn-around run. I don't know whether I'd done one until Hance. We scouted it, and I watched Michael go through, and then okay, I'm going through. Did a turn-around run,

and then back down and maneuver between the holes.

STEIGER: Stayed off the Whale Rock?

QUARTAROLI: Yeah [*before it had that name*].

Maneuvered there. I thought I'd hit a prop as I went in, but it was still running. I had that thing cobbed, full throttle. I'm backing down, maneuvering, and I get all the way down, past everything, and then I was gonna turn around and head bow-first the rest of the way. When I backed off the throttle...it was hanging on by who knows how much, but as soon as I throttled down, the shear pin slipped and then it was gone. So now I'm past Hance, but I've got Son of Hance coming up, and I'm on the back of the boat, doing the whole thing with the cotter pin and the prop nut and new shear pin. I'm hanging off the back of the boat, floating towards Son of Hance. You know, you're *hanging* out there. You've got the swamper holding the motor up so you can work on this thing. Somehow or other I got everything back together and went on down.

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Another Jake story: The first year I did that trip and then a few others, and things went really well. With Denoyer and John Cross, we scouted Horn Creek. Michael says, "Well, I'm gonna do a turn-around run." I said, "Okay." What do I know? I'm fairly close behind him, but not that close. Mike does something there, so I do. I'm not sure if he did it the way he wanted to or not, but I did what he did. Instead of doing a right-to-left, which we used to do sometimes, and then back down, Mike did a turn-around to the right, and over against the right-hand wall, and just scooted down there.

STEIGER: Oh my God. And that worked?

QUARTAROLI: The "ghost run." Which I didn't know about a "ghost run" at that time. I didn't hear about that 'til later. I think it might have been in Neal Ekker's book, *Requiem for a River Rat*, he talks about "ghost run" in Horn Creek, and I thought, "That's it!" because I've scouted Horn before, and you don't see that run.

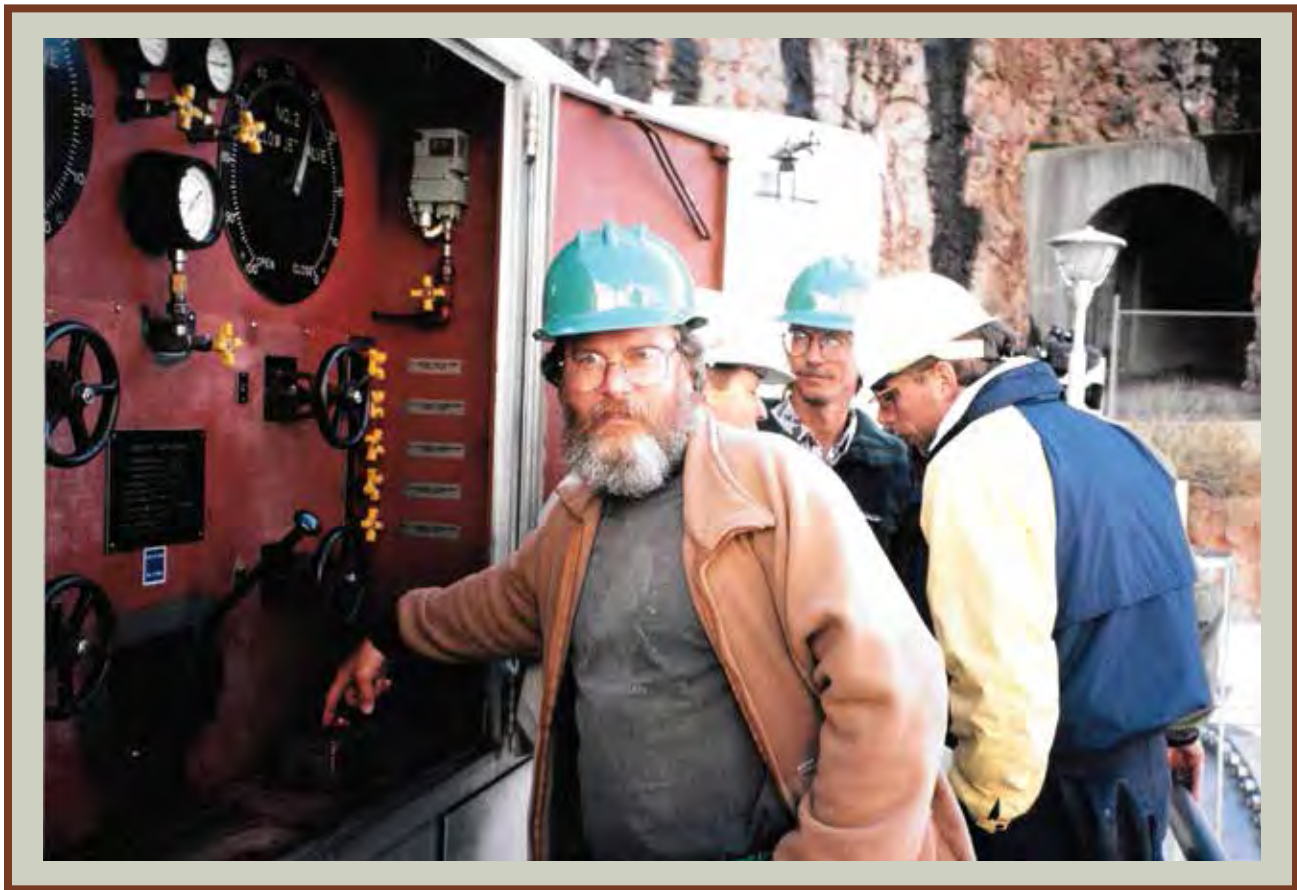
STEIGER: No. You don't realize how much water's going over there to the right when it's low.

QUARTAROLI: And that's why it's a "ghost," because you can't see it. You just slide down...I mean, we were rubbing tubes on the rock goin' down, sliding down on the left-hand side [*of the side tube*]. Well, it's river right.

STEIGER: And then did you have to push out from that little corner pocket in there, or did it just take you around that?



"Lava Falls, One; Q, Zero." First flip, but not the last, GCE dory trip; July 1994. Photos by Michael Denoyer



Q with a Monkey Wrench t-shirt at the controls of Glen Canyon Dam, March 1996 flood. GCES photo

QUARTAROLI: I don't remember after that what happened, other than that's what we did. But then here's another trip I was on. I did a handful of trips, a half-dozen trips, and everything went pretty good. Because I was doing a lot of back-to-back trips, I was really tired. You know where Pipe Creek is, where Bright Angel Trail comes down, and if you do an exchange? Then you go down and it's pretty rocky on the right? I kind of spaced out, and I went down the right, and slopped down there and got the boat hung up and trashed, bent the rear frame right where the motor well is. It got hung up in there, and all that angle iron and everything all just a big "V"...it put holes in the boat. We went down to 91-Mile and patched. We were there for hours patching. I was with Bruce Blackerby, a geologist, as the other boatman. It was a two-boat trip, he and I. Oh, besides that, I'd done all this in Pipe Creek, and then went down and I was gonna try that "ghost run" again in Horn Creek, because I thought, "I don't want to do any more damage." And I don't know what I did, but it didn't go as well as that time before. I crashed through there and put some more holes in the boat. We got down there, patched, and then we were way behind, repairs and

everything. We got to Diamond Creek a little bit late, not too bad. Then we get back to the warehouse. Well that frame goes to Waterman Welding, because all the angle iron and all the steel and everything has got to be cut off and new pieces welded on. So who gets that job? Jake!

STEIGER: He's laughin'.

QUARTAROLI: Yeah. I get off the next trip, I see Jake after that. Jake says, "I've never seen a boat that tore up in my life! I couldn't fix any of that. I just cut it off and welded new stuff on. But you saved my ass by fryin' all that chicken, so that's alright!"

One thing I really remember from Jake was: use as little power as necessary. Just because you've got forty horses, if you don't need to use 'em, don't. Because then you'll always have something to spare. When you need the momentum, I mean, that's forty horses to get that big boat going. And I've learned it's a more natural ride if you're not at high throttle. If you can idle through, and let the river take you, rather than if you're going too fast, it screws up the motion of the boat in the water. For the people, for a ride—a nice roller coaster ride or smooth ride. People who may be against motors and say, "Oh, well, it's not a good ride,

it's not natural, because you're using the motor." But if you use the motor right, you're gettin' a nice water ride out of it, rather than a boat ride. I learned that from Jake, and that was on that training trip, because when I did run, it was too high. And he said, "No, no, slow down, back off on that."

And from Henry [*Falany*] I learned that run in Crystal—he wanted a left-to-right run, the highway, the "freeway." He had certain ideas about how we ran rapids. He was real conservative. It was good. We were all trained, we all learned real conservatively. It really paid off when you got into something like '83 and high water. We pretty much ran our same runs, or a higher-water run that we had learned—conservative runs. We didn't go out there showboating or doin' anything just 'cause the water was high and we could do that. Henry's an excellent boatman. He was good.

STEIGER: Did he have that Jake kind of touch, where he wouldn't throttle a lot?

QUARTAROLI: Yeah. But he just knew where he was all the time too, like Jake. I mean, no excess effort.

But I ran so many of these trips with Michael, and learned just so much from him about running a boat and running a trip. For a long time there, it was Michael and me and Bear.

STEIGER: A great bunch. If somebody was gonna pin you down about things you'd learned from Mike... If you had to be specific, what would you say were the first things that leap to mind?

QUARTAROLI: Well, probably more about running a trip, too. And it wasn't necessarily that he sat and said, "Well, this is what you do on a trip." It's just being on trips with him, and watching him with people and other crew. Then you get to a point where you've followed somebody enough, and you think you want to do it your way, or think, "I could do this." Then I was off leading trips, too, and learning that I didn't know all that much about it yet—about just how to conduct the trip and do everything right. You get a better appreciation what the trip leader is like, that you were workin' for before. I trained quite a few people. I always wanted to come back and have *them* lead the trip and me be the follow boatman, the second boatman. "Okay, it's your turn."

The three of us [*Mike, Bear, Q*] were on when the water peaked in '83. It peaked on us... We'd been gettin' those messages, "Camp high, be cautious." That was when we were walking folks around Crystal.

STEIGER: After the big carnage.

QUARTAROLI: Yeah. You know, we were on that whole time, but we weren't affected by when it got shut for a day—no launches, or everybody had to stop at Phantom, or whatever that was. We either hadn't put

on yet, or we were already on and past that point when that happened. It was a two-boat trip, but Bear went on as a swamper. He talked to Paul, said, "I really need to go on there, so when I do the next week's trip I'll know what high water is."

STEIGER: He just wanted to go?

QUARTAROLI: Yeah. Well, why not? It was 82,000 when we ran Crystal. We went down and Michael camped in some funny places, 122 Mile. We camped there, way up in the drainage.

STEIGER: Back up the side canyon?

QUARTAROLI: Up the side canyon. We put the boats across the side canyon, because people were camping on both sides on the ledges. So they would walk across... The kitchen was on one side, and I think the toilets were on the other. These were bridge pontoons, so we had this bridge across this canyon. And that's when it went up to 92,000, while we were at 122 Mile. [USGS later recalculated the peak at 97,262 cfs.]

The scariest spot that whole summer of that high water was Granite Narrows. Mike was ahead of me, and we go into Granite Narrows, and his boat just started going places. I thought, "What's goin' on?!" because the boat was just doing these weird moves.

STEIGER: Just sitting on a big boil?

QUARTAROLI: Yeah, where you get to what P.T. Reilly called "Impingement Wall," where it goes in there on that left corner...

STEIGER: And sucks under, yeah.

QUARTAROLI: Comes back across over the right-hand side. So his boat just starts goin' around, and got turned around, and he bounced the wall and bounced around to where the Christmas Tree Cave is, that inlet there. He's out of sight, I don't see him. Then the next thing I know is *my* boat is spun 180 degrees and pinned against that wall, Impingement Wall. We were talking about how big and heavy these White Water boats are. I can't move it off the wall—you know, with a 40-horse Johnson. I can't get off, and so we're sliding down the wall, backwards, on the left-hand side, because we're facing upstream. I'm tryin' to be calm, I'm trying not to express my panic to all these people—you know, twenty people on this boat. And the way the boxes were, on those White Water boats, they're way out to the side, so people are sitting up on the boxes, and here's this...

STEIGER: Overhanging ledge.

QUARTAROLI: Overhanging wall there. So I calmly said, "Would everyone on the left-hand side of the boat please move to the middle of the boat." And everybody turned around and looked at me, because I just said it kind of matter-of-factly, and nobody moved, because they... "What? What's he want? He wants us to move?"



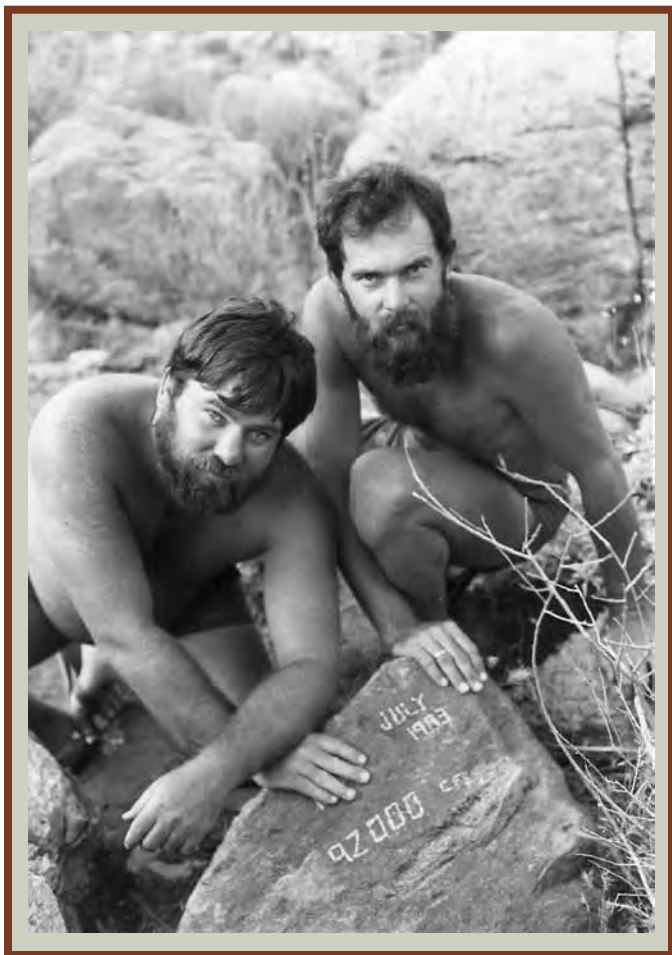
And then I just shouted out, “Move *now!*” And people bailed off of that, because we were still sliding along, and I could see this rock over there. I thought, “Well, we’re not moving fast enough that really somebody’s probably gonna get bumped, but who knows? I don’t know what this boat is gonna do.” So everybody moved to the middle, and we just kept sliding down that side. Then we popped around the inlet to Christmas Tree Cave, and Michael and Bear were there with their boat. That was the scariest thing.

STEIGER: Eyes were this big around?

QUARTAROLI: Yeah! ‘cause I thought this is a potential flip, right there, with this big rig. I thought we were gonna go over. It didn’t *move* like it was gonna go over, but I just thought that...

STEIGER: All you’ve gotta do is suck that upstream edge, and adios amigos?

QUARTAROLI: Yeah. And so I really didn’t want everybody to move to the total right-hand side of the boat, but I wanted them to get off of the boxes on the left (STEIGER: So they didn’t get splattered.), so I got ‘em in the center.



“Bear and Q stumble upon the 220 high water inscription rock.”  
July 1983. Heidi Nichol photo

STEIGER: Should we talk about the 220 mark, that whole thing?

QUARTAROLI: Still a lot of people don’t know about it. Let me say, you’re talking about that 1983 inscription. I think it was the Old-Timers trip [in 1994] with Bob Webb and Ted Melis. I don’t know whether they’d been there or not, but I remember discussing that high-water inscription there at 220. They’ve studied debris flows and flash floods all over the world when they were doing all this, rapids changing and geomorphology, and they said you go to China and Japan and there are inscriptions everywhere. Every time one of those happens, somebody marks it, whether they carve it or they paint it, because a lot of these events happen in populated areas, so it’s real important to know how big these flows were, for safety, because there are these people downstream who could be affected, lose their homes or die. You go to these places and there are marks all the time with dates. Melis said as far as *they* know, that one at 220 is the only one from ‘83.

STEIGER: The only mark that anybody made?

QUARTAROLI: The only mark that anybody made in ‘83 for this high water stuff. [Webb and Melis] mentioned to me that there was no aerial photography. That was when Glen Canyon Environmental Studies first started, and they’re supposed to study the effects of the operations of Glen Canyon Dam on the river corridor. Now the dam is not operating with their standard fluctuating flows for power generation, because they’ve got to release all this water because Lake Powell is filling. So when they wanted to go back and look at where these flows were, and historic high-water flows, they’re looking at debris, they’re looking at wood piles, where the debris is for these different levels, and trying to correlate it. Well, this 220 inscription, they have that rock where it was at the peak, the 92,000. So now they can use that as a benchmark to tie in all these other flows, and the driftwood piles.

Then another thing about that inscription is the first NAU Grand Canyon Semester trip I did was in ‘99. And J. T. Reynolds was on the trip, was the deputy superintendent, Grand Canyon. I hiked into the trip at Tanner and exchanged with Larry Stevens. Larry and I passed on the trail. Larry said, “I told the deputy about the inscription at 220. He’s working with the Hualapais on these different issues,” you know, boundary issues. Hualapais claim the middle of the river, and the park claims the old high-water mark. Larry said, “I told J. T. about this inscription at 220, the high-water mark, and he’d like to see, just so he’s got an idea, visually, of what is the high water that the park is claiming.” When

we got down to 220, I took J. T. over there and talked about it, so he had an idea, at least in that part of the canyon. But, you know, it's fortunate that someone thought that it would be historic to put something there. And you know, you go to that inscription now, and there's an "X" chiseled into it. It's GPS'ed for all this research that people do. They've got a benchmark there for that so they can tie in elevations, if they need to, with whatever they're doing. [*Q and GCRG do not advocate for inscriptions—it's better to photo-document.*]

\* \* \*

I went through these phases. I went through '83, five full seasons of boating, and I was an electrician in Silicon Valley, too. I would do river seasons, and then go back. Work was good, construction was good. I could leave for three and a half, four months, and then go back and go right to work. But then I got a little burned out doing all those trips [*up to 16 a season*—a little grumpy, and then construction wasn't as good, so it wasn't always as easy just to go right back to work. Some winters I was out of work. So it was a combination. I realized I wasn't running trips that good. I wasn't pleased with the trips because I wasn't putting the effort into 'em, and I was a little grumpier, I wasn't into the whole thing as much. I thought, "You know, I can't come down here—I don't *need* to come down here work-wise. I've got another job as an electrician. I can go back to just doing a couple of trips a season, *as* vacation trips. I can come out and do these trips and have a good time and put a lot of energy into them, for the passengers and the crew, I can do a good trip again. I will enjoy it, and everybody else will enjoy it, too."

STEIGER: Have a little more to give.

QUARTAROLI: Yeah. I did that for a few seasons, too. And then things change, I decided I wanted to do some more trips, so that's when I went to work for Arizona River Runners [*ARR in 1987*]. I got a hold of [*Bill*] Gloeckler [*at ARR*] and decided to do some trips for Gloeckler. But I also did a *GCE* trip that same summer, and I went with Mike and Roxanne [*their first season as GCE co-owners*]. I worked for Gloeckler and Winter for three seasons. And then Cam Staveley, who was running a motor-rig at *AZRA*, I heard he went into the office. Well, *AZRA* had boats on trailers, they had eight-day trips, they had a lot of one-boaters which I really liked doing. I went to work for *AZRA* for three years, because I didn't have to rig and de-rig all the time, and there was a longer trip, no helicopter exchanges. The passengers would get off at Diamond,

we'd go down to Pearce. It was three seasons there while I got into graduate school.

I had started taking some classes at *NAU*, some history classes and some library science classes, and then ended up going to the University of Texas in Austin to get a master's of library and information science. And I really lucked out. Remember when—it's Lisa Kearsley now, but she was Lisa Hall—and Kathy Warren started doing this campsite stuff, and asked *GCRG* boatmen to get involved? Tim Whitney got me involved. He called up, "How about if I bring a six-pack over and we get a Stevens guide and a Belknap guide and we'll go over these campsite lists and help 'em out?" I said sure, so he came over and the six-pack was gone, and I think we were at North Canyon. I said, "Tim, we're gonna need a lot more beer to get through..." They had these different old campsite inventories, you know. And of course the mileages, the Stevens guide and the Belknap mileages don't always jive. I don't know if any were pre-dam, but there was a list from the seventies, and there was one from around '83. Anyway, I said, "You know what they really need is to go down the river with a couple of boatmen with these lists and the maps, and then we can really figure out these things." Because we'd get to this mileage and say, "Where do you think *that* is?" It was at some tenth of a mile. "Well, I remember So-and-So campin' somewhere around there ten years ago. Was that the spot?" It turned out they were gonna tag along on a research trip over spring break. Since I was taking classes, it fit right in. I had Kathy and Lisa, and Dennis Silva was the cook, he wanted to learn how to drive a motorboat. I was the motor perspective for campsites, and Dennis was the rowing perspective for campsites. We did this trip with Lisa and Kathy and talked to 'em about what a campsite was, and mooring, and whether the water's going up or down, and where you're gonna camp, and where you're gonna park, and how many people and what you can do, and why you would camp somewhere and not somewhere else—all those things. Even got out of the report a thing called the "Quartaroli Corollary." (laughter) It has to do with perceptions of campsite size. Say you're in what they call a critical reach—which means fewer campsites or more competition—you'll camp at a smaller camp because you have to—you're not as choosy. We had a passenger called Mike the Rat once, and Mike would always say, "I'm only choosy if I have a choice." If you're in a critical reach, that campsite's gonna increase in size because it has to. You *have* to camp all your people there. That's the corollary on this perception of how many people you can fit comfortably in a campsite.

I went to UT [University of Texas] Austin, I was in my last semester—it was a two-year program—and Dave Wegner called me and offered me a job as a research librarian at Glen Canyon Environmental Studies [GCES]. I knew Dave from GCES over the years, but I didn't know him *that* well. I thought it was kind of funny that he just calls me up from Flagstaff to Austin out of the blue. But I came out here to interview, because I worked for a contractor for the feds. They did this contract work, the surveyors and the data people were all with this contractor. And I saw Lisa. I said, "Did you have anything to do with Dave calling me?" Lisa said, "Yeah," because he was talking about setting up this new program, and he was gonna have some other person do data management, who was a researcher and didn't want to do it, and Lisa said, "You need a librarian. Give Richard a call." I had a job before I finished school. All I had to do was finish my last semester. I missed graduation and I hit the road and drove to Flagstaff. I was working three days after I finished school.

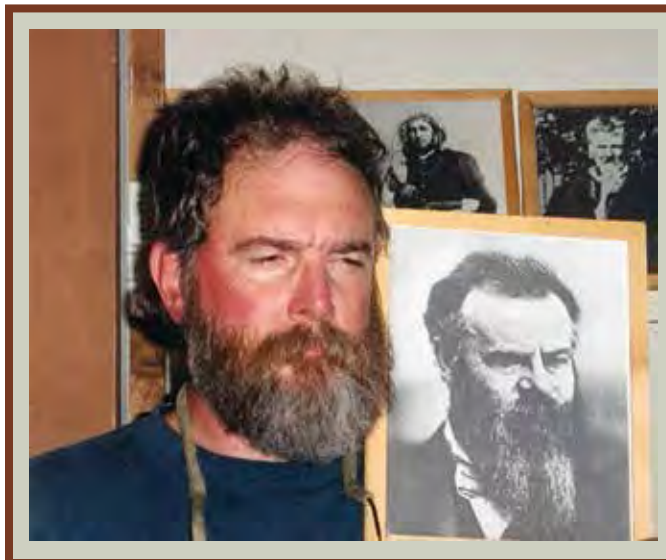
STEIGER: And your job was to figure out how to organize all this data that was coming in?

QUARTAROLI: Yeah, all these reports. They had all these studies, all these Principal Investigators, and draft reports and file reports and data. I was with the surveyors and the GIS people, and the computer guy, to manage the information, manage the data, the reports that were coming in. Aerial photographs, aerial videography. And why I got interested in library science in the first place was because I started doing these river trips and got really fascinated with river history—you know, Powell of course, the big one; but all these people and all these trips. And canyon history, too, but specifically river history. I started using the library—interlibrary loan getting books I didn't have, going to the reference people.

And because I did that, I got interested later and took some library science courses here at NAU, but they don't have a graduate program. But I thought, "Well, you know, if I get a degree, I can get a library job in Flagstaff eventually." I didn't think I was gonna have one before I got out of school, which is what turned out. I started to know people here with these classes, and volunteers, and I worked at the public library for a little bit. I thought, "This is a way I can stay in Flagstaff..."

STEIGER: "Have my cake and eat it too?" And get a pension somewhere down the line!

QUARTAROLI: And I can have an off-river job. Because I'd done another six full seasons, and you can't keep that up. What are you gonna do? I thought, "Well, I could get this degree, and I might not have a



"Separated at birth and by over a century: Q and JWP."  
Around 1995 in the GCES office.

job this year or next year, but I know I can get a job here in a couple of years, somehow." It was all because of the river, doing river trips, getting interested in river history, using the library, deciding I could make that a job. I was four years at Glen Canyon Environmental Studies as the research librarian, set up the library for Wegner, and then fourteen years at NAU in Special Collections and Archives—and *still* got to do river trips!, still got to do research on river history, and still could do all these things, and then retired last year, and I'm *still* doing stuff. I'll get e-mail or calls from people, Special Collections staff, and referrals. Every week somebody's contacting me about something. Got an e-mail this morning from a guy who's going to the GTS this spring. He's a reporter in Florida, and he's doing research on the Colorado River. I'm gonna talk to him at the GTS.

STEIGER: What a great job. What a great library for you to end up at—Cline. I mean, when I think of Special Collections, all that river history rattling around in there—all that stuff back there in the archives. What a treasure trove that is. [*The GCRG oral histories are archived at NAU Cline Library Special Collections, too.*]

\* \* \*

You know, you park, walk to the rim, and look at the canyon for the first time—I was speechless. I really was. Looking at the canyon, speechless, I had this idea that the next visit to Grand Canyon I'd be doing a river trip. And the next visit I did. I came back, having scheduled this eighteen-day Grand Canyon Youth Expeditions trip. We were meeting in Flagstaff—but

first I went up to the canyon. We were talking earlier about the Kolb brothers—I didn't go see their movie, because I thought, "I want to do the trip." I never did see that movie, and I never got a signed book. I could have gotten a personal one signed by Emery, but I didn't go see his movie, I didn't hear his talk, and I didn't get a book from him. Why didn't I do that?! And that wasn't the only time I had a chance. I went there a couple of other times after that, when he was still alive. Nowadays I think, "How ridiculous is that?!"

I didn't say to myself, "I'm gonna change careers, I'm gonna become a boatman, I'm gonna live in the Southwest." I didn't do *any* of that stuff. But it turned out that's what happened. How do you figure *that* out? When I set out in '79, saying I would like to do some training trips, and I would like to be a boatman, I didn't know how long that was going to last. I didn't know I wasn't going to stay in California and be an electrician.

I met my wife [ML] on a river trip. She was a grad student in geology at NAU. It actually wasn't on the river trip, it was at the warehouse in Fredonia. She was gonna be the geologist on a trip. That was White Water River Expeditions, because they liked to have geologists on all the trips. We dated for a while, and weren't together for a while, and then we got back together later—seven years later—and got married, and we've been married 24 years. In that time we weren't together, she had gotten married and had Greg

[*Eastwood*], and he's been a boatman now for twelve, thirteen years [*at Canyoners, then GCE*]. Greg met his wife, Ani, in Moab when they were running together, worked for the same company. And she's a boatman in Grand Canyon, too [*for ARR, then GCE*]. When we decided to get married, ML and Greg moved from Texas, I moved from California, moved to Flagstaff. And this whole Colorado River through Grand Canyon, not knowing it, not planning it, was just set up from then on. The first time I saw the canyon was '71, so, ever since then, these things just kind of have been adding together. I didn't plan any of it. But it's really defined who I am.

That first river trip really didn't...I mean, the whole thing was memorable in that it was my first trip. And like I say, that Tatshenshini trip I did in '78 with Sobek and that Grand Canyon trip, that very first one, just always will have a special place for me. Turns out it changed my life, just not right then. It didn't set me up to pursue these other things...knowingly. I hear stories, people say "I did this trip, I quit, I got divorced, I got married..."

STEIGER: Don Briggs: "I quit my job!"

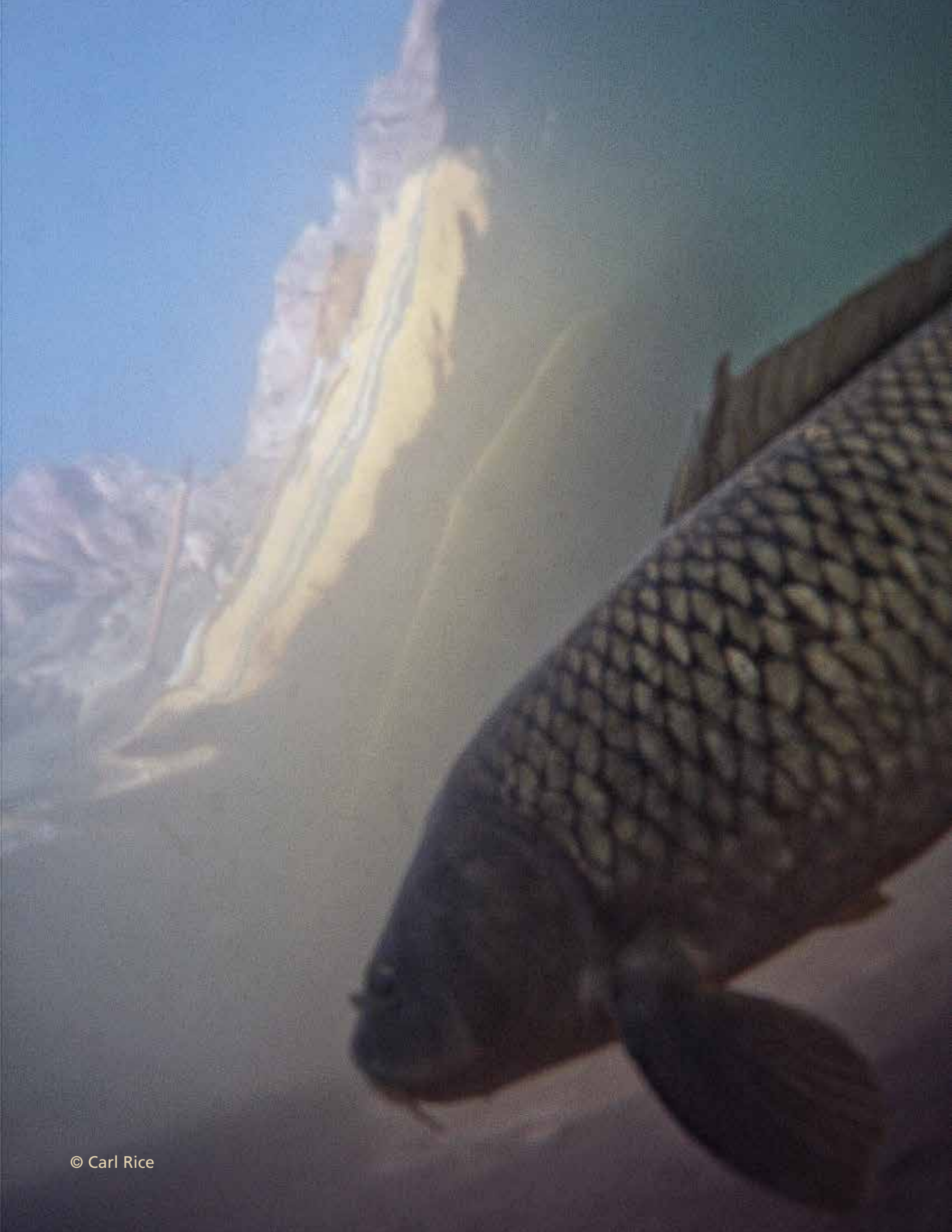
QUARTAROLI: Yeah, any number of these other things, which eventually did that to me, just not right away. That view from Mather Point at the South Rim was really the defining thing. But nothing really changed immediately, other than I said I was gonna do a river trip and I did it.



Q and Greg motoring – Greg's 1st GC trip and Q's 100th. ARR 1989. Photo by ML

ML and Q watching Greg row a GCE dory, July 1994.

Family boating: Greg, Ani, ML, and Q, May 2008 private at Lower 220.





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

\$16 Short-sleeved t-shirt size \_\_\_\_\_

\$18 Long-sleeved t-shirt size \_\_\_\_\_

\$12 Baseball cap

\$8 Insulated GCRG mug

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

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## boatman's quarterly review

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