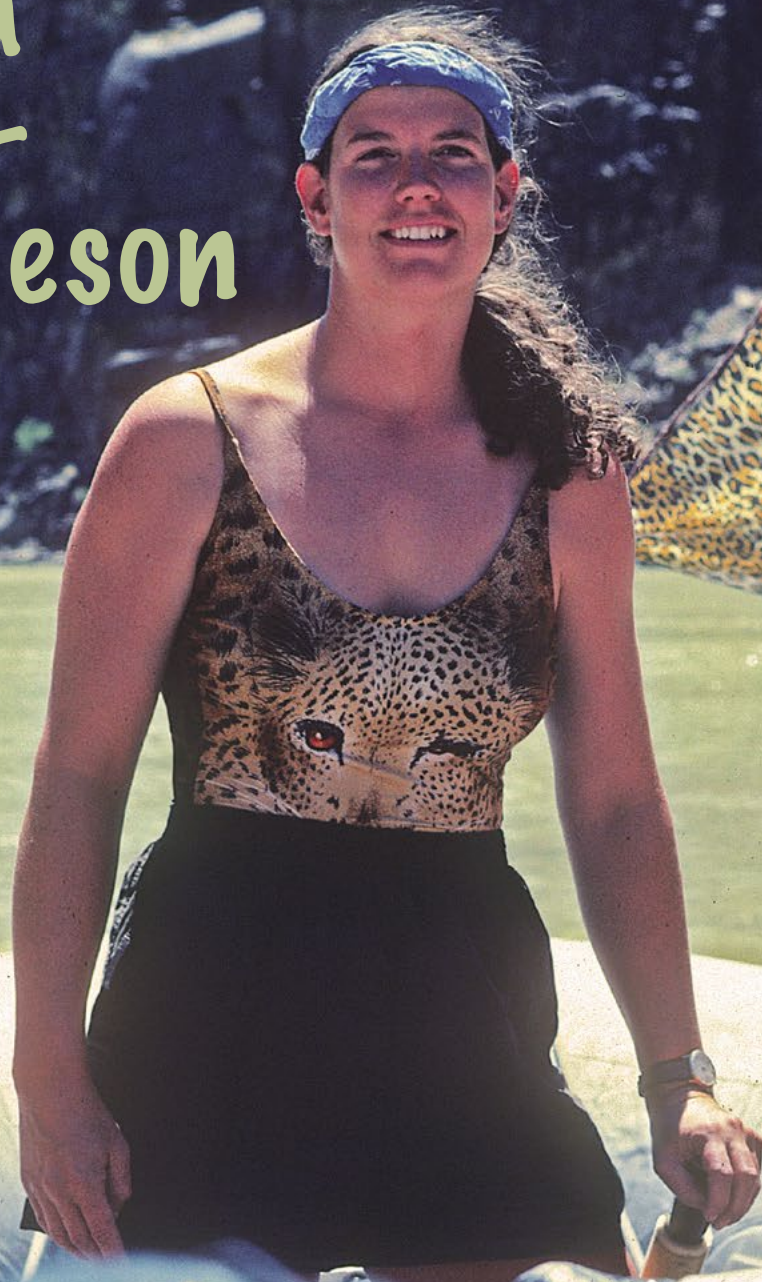


boatman's quarterly review

Teresa Yates- Matheson



Changing of the Guard • Prez Blurb • GCRRRA • Farewells • Bug Flows
Meaning of Wilderness • BQR Digital Trip • Old Guide New Tricks • Tuweep
Science and Dam Ops • Dammed • GC Protection Act • Back of the Boat • Contributors

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.

STAFF

Executive Director	LYNN HAMILTON
Board of Directors	
President	MARGEUX BESTARD
Vice President	AL NEILL
Treasurer	FRED THEVENIN
Directors	MARIAH GIARDINA LARS HAARR ZEKE LAUCK BILLIE PROSSER JUSTIN SALAMON LYNN WESTERFIELD
GCRG's AMWG	
Representative	DAVE BROWN
GCRG's TWG	
Representative	BEN REEDER
BQR Editors	KATHERINE SPILLMAN MARY WILLIAMS

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!
Our office location: 515 West Birch, Flagstaff, AZ 86001
Office Hours: 10:30–5:00, Monday through Friday

PHONE	928.773.1075
FAX	928.773.8523
E-MAIL	info@gcrg.org
WEBSITE	www.gcrg.org

Changing of the Guard

ANOTHER JOURNEY AROUND THE SUN—where does the time go? It's time to say goodbye and extend our heartfelt thanks to our outgoing president, Doc Nicholson, and the wonderful GCRG board members who finished their terms on September 1ST—Mara Drazina, Derik Spice, and Thea Sherman. Doc served on the GCRG board back in 2008, and then volunteered again to run as VP in 2017, segueing to president in 2018, a decade after he first got involved with GCRG. With more than forty seasons of river running under his belt, Doc had seen lots changes—along the river, in our guide culture, in park policies. His depth of experience was a great boon to GCRG as we navigated issues large and small. All of these fine board members eagerly participated throughout their tenure with GTS assistance, fresh ideas and energy, coupled with fierce advocacy in defense of the place we love. Dedicated stewards all! A million thank you's for keeping GCRG on a positive track, always working towards our mission and goals.

You'll see new names on the masthead—Margeaux Bestard is now at the helm, plus our new VP, Al Neill, and incoming board members, Lars Haarr, Billie Prosser and Mariah Giardina. Together with the rest of our board, these folks have hit the ground running, weighing in on advocacy issues as well as working diligently to pull off our wildly successful Day of the Dead Celebration at Brad Dimock's boat shop. What a joyful expression of community and our shared river heritage! Deepest thanks to Brad, Margeaux, and our volunteers for all their hard work to create such a colorful, meaningful, and super fun event.

It's going to be another exciting journey around the sun, and we could not be more blessed to have these amazing river guides working on GCRG's behalf! All the board members and officers of GCRG believe strongly in giving something back to our organization, to the Grand Canyon, and to our river community. That's the spirit of active volunteerism and stewardship that all of these amazing folks share. How grateful are we!

Prez Blurb

GOOD MORNING! These words are an essential part of my daily routine, an affirmation to start the day with a piece of gratitude. This simple greeting is a way to humanize each of us and find common ground before immediately leaping to fetch something from the boats or answer a question. So, let's start there. Good Morning! Great Morning! Buena Día! I am grateful and honored to be serving as the 32ND president of Grand Canyon River Guides. Starting our day has its rituals no matter where you are, and off the river, perhaps you are welcomed with a furry creature, a beautiful child, the sound of crashing ocean waves, or the hum of a city. I am always welcoming the morning light no matter where I lie. Lately, instead of searching for the first light on the canyon walls, I wait for it as it touches the top of the trees and crawls down my casita wall.

2019 TRANSITIONS

As the season unfolded, perhaps you met some of the new faces of the community. Laurie Dyer (LP) is in a collateral duty position as the River Concessions Management Specialist, previously held by Laura Shearin. Thank you to the NPS for the continued dialogue about law enforcement and COR inspections. The science contract was awarded to Rachel and Scott Davis at Ceiba, and Carol Fritzinger, GCMRC's operations logistical coordinator since its inception 25 years ago, retired this year. Ann-Marie Dale-Bringham has taken over the role! We also said bon voyage to John Napier as he and his family moved to Germany, and we welcomed Sam Jansen as the new Executive Director of the Whale Foundation. Thank you to the leaders who have served in these positions in our community and congratulations and good luck to those who have taken their place.

One generation passeth away, and another generation cometh: but the earth abideth forever, the sun also ariseth, and the sun goeth down... — JERRY AND RENNY RUSSELL, "ON THE LOOSE."

This past season, we saw new beaches created or refilled from the 2018 fall High Flow Experiment (HFE)—Whispering Tiger and 220 beaches come to mind; an unseasonably chilly and wet Mayuary; and red sunrises from north rim fires that made hikes and flat-water days burn with a wheezy sting. A dry monsoon season didn't tamp down the smell of burning forest or lessen the hazy view of floating ash

in the air, nor did it deposit a sediment load close to hitting the threshold for a 2019 HFE. Crystal Rapid, lingering in a tweener stage for right or left runs, reared its ugly head ripping apart people and boats alike. This is a cycle Grand Canyon has been through before and will go through again.

GCRG TASK FORCE

When I dare to be powerful, to use my strength in the service of my vision, then it becomes less and less important whether I am afraid. — AUDREY LORD

Our commercial season ended with a new threat to the Little Colorado River, the proposed hydro-pump reservoir dams that developers want to build below Blue Spring for hydroelectric energy use. No doubt this is the brainchild of someone who has likely never seen a picture of the Little Colorado, nor the people who hold it sacred, nor the native fish who use its nutrient-rich waters as their largest spawning grounds. GCRG is currently working with our partners to outline the ecological degradation and spiritual desecration that will occur to the Little Colorado River should this project move forward. We will maintain being a protecting force in defending a place we value. Our voices will be heard.

On the last day of August, I had the opportunity to fly over Grand Canyon with Roger Clark of Grand Canyon Trust.

We were working on a short film reflecting the diverse palette of voices from the Grand Canyon community about the negative effects of uranium mining. This was in support of Congressman Grijalva and the House Natural Resources Committee advocating for the Grand Canyon Centennial Protection Act. Though we have made a huge step forward with the passage of the Act by the House of Representatives, uranium mining continues to be a threat to our precious aquifers. The subtle patch it marks on the surface of the rim does not represent the damage and destruction that is deeply rooted in our groundwater resources. We cannot give up on this lingering issue!

CELEBRATING AN EXPRESSIVE COMMUNITY

... a door to what an engaged and informed community looks like, a way we might move forward with grace and integrity, drawing from both the facts of science and the imagination of the arts and humanities. One word comes to mind: love. May we love these lands and protect

them, for their sake and our own. It is not only about our future, but the dignity of the broader community, both the only species that lives and breathes and dreams on this beautiful, broken planet we call home. — TERRY TEMPEST WILLIAMS

Here in Flagstaff, we closed the 2019 season with a quartet of parties. The Day of the Dead Celebration on Halloween, held at Brad Dimock's boat house, honored Grand Canyon boatmen who have passed with an array of candles, music, historical boats, and consumption of food and libations. It was a beautiful and truly joyous gathering, an expression of our enduring bonds as a community. (See page 42 for photos). We held two workshops the next day, Communication as First Aid, and Inclusive and Respectful Work Environments, that were co-sponsored by GCRG and the Whale Foundation. We'll be offering more workshops for our community next spring, as we provide tools to move us all forward along the path of positive culture change. The next night, the Grand Canyon Youth Fundraiser hosted almost 500 people at the Coconino Center for the Arts. Thanks to all who attended for helping ensure youth from across the country can experience the wonder of the Grand Canyon and the surrounding Colorado

Plateau. Finally, OARS hosted a warehouse tour and film fest gathering. There was an impressive display of gayly painted boats and films curated to show appreciation of Grand Canyon and those who fight for it.

INCLUSION FOR THE FUTURE OF A BOLDER COMMUNITY

Throughout the next year, I will continue the process of braiding a diverse community within and around the Grand Canyon. Listening to native voices and taking action for the lands on which they have lived from time immemorial is incredibly important to our path forward. This also means including the National Park Service in our conversations concerning our stewardship to protect the resources of Grand Canyon, along with science that explores the intimacy of the Colorado River corridor. I love hearing what thoughts are percolating within the community. So, please reach out with your opinions, stories, and art on the happenings and growth of our beloved. I will greet each person like the warmth of the sun each morning, bringing to light our connections and strength.

YOUR MADAME PRESIDENT,
Margeaux Bestard

Important Dates 2020!!

BELIEVE IT OR NOT, we are busy planning for the next river season already! Although everyone is just transitioning to their winter activities, get these dates on your calendar!

WHALE FOUNDATION WING DING: February 15, 2020 at Coconino Center for the Arts in Flagstaff

WFR RE-CERTIFICATION (SPONSORED BY GCRG): February 14–16, 2020 in Flagstaff, location TBD.

BACKCOUNTRY FOOD MANAGER'S COURSE*—March 27, 2020 at Hatch River Expeditions

GTS LAND SESSION: March 28–29, 2020 at Hatch River Expeditions in Marble Canyon

GTS RIVER TRIP (UPPER HALF): April 1–7, 2020, Lees Ferry to Phantom Ranch

GTS RIVER TRIP (LOWER HALF): April 7–16, 2020, Phantom Ranch to Pearce Ferry

GCRG website for information on how to sign up for our WFR recert course and our Guides Training Seminar.

***NOTE:** The Backcountry Food Manager's class will be held the day before the GTS land session. It will be held from 10 A.M. to 2 P.M. at Hatch River Expeditions in Marble Canyon, AZ on Friday, March 27TH. Cost is \$55. You should bring: Chair, mug, bag lunch, and driver's license (ID is required). Payment is due before the course. Contact Lydia Hernandez to register at 928.679.8760 or email her at lhernandez@coconino.az.gov, or mail payment to her at:

CCPHSD, Environmental Health
Attn: Lydia Hernandez
2625 N King St
Flagstaff, AZ 86004

You can get your WFR recertified and have fun at the Wing Ding the same weekend! Please check out the

GCRRA Bids Farewell

IT IS WITH A GREAT DEGREE OF SADNESS that we announce the dissolution of Grand Canyon River Runners Association (GCRRA). After fifteen years of advocating for Grand Canyon and commercial passengers, and after careful consideration the board of GCRRA has decided to bring to an end what has been quite an incredible journey.

GCRRA was formed in 2004 to give voice to the largest user group in Grand Canyon, folks who had participated in one or more commercial river trips on the Colorado River through Grand Canyon. We hit the ground running, working to make sure that the National Park Service heard our ideas about the new management plan. We were successful on many of the issues that concerned all of us. We teamed up with Grand Canyon Private Boaters Association, Grand Canyon River Outfitters Association, and American Whitewater in signing a joint recommendation response to the Colorado River Management Plan (CRMP) which was adopted almost in its entirety by the National Park Service (NPS). We have continued over the years to work together with these organizations as well as Grand Canyon River Guides (GCRG) to protect the Grand Canyon.

GCRRA has supported our mission of “preserving public access to the Colorado River” in many different ways. Special thanks goes to our president, Mari Carlos, and board member, Catharine Cooper, who created our newsletter, *The Grand Canyon River Runner*. *The River Runner* kept our members abreast of political issues that could affect public access, and provided insight into the human history of the Canyon, geology, flora and fauna, Glen Canyon Dam management, critical seeps and springs ecology, and many other topics impacting Grand Canyon. Copies are now archived and available on the GCRG website under [Guide Resources/Grand Canyon River Runners](#).

Over the years GCRRA participated in many issues that threatened the canyon, the most recent being the Escalade Project, which was a plan to build a tramway that would've enabled up to 10,000 tourists a day to access a proposed resort at the confluence of the Little Colorado and Colorado Rivers. This project was defeated, but is just one example of how vulnerable the canyon continues to be to development. As I write this, a new threat has surfaced, the proposal of two dams on the Little Colorado River.

During our tenure we donated over \$22,000 to other organizations who support our mission, such as the Grand Canyon Conservation Fund, Grand

Canyon Youth and Grand Canyon Trust. We raised almost \$300,000, to run three full canyon river trips which enabled 75 battle-injured military veterans to experience the Grand Canyon. On the first trip the group met Hopi priest Marvin Teleumtewa. After that first chance meeting he saw each group off at Paria Beach and became an integral part of each trip. He said, “Take all your fears, all your loneliness, anger, all the bad inside you...and give it to the river. The river will take it from you, wash you of all the evil, and leave you in a better place.” These words explain what we hoped our veterans would experience on our trips. We were not disappointed as time and again these participants reminded us of just how life-changing a river trip can be. We will always be grateful to our board member, Hank Detering, for spearheading this project. To read about that first trip check out Volume 19 of our newsletter on the GCRG website.

After much discussion our board decided to offer our active members the option of transferring their membership to Grand Canyon River Guides. We are happy to report that many of them have taken advantage of this offer and we have been working closely with GCRG during this transition stage.

In closing, let me say that it has been my privilege to be on the board of GCRRA since its inception. It has been an honor to work with past board members; Mari Carlos, B. Dwight Sherwood, Ruth Ann Stoner, Catharine Cooper, Kristen Ross, Linda Kahan, Tim Bell and current board members Janice Taylor, Hank Detering and Robert McConnell. These people, as well as our members, have enabled GCRRA to live up to its mission statement and together we made a difference. In today's world a river trip in Grand Canyon is one of the few experiences where people can turn off the noise and reconnect with the canyon, themselves and each other. GCRRA is grateful to have played a small part in protecting this experience. See you downstream.

Pam Whitney
ACTING PRESIDENT GCRRA

Farewells

TIM MEANS—MARCH 19, 1944 – AUGUST 13, 2019

HERE'S A WELL-WRITTEN OBITUARY in the *New York Times*, by Katharine G. Seelye, published August 21, 2019, entitled "Timothy Means, Whose Ecotourism Made a Difference, Dies at 75." I recommend it, if you'd like to get an idea of the impact Tim had on the conservation and understanding of the Baja Peninsula and the Sea of Cortez. It is quite an admirable story. <https://www.nytimes.com/2019/08/21/us/timothy-means-dead.html>

Tim made a difference in the lives of all of us who boated with him in Grand Canyon, where he worked for Hatch, and then for Grand Canyon Expeditions. I met him at Hatch in 1970. That fall, Susan, Tim and I flew from Tijuana to La Paz, Baja Sur, where we rented a Volkswagen "Thing"—a military jeep-style vehicle—and went off on a wonderful camping trip, down the Pacific side of the tip of Baja to Cabo San Lucas, and up the Sea of Cortez side back to La Paz. Tim fell in love with Baja, and founded Baja Expeditions in 1974. His work to conserve land, working with the Walton Family Foundation, the World Wildlife Fund, and the Nature Conservancy to protect islands from development led to UNESCO, in 2005, designating 244 islands and coastal spots in the Sea of Cortez as a World Heritage Site. Not bad, for a boatman.

Tim didn't talk much, even though he knew a lot. He had a great laugh, and an excellent chuckle. His river yell was solid, as each of us in the early '70s running those dangerous tail-dragger 33-foot motor-rigs, developed signature shouts to celebrate survival at the bottom of the worst rapids.

In 1970, Tim and I were running with Clark Lium as trip leader on a three boat trip for Hatch, when Clark flipped a "33" in Lava Falls, using a beefy passenger at the second set of oars—all our people walked around the rapid, and we did a rodeo on water, taking off the motor to run the rapid with two sets of cut-down whaling ship oars, then getting the motor back on the transom to run back up to the beach at the bottom left to get our passengers. We watched Clark launch from the left bank, go out way too far, and then flip in

the bottom right. Tim and I looked at each other, he shrugged, and off we went to help each other row our rafts through. Western loaded up Clark's passengers, and down river we went, catching Clark's raft in an eddy a couple of miles downstream. His motors lost, I tied Clark's raft alongside mine, and ran a double-rig out of the canyon.

Tim kept rattlesnakes as pets in aquariums in his San Diego home. He set out wet burlap sacks in the desert outside Phoenix to catch scorpions. He provided critters and venom to the poison center in Tucson to help pay for college.

There's a story of an empty run-out from Phantom, when Tim and a trainee formed a human chain to rescue Ted Hatch off a broken-free tail-dragger motor mount in the bottom of the ferocious old Crystal Rapid hole. Ted's back there running the motor as all the chains came loose and the frame was slipping off the boat, and they pulled him back into the pontoon. The motor and the frame were lost, but Ted was saved!

At the September thirteenth memorial for "Timo" in La Paz, the city shut down the Malecon, a main street along the waterfront, for three blocks. They set up hundreds of chairs, had a stage for a really good band and screens for videos and slides, as people told stories of Tim's impact on their lives and environment. It was a warm night, with a full moon,

and you could wade in the warm sea water with kids, or dance in the street, and visit with others who were there to celebrate this boatman's life. Through the night many hundreds passed through Tim's event. He became a Mexican citizen in order to do his life's work, and the people of La Paz turned out in recognition of the much-loved Señor Tim.

One of the environmental outfits was selling t-shirts on the square, dark blue with the white Baja Expeditions logo of a boojum tree flower on the front and a quote from Tim Means on the back: "Come and stay for a while, but don't stay very long." Adios, amigo.

Patrick Conley



Patrick Conley and Tim Means, 1970s.

DON TOOK HIS LAST TRIP this year. He touched so many of us in the river running community, with his wit, competence, brilliance and dogged pursuit of goals in everything he did.

Born and raised in Colorado, he grew up with his mother Betty and sister Betty Lou. His father Ward was soon gone from their lives. Don seemed to be on a track to a “regular life,” becoming a highway engineer for the state, and marrying his first wife Karen.

However, he had a wandering spirit, and on a hike to Phantom Ranch came upon some boats on the river. What an idea! Soon they signed up for a trip with ARTA, and the rest is history.

Don’s career as an engineer faltered as he became a pioneering rock climber and let his hair creep a bit longer than the highway department could ignore. While winning a wrongful termination suit and being reinstated, he was done with that phase of his life, so he asked ARTA to give him a shot at guiding in the Grand Canyon. That led to decades of trips, commercial and private, through the exciting growth years of river running. Don worked with, played with, and got to know many dear friends over the years. Allen Wilson tells of a single boat private trip he invited Don on in the first season on the river.

Hiking into upper Deer Creek, Don lagged behind, and did not catch up. Going back, Allen found him on the other side of the chasm. Don had jumped across! And, in a defining moment, found it impossible to jump back, so proceeded to climb, at great risk, all the way into the Patio. So many moments came in Don’s life when he would leap and assume that there would be a safe route of return. And therein lay his incredible ability to capture his dreams. Dave Lowry added “When I started on the Rio in ’72 we were all in our early twenties and Don was the old man at 31 years old. He was the oldest person we had known besides our parents and we were amazed he could still move, Ha! I can’t say ‘Don Briggs’ without smiling.”

Don’s love of photography found the subject he craved in rivers and canyons. Still photography was his

first passion, and he carried his camera everywhere he went. Soon his interests grew into making movies (film and video). Most of us have seen his canyon films—“River Song,” “River Runners of the Grand Canyon,” “Mule Ride,” and “Grand Canyon Suite.” And the list of credits runs to many pages, including an Emmy award and other acknowledgements.

The rivers he ran were constantly threatened by dams and development, and Don grew increasingly alarmed. He turned his efforts to river conservation, and his skills at motivating and enlisting people in the effort were legendary. When not guiding, Don was indefatigable in recording the beauty of river canyons and enlightening decision makers in governmental offices at the state and national level. Bulldog determination and a lovable spirit, combined with gorgeous and timely photos, were his ticket to success in fostering river conservation.

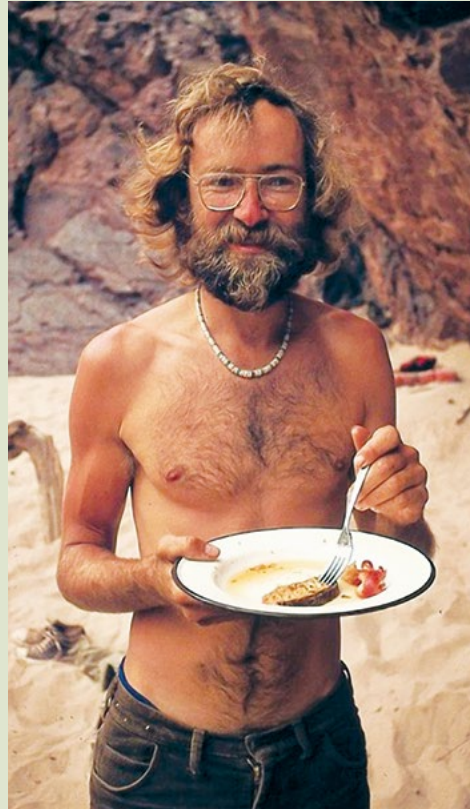
In the late ’70s Don met, and soon married, Susan Barbour, a nurse of great skill and empathy, who touched many of us in the river community. They shared in the creation of Lucy, their wonderful daughter. Living in San Francisco and then crafting a home in Mill Valley, California, their lives were rich and challenging and included their friends on the journey. Don continued his growth in the film and photography world, blending his art with rivers and conservation and, of course,

continuing to guide in the Grand Canyon.

Don’s later life did not always follow an easy path. His last years were spent in a Residential Community in Sacramento, California, with the help of some devoted friends and family who protected him. To the end he had hugs and stories for those who came to visit. That’s the way we will remember him.

The stories can go on and on. We refer you to the interview with Lew Steiger in the BQR 17:3 Fall 2004 (www.gcr.org/bqr/pdfs/17-3.pdf) for much more—and Lew stated himself that “98% of his stories had to be left out for space.”

Kent Erskine and Allen Wilson



Bug Flows: Don't Count Your Midges Until They Hatch

WHETHER IT WAS A BONY RUN at Horn Creek or a restful two nights of sleep because you didn't have to extend your bowline at camp, you may have noticed a change in dam releases during the past two seasons. May to August of 2019 marked the second season of Bug Flows, a flow experiment that is predicted to give the Grand Canyon food web a boost by increasing aquatic insect production. Aquatic insects are a fundamental component of a healthy river ecosystem. Most aquatic insects spend their juvenile life stages (egg, larva, pupa) in the river and their winged adult life stage flying along the riparian corridor. Throughout these metamorphoses one thing is for certain, aquatic insects are prey for fish, birds, bats, lizards, and even other invertebrates. In Grand Canyon, food web studies conducted by the U.S. Geological Survey (USGS) has demonstrated that populations of both native and sport fish are food limited (Cross et al. 2013, Kennedy et al. 2013). In other words, fish in Grand Canyon are consistently facing a calorie deficit. Indeed, the U.S. Fish and Wildlife Service has cited the inadequate and unreliable food supply as the single greatest problem facing endangered Humpback Chub populations in Grand Canyon (USFWS 2019).

To better understand the factors limiting aquatic insect populations in Grand Canyon, our USGS lab group began to collaborate with Grand Canyon River Guides in 2012 to collect samples of aquatic insects using a citizen science approach. The citizen science project is simple yet powerful. We provide river guides, Grand Canyon Youth trips, and private boaters with battery-powered light traps that capture the adult life stage of aquatic insects, and boaters deploy these traps for one hour each evening during Grand Canyon river trips. The roughly 1,000 insect samples that have been collected every year with light traps represent an unprecedented dataset that far exceeds any effort that the USGS

could achieve working on our own (see our article in the Fall 2016 BQR). We are learning a lot from the ongoing sampling effort and the more than 6,000 light trap samples that have already been collected by river runners. These data from light trap samples were used to design the ongoing Bug Flows experiment at Glen Canyon Dam, which represents the first time in history that a large dam has been operated with the goal of increasing insect abundance.

Bug Flows are designed to increase insect abundance by decreasing mortality at the egg life stage. Adult female insects lay their eggs along the river's shoreline, cementing strings of hundreds of eggs to exposed rocks and vegetation just below the water surface. In Grand Canyon, the daily fluctuating river "tide" reflects the ebbs and flows of western U.S. demand for hydropower from Glen Canyon Dam. The daily drops in water level expose sensitive eggs to the hot and arid terrestrial environment, which leads to drying and mass egg mortality. For example, in a field experiment on the Green River examining caddisfly and mayfly egg exposure, only seventeen percent of eggs hatched

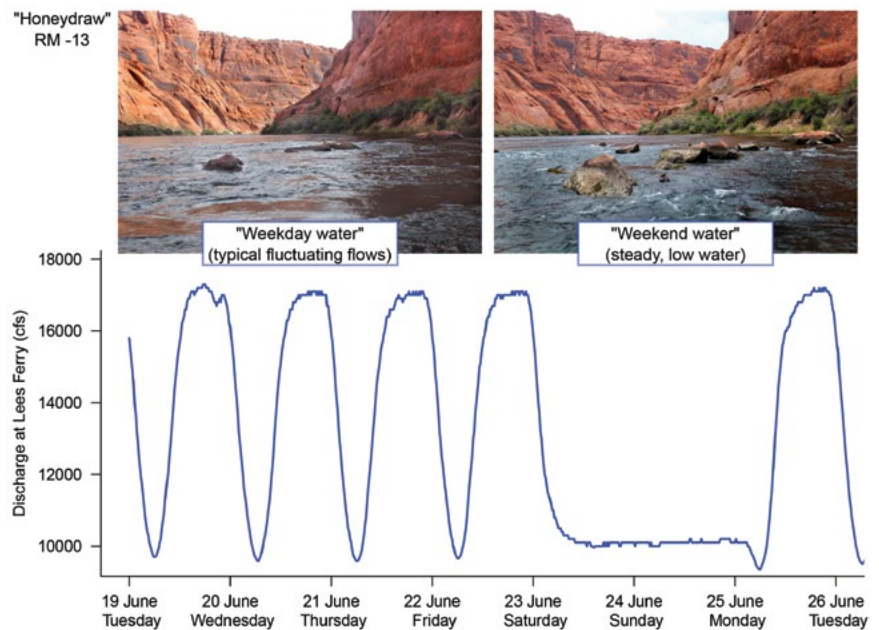


Figure 1. A hydrograph from mid-June 2018 showing a typical week of Bug Flows at Lees Ferry. Flows are optimized to maximize the number of insect eggs that remain submerged throughout the river corridor as waves of dam released water travels downstream. Note the large number of exposed rocks during Bug Flow weekends compared to high water during weekday fluctuations; exposed rocks at the water line are preferred egg laying substrates for midges and other aquatic insects. Photos by David Herasimtschu, Freshwaters Illustrated.

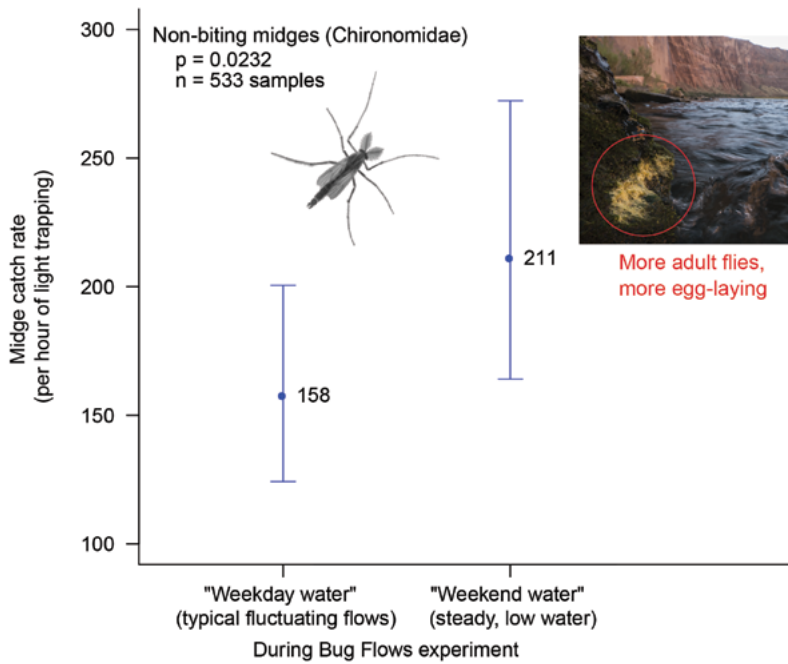


Figure 2. During Bug Flows in 2018, more adult non-biting midges (*Chironomidae*) emerged during low and steady Bug Flow weekend water conditions than during normal, fluctuating weekday water conditions. Bars represent standard error and numbers represent mean light trap catch rates. Inset photo shows hundreds of yellow "egg ropes" laid by midges at the air-water interface on a rock in Glen Canyon. Each egg rope contains hundreds of midge eggs. Photos by David Herasimtschuk, Freshwaters Illustrated.

after one hour of exposure to air and exposure longer than an hour led to nearly complete mortality of eggs (Kennedy et al. 2016). Bug Flows aim to reduce egg mortality by releasing low steady flows on weekends (Figure 1), providing two days each week when eggs that are laid will never be dried out. Flows are optimized to maximize the number of eggs that remain submerged throughout the canyon and throughout the week. Reducing flows on weekends rather than on weekdays helps preserve hydropower revenue. The first Bug Flows experiment was carried out on weekends from May to August 2018, and the experiment was repeated during the same months in 2019.

Our lab group is currently processing citizen science samples from 2019, but preliminary results from 2018 are in and we are beginning to understand how this flow experiment affected bugs, fish, and recreation. Using light trap data, we found that more adult non-biting midges (*Chironomidae*) emerged from the river during Bug Flow weekends than during adjacent weekdays with normal flow fluctuations (Figure 2). The four-stage midge life cycle (egg, larva, pupa, adult) takes several months to a year to complete and the increase in weekend emergence suggests that low steady flows are changing conditions not only for eggs, but at other life stages as well. For example, low steady flows may be cueing midges in

their pupal life stage to emerge from the river as adults, which would account for the increase in weekend emergence. Regardless of the underlying cause, greater midge emergence during Bug Flow weekends is good news, because it means more eggs are being laid by adult midges during low flows on the weekends that optimize egg-laying conditions. Low flows on weekends, as opposed to steady flows, expose more rocks and vegetation for midges to lay eggs on. Steady flows guarantee that those eggs will remain wetted, greatly improving their chances of hatching and maturing into larvae.

One of the goals of Bug Flows is to provide a foothold for more sensitive insect groups, such as caddisflies (*Trichoptera*), to colonize the river. During the first year of Bug Flows, we found a nearly fourfold increase in the abundance of caddisflies caught in citizen science light traps relative to the year prior (Figure 3). Adult caddisflies are premium food items for fish as well as terrestrial predators like birds and

bats. Caddisflies are rare in the mainstem Colorado River in Grand Canyon and are thought to have been practically extirpated by fluctuating flows (Kennedy

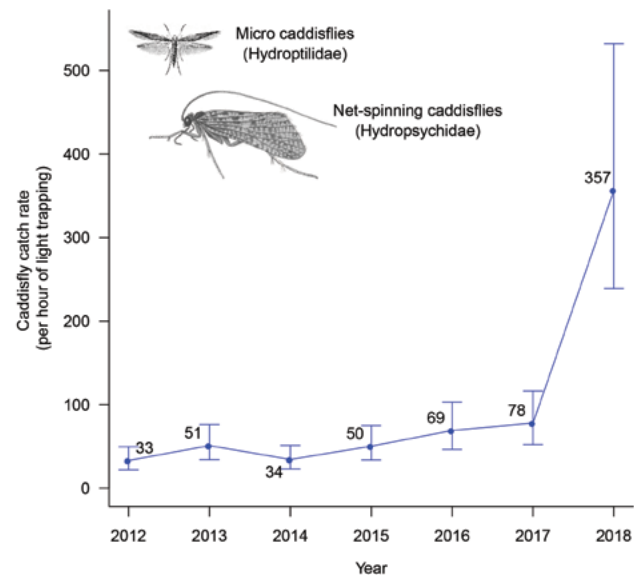


Figure 3. There was a significant increase in the number of adult caddisflies captured in citizen science light traps during the first year of Bug Flows in 2018. Bars represent standard error and numbers represent mean light trap catch rates. Caddisflies are a premium food item for fish, birds, and other wildlife.

Natural History

Non-biting midges (Order: Diptera)

Non-biting midges (Chironomidae) are the most common and abundant family of aquatic insects in the Colorado River in Grand Canyon. There are at least 43 unique species of midges present in Grand Canyon (Stevens et al. 1998). The types of midge species change with distance from Glen Canyon Dam, with midges that specialize in cold clear water decreasing with downstream distance, and midges that prefer warm and turbid water increasing (Stevens et al. 1998). Adult midges in Grand Canyon can be observed flying in aerial swarms, or “leks”, throughout the year, but are most abundant from April to July.



Midge. Photo by Jeremy Monroe, Freshwaters Illustrated.

Caddisflies (Order: Trichoptera)

The 2018 increase in adult caddisflies along the Colorado River was primarily within two families—microcaddisflies (Hydroptilidae) and net-spinning caddisflies (Hydropsychidae).

As the name implies, microcaddisflies are small. They are typically less than five mm in length, shorter than a grain of rice. During their larval life stage they construct tiny, waxy homes that lay flat against rocks and vegetation and shield them from predators. Net-spinning caddisflies can reach 19 mm in length, the diameter of a penny. They are uncommon along the mainstem Colorado River in Grand Canyon. As larvae, net-spinning caddisflies use specialized silk glands to construct loose cases of sticks and pebbles. At the upstream end of the case, they deploy a fine mesh net that filters the water column for morsels of organic matter, smaller invertebrates, and other food items.



Net-spinning caddisfly. Photo by Eric Kortenhoeven.

et al. 2016). Nonetheless, adults commonly fly into the mainstem river from tributaries and are often collected in citizen science light traps, especially in the western canyon. We find it encouraging that the number of caddisflies quadrupled during the first year of Bug Flow experimentation.

The Bug Flow experiment also appears to have boosted conditions for fishing at Lees Ferry. According to anglers, the low and stable flows during weekends provide greater access to wadable cobble bars and aggregate trout into higher densities in popular fishing areas, all of which improve the quality of the angling experience. For example, after the first month of Bug Flows in 2018, fishing outfitter Steve Kelly opened a blog post with the exclamation that, “bug flows have significantly improved fly fishing on the weekends!” (Kelly 2018). The Glen Canyon Dam Adaptive Management Program (AMP) asked USGS scientists to

investigate the veracity of these observations, so we headed to Lees Ferry for some scientific angling this summer (yes, we love our jobs!). We got together a team of 31 anglers for two long weekends and fished Friday through Monday in both June and August of 2019 (a total of four weekdays and four weekend days). In our study, the average angler caught 33 percent more fish on weekend days compared to weekdays (average of 6.8 fish per angler on weekends versus 5.1 fish per angler on weekdays, see Figure 4). Anglers are famous for hyperbole and spinning yarns, but our study indicates that the blog posts are true; fishing is significantly better on Bug Flow weekends (for the statisticians out there, the t -value = 1.751 and $p = 0.045$).

We are excited to continue working with the Grand Canyon boating and guiding community to understand the effects of the Bug Flow experiment on the Colorado River ecosystem. Results from the first

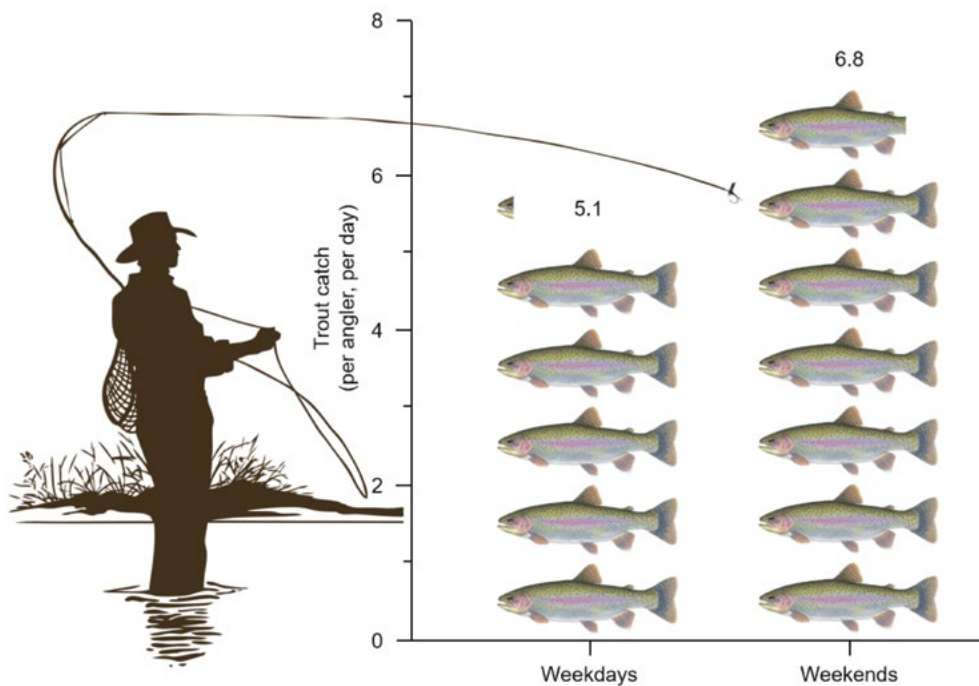


Figure 4. Average number of fish captured by anglers during weekdays when flows fluctuate compared to steady Bug Flow weekends. In our study involving 31 anglers, we caught 368 fish over 8 days (4 weekdays and 4 weekend days). On average, 5.1 fish were caught per angler on the weekdays compared to 6.8 fish caught per angler on weekend days (+/- standard error of 0.62 and 1.02, respectively).

year of Bug Flows are preliminary but encouraging. Continuation of the flow experiment is decided on a year-to-year basis by the U.S. Department of the Interior, based on recommendations from the AMP. To learn more, you can get in touch with your Grand Canyon River Guides stakeholder representative. We are always looking for new citizen scientists. Becoming a citizen scientist is simple—just come over to our table and get signed up at the next Guides Training Seminar in March 2020. We are grateful for the continued engagement and support of Grand Canyon river runners and especially to all the incredible citizen scientists that have helped us over the years. You make this research possible!

Funding was provided by the U.S. Geological Survey, U.S. Bureau of Reclamation, and the Western Area Power Administration. Data generated during this study are available from the USGS ScienceBase-Catalog (Muehlbauer et al., 2019). Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Anya Metcalfe, Jeffrey Muehlbauer,
 Ted Kennedy, and Morgan Ford
 U.S. GEOLOGICAL SURVEY

REFERENCES:

- CROSS, W.F., BAXTER, C.V., DONNER, K.C., ROSI-MARSHALL, E.J., KENNEDY, T.A., HALL JR, R.O., KELLY, H.A.W. AND ROGERS, R.S. 2011. Ecosystem ecology meets adaptive management: food web response to a controlled flood on the Colorado River, Glen Canyon. *Ecological Applications* 21: 2016-2033.
- KELLY, S. 2018. Lees Ferry fishing report 5/24/18. Kelly Outfitters. <http://leesferrybackhaul.com/lees-ferry-fishing-report-5-24-18/>. Accessed on 9/27/2019.
- KENNEDY, T. A., MUEHLBAUER, J.D., YACKULIC, C.B., LYTLE, D.A., MILLER, S.W., DIBBLE, K.L., KORTENHOEVEN, E.W., METCALFE, A.N. AND BAXTER, C.V. 2016. Flow Management for Hydropower Extirpates Aquatic Insects, Undermining River Food Webs. *Bioscience*. 66: 561-575.
- MUEHLBAUER, J.D., KENNEDY, T.A., METCALFE, A.N., AND FORD, M.A. Insect catch rates and angler success data during Bug Flows at Glen Canyon Dam. U.S. Geological Survey data release, <https://doi.org/10.5066/P9WA8DOG>.
- STEVENS, L.E., SUBLETTE, J.E. AND SHANNON, J.P. 1998. Chironomidae (*diptera*) of the Colorado River, Grand Canyon, Arizona, USA, II: factors influencing distribution. *The Great Basin Naturalist*.147-155.
- United States Fish and Wildlife Service. 2018. Humpback Chub (*Gila Cypha*): 5 year review summary and evaluation. USFWS Report <https://www.fws.gov/mountain-prairie>.

Dellenbaugh, Scoyen and the Meaning of Wilderness

THIS IS A STORY, STILL UNFOLDING, of a passion growing stronger. My heart soared during my first Grand Canyon river trip—and has remained in a higher place ever since. Walk in beauty, indeed! I never felt more present, poetic and attune to the glory of Mother Nature and the spirit within the wilderness. How could I continue this romance for the rest of my days?

In these current times that threaten the value of wilderness, obstacles are everywhere, but if Grand Canyon history has taught us one thing it is nothing is permanent. Through recent connections (and a little legwork), I've been reawakened to the importance of wilderness. I am startled by both its wonder and vulnerability. Why does the very wilderness I most love generate such conflicting emotions of discomfort and exhilaration? A close look at man's interaction with Grand Canyon and it appears it has always been this way.

* * *

Frederick Samuel Dellenbaugh (1854–1935) is royalty in Grand Canyon lore. At seventeen years old, he joined Major Powell's 1871–'72 expedition through the Green and Colorado Rivers. His account of that trip, *A Canyon Voyage*, is one of the quintessential books about the exploration of the American West, and features many of the paintings, sketches and maps Dellenbaugh created as the official artist and assistant topographer of the expedition.

Dellenbaugh's legendary Grand Canyon experiences served him with a theme for lifetime works as an artist, author and explorer. His paintings depicting the American Southwest and Indian themes were renowned, and many were acquired by the Museum of the American Indian (now the National Museum of the American Indian and part of the

Smithsonian). In addition to *A Canyon Voyage*, his other books include *The Romance of the Colorado River*, *The North Americans of Yesterday*, *Breaking the Wilderness*, and *Life of General George A. Custer*. Dellenbaugh was a founder of the Explorers Club in New York City and active in its affairs for many years as an officer. At the age of 81, on his way to a meeting of the Explorers Club, he became ill after walking through the January snow and died a week later of pneumonia at his Manhattan apartment.

* * *

One of Dellenbaugh's friends and fellow Explorers Club colleagues was a distinguished National Park Service (NPS) careerist, Eivind Thorsten "E.T." Scoyen (1896–1973). Given their respective positions and love of the Southwest, it was inevitable Dellenbaugh and E.T. Scoyen would come to know each other.

E.T. was born in 1896 in the old "blockhouse" overlooking Mammoth Hot Springs in Yellowstone. His Norwegian father was a telephone lineman

in the park and his mother worked in the hospital at Fort Yellowstone. E.T.'s childhood in the remote interior of Yellowstone set his life's work in motion. While at college, E.T. returned to build trails during the summers. After serving in the U.S. Navy in World War I, he joined the new ranger force in 1919 that replaced the Army troops that had administered Yellowstone since it became the world's first national park in 1872. The young ranger, already intimately familiar with the park, immediately caught the eye of new Yellowstone Superintendent Horace M. Albright (later NPS Director).

Albright and Dellenbaugh weren't E.T.'s only mentors. In 1921, the First Assistant Secretary of the Interior was visiting Yellowstone and his eldest



E.T. Scoyen in the Navy during World War I.

Photo courtesy: Lillian Scoyen.



E.T. Scoyen in the twilight of his career as Associate Director of the National Park Service in 1962. Photo courtesy: Lillian Scoyen.

daughter, Berenice Finney, was attracted to the strapping park ranger. Two years later they were married and E.T. was promoted to chief ranger of Grand Canyon from 1923–’27, where their only child, Edward, was born in 1924. From there he was appointed first Superintendent of Zion National Park and then Superintendent at Glacier from 1931–’38 until he was assigned Superintendent of Sequoia. From 1943–’47 he was associate regional director in Santa Fe before returning to California as Superintendent of the now combined Sequoia and Kings Canyon Parks until summoned to Washington D.C. as NPS Associate Director from 1956–’62.

* * *

Lillian Durham married Ed Scoyen, E.T.’s only child, in 1950 after meeting at Stanford University. Ed was born on the South Rim when rail was still the primary access—“delivered by the park prison doctor,” according to Lillian. Ed took after his mother more than E.T., and became a successful attorney in the nascent Silicon Valley.

I’ve known Lillian for more than two decades through my work in downtown San Jose. Always elegant, positive and inquisitive, Lillian is one of those magnetic individuals that intrinsically draws

people to her. Thanks to my wife, Autumn, who is Lillian’s friend, too, we started going out to lunch and swapping stories. This is where we learned of our mutual Grand Canyon connections: my cherished (thirteen and counting) oar trips down the Colorado River and Lillian’s father-in-law, E.T.

Lillian showed great interest in my Grand Canyon adventures and I shared my post-trip essays and photos with her over the years. At one of our lunches, she handed me two books: first edition copies of *A Canyon Voyage* and *The Romance of the Colorado River* inscribed by Dellenbaugh to E.T. It wasn’t until I got home and opened them that I realized Dellenbaugh had sketched and annotated in each volume. In *Romance*, Dellenbaugh makes handwritten notes in black ink on 47 different pages throughout the book—each notation followed by his initials F.S.D.

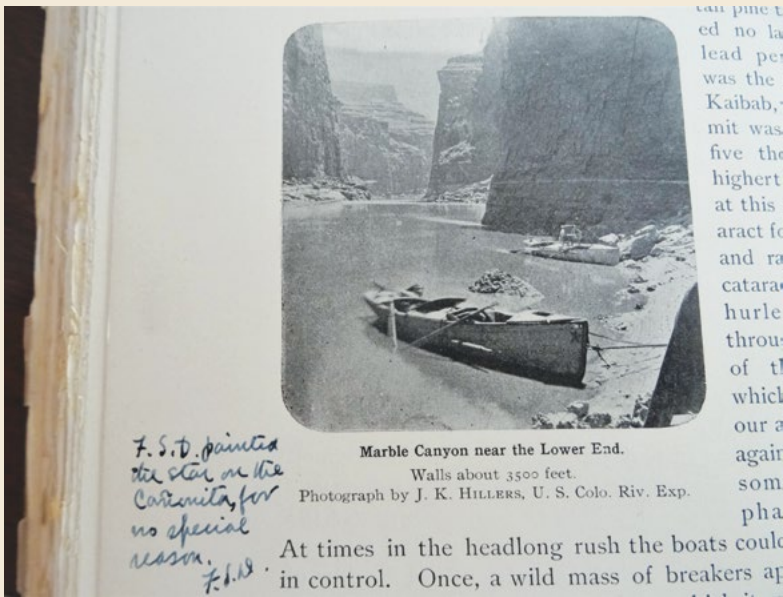
These personal embellishments are not just notes in the margin; they are insights from an old explorer who never stopped exploring. Some notations are in first-person and delivered in a colloquial style; others are updates to Dellenbaugh’s original record—these observations are written with a scientific tone, in an omniscient narrator voice. I carefully turned the timeworn pages, astonished at the details. I held in my hands unexpected treasure, and it inspired me to dig for more and share what I found.

* * *

I wonder when Dellenbaugh and E.T. first met. Like Albright, Dellenbaugh could have met E.T. as an eager young ranger during a Yellowstone visit. Or they could have encountered each other in the mid-1920s while Dellenbaugh revisited “his Mighty Wilderness” during E.T.’s four years as Grand Canyon chief ranger. Certainly they knew each other while E.T. was Superintendent of Zion because he inscribed the copy of *A Canyon Voyage* on Sept. 6, 1929 from Zion National Park. The heavily notated *The Romance of the Colorado River* is signed on April 20, 1930 from New York. Both copies have Dellenbaugh sketches of a Powell expedition boat with two men at the oars in river waves.

Dellenbaugh’s inscription in *Romance* reads: “Kindest regards to my good friend, E.T. Scoyen, and may he derive from the cliffs and the canyons of our Southwest as much delight and satisfaction as I have derived in fifty-nine years acquaintance with them.”

Just under this salutation, Dellenbaugh continues, perhaps as an explanation of his boat doodle, describing how “Jack Sumner was Major Powell’s right hand man on the 1869 expedition” and had designed



Pages from Dellenbaugh's books, annotated by Dellengaugh. Photo credit: Scott Knies.

the boats, including the pilot boat, *Emma Dean*. He adds: "Galloway was responsible for the later type as used by Kolb, Stone and Birdseye."

Dellenbaugh never stopped mashing up stories from his past to bridge them with contemporary times. He was always creating, like his beloved Colorado River. A life in constant motion, ebb and flow—he was planning an Indian opera and motion picture just before his death.

* * *

E.T. was working on trail crews in Yellowstone when Stephen T. Mather assumed leadership of the parks, and it has been said: "the national parks were never the same." A self-made millionaire, philanthropist and nature-lover, Mather got the job after dashing off a note to U.S. Interior Secretary Franklin Lane describing the "deplorable" camping conditions at Yosemite and Sequoia. With Mather at the helm, the National Park Service came into existence in 1916 and a new era of stewardship, policy and promotion launched. No longer were the national parks "administrative stepchildren" within different federal departments with blurred lines of operational responsibility and sloppy management. It was an exciting and headstrong era for professionalizing the park system and grappling with the meaning of wilderness.

At the dawn of the NPS, young men such as E.T. represented the "next generation" of leaders. With Mather and Albright providing the vision, efforts were made to upgrade the ranger force by setting higher

standards for recruiting and training. Albright's management style was "to get out into the park" and this approach imprinted on E.T. for his entire career. He liked to tell the story of his first encounter with Albright. The rangers in Yellowstone never knew where he would be next. One morning E.T. rose before dawn to go trout fishing and up pulled the chauffeured car of the park superintendent out inspecting. Albright stopped for a chat and before leaving wrote in his pocket notebook that E.T. was "up at his station at an extraordinarily early hour." Each had made an impression on the other that would last their lifetimes.

After being promoted to Grand Canyon in 1923, E.T. faced the problem of an exploding Kaibab deer population due to the elimination of natural predators.

Deer herd numbers grew to 20,000 head and in drought years thousands died of starvation. Top wildlife scientists recommended hunting seasons as well as the capture and transfer of deer. To highlight the problem and to gain support for this controversial solution, at Director Mather's request, E.T. took two Kaibab deer back to Washington, D.C. for a meeting of NPS superintendents. At a banquet attended by George Lorimer, the famous editor of the influential *Saturday Evening Post*, one of the deer was released and much to the great editor's delight, it ate the salad on his plate. Albright later said, "Undoubtedly, this event influenced the editorial policy of the *Saturday Evening Post* relating to the acceptance of the scientific committee's recommendations regarding management of the Kaibab deer."

* * *

Dellenbaugh was known for handwritten comments in the pages of his books signed for friends. My favorite note in E.T.'s copy of *Romance* is on page 324 in the margin next to the photo by J. K. Hillers entitled "Marble Canyon near the Lower End." The photo shows two of the Powell expedition boats tied up and Dellenbaugh writes in black ink: "F.S.D. painted the star on the *Cañonita* for no special reason." Hiller's photograph clearly shows the star on the bow that was the first of many custom designs drawn on Grand Canyon boats ever since.

At the end of the chapter "Farewell to the Boats," Dellenbaugh adds a brief coda about abandoning their boats, "those faithful friends," at Kanab: "When we left



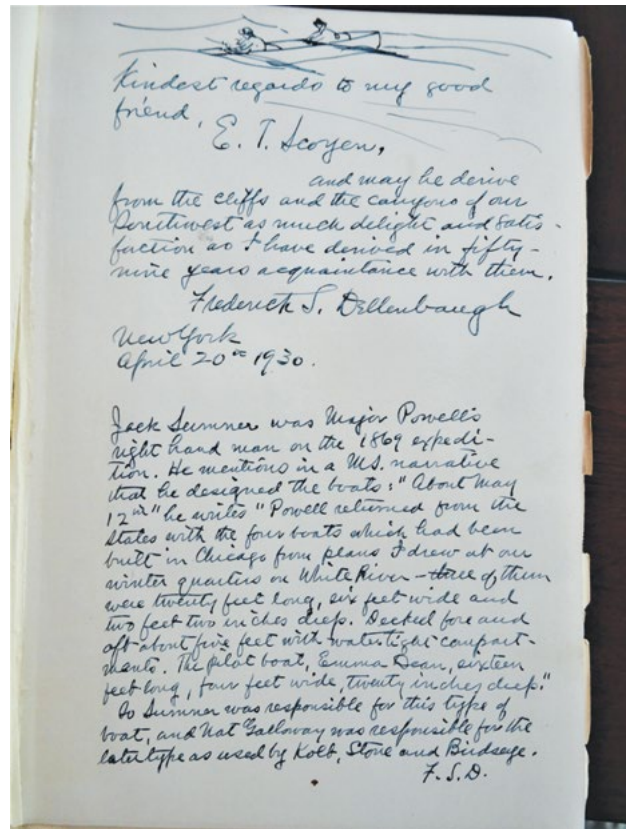
The Grand Canyon.
Boats of the second Powell Expedition, showing armchair
in which Powell sat.
Photograph by J. K. HILLERS, U. S. Colo. River Exp.

Region, by Powell; *Geology of the High Plateaus of Utah*, by C. E. Dutton, of the Ordnance Department, U. S. A.; *Geology of the Henry Mountains*, by G. K. Gilbert; and four volumes of *Contributions to North American Ethnology*, one of which

25

The chain on the boat was left at the mouth of the Kanab way up high and it was there in 1875 when I visited the place. I brought it out on top of a pack. It was given to Capt. Bishop in Salt Lake City and he does not know what became of it. F. S. D.

Pages from Dellenbaugh's books, annotated by Dellenbaugh.
Photo credit: Scott Knies.



Pages from Dellenbaugh's books, annotated by Dellenbaugh.
Photo credit: Scott Knies.

the river I wanted to saw up one of the boats and take it out in sections but neither Major Powell nor the others would consent. Years later the Major admitted that he was sorry he did not adopt my suggestion."

Dellenbaugh asterisks sentences throughout *Romance* that serve as unique footnotes. On page 240 he places an asterisk after: "Mrs. Powell and Mrs. Thompson spent several days at Green River and rendered much assistance, the latter presenting each boat with a handsome flag made by her own hands." Dellenbaugh's footnote: "* I have the flag of the *Emma Dean*. I don't know what became of the other two." A marvelous 1930 color photo of Dellenbaugh holding his flag in Zion (while E.T. was Superintendent) is on the Zion National Park website.

Another asterisk, along with multiple corrections of Sockdologer's fall (thirty feet, not eighty feet) addresses how the rapid got its name. Dellenbaugh handwrites: "* It had been stated Major Powell named this rapid before running it. That is not so. It was named by our party and I think after running it."

There are 44 more of these gems in the pages of E.T.'s copy of "Romance" with Dellenbaugh's neat, distinctive script enhancing his historical novels

twenty-plus years after he first wrote them. Like all veteran river runners, Dellenbaugh had reconsidered some of the impressions from his first trip. Memories and context, like the Grand Canyon itself, are never static, always evolving.

* * *

As Dellenbaugh experienced, and described, "Time's changes have come to pass." It was no longer the 19TH Century. The "Breaking of the Wilderness" had happened and a phase of wilderness management had begun. He remarked upon this in his 1908 preface to *A Canyon Voyage* describing the "luxurious" train going "to the south rim of the greatest chasm" whereas 46 years earlier the last rail stop had been Denver. The train's heyday at Grand Canyon did not last long. E.T. was chief ranger in 1926, noted as the first year, and ever after, that motorists exceeded rail passengers to the park. And the year a one dollar automotive entrance fee began.

Also in 1926, E.T. grappled with two sides of the same coin regarding introduced species in Grand Canyon. That year's report of the NPS Director boasted:

“Rainbow trout are now fairly well established in Bright Angel Creek. These trout are only found in the upper stretches of the creek which is fed by springs. An effort is being made to find a species of trout which will thrive in the lower and warmer waters. On December 13 and 14, 25,600 eyed eggs of Loch Leven trout were planted in Bright Angel Creek. This was following up the plant made a year before. As we are experimenting in planting operations, we have not requested the shipment of other kinds of fish, as this might cause some complications.”

That last sentence is a cautionary note as E.T. and other NPS wilderness defenders began “to frequently find ourselves confronted with problems of exotic species.” The wild burro population in Grand Canyon was an example. He described this challenge 32 years later in a 1958 speech to the Audubon Society: “Before the park was established, prospectors turned their burros loose to roam inside its walls. As the years went on they multiplied at an astonishing rate. There is much pioneer western sentiment connected with the burro. However, there should be an awareness of his enormous capacity for range destruction when his numbers get out of hand. Hundreds have been shot in the Grand Canyon over the years so that the natural plants and shrubs will have a chance to survive and to allow the native wildlife a few clean and decent sources of fresh water.”

It took well into the 1970s to eradicate the burros in Grand Canyon. As typical with non-native species, such as the trout, “some complications” were caused.

* * *

In 1955, NPS Director Conrad Wirth proposed Mission 66—a ten-year capital improvement program to be completed for the Park Service’s 50TH anniversary in 1966. He tapped E.T. as his leader for Mission 66.

At E.T.’s passing in 1973, Wirth paid tribute to the man he labeled “the first of the second generation of National Park employees:”

“He started at the bottom and rose to the very top of the National Park Service. I say that advisedly, because although he filled the second position, that of Associate Director, during six years of my administration as Director, he was actually as much the Director as I was. I needed a man who knew park management and the requirements and problems from A to Z; a man with sound judgment; above all, a field man’s man, one well known and held in high regard by the front line troops, the area superintendents and their staffs. Eivind Scoyen met all these requirements with top ratings. He really didn’t

want to come to Washington, the field was his love, and it took me several years to get him to come in. He finally came to Washington in 1956, at the beginning of Mission 66, and stayed six years, until he retired in 1962. The Wirth-Scoyen administration was a true partnership. It must have been somewhat like the relationship that prevailed during the Mather-Albright period.”

As Superintendent of multiple parks, E.T. saw it all. His background of being raised in Yellowstone, cutting trails and serving as ranger, made him popular with other rangers and park employees. He was respected by the concessionaires and the surrounding local communities outside the boundaries of “his parks.” He dealt with many of the challenges we still face today: fires, facilities, timber and mineral rights, invasive species, public access, funding and wilderness management—the latter being a topic he would lecture extensively about in the twilight of his career.

* * *

The dilemma of wilderness was clear to E.T. He saw that some popular wilderness areas were at maximum use and therein is the paradox: Too little use and you don’t have strong enough public support for the parks. Too much use and you risk destroying the very thing you seek to preserve by the people who love it and want to enjoy it. This is a predicament we must continually face.

In 1959, E.T. illustrated this dilemma at a presentation to the California Academy of Sciences with a photo of a motor boat on the Colorado River. Anticipating the need for future regulations, he said:

“Boats have gripped the imagination and desires of our vacation loving American public. At the present time no one would ever suspect that motor transportation would become a feature of a trip through the innermost recesses of the Grand Canyon, but it is true today that this is being done. We have had a committee working in our Service for several years examining the matter and gathering the facts on which a policy statement can be based. If boating continues to expand it is certain that controls will have to be instituted.”

E.T.’s prescient statement says much about how important the NPS role is and how it works. Policy is going to be based on facts. There will be a committee. It will take years.

Data on river use was gathered. Beaches were plotted and documented with disgusting levels of charcoal, ash, garbage and human feces. Necessary rules came soon after—everything from carrying

out human waste to how chickie pails are dumped. Access on the river had to be restricted, both for the concessionaires and the private boaters. These “controls” that E.T. predicted sixty years ago have done much to complement the Grand Canyon wilderness experience.

* * *

I wonder how E.T. would manage today, with an Interior Department in Washington D.C. infected with sycophants and science deniers without a concept of “field work” in the parks. I can’t help but think E.T. would have some proposals on Glen Canyon Dam’s expanding impacts to Grand Canyon. It is certain he would base any conclusions on an impartial blend of data and common sense, without emotions and sentiments. He understood that National Parks were established to be used as well as preserved, and the equilibrium between use and preservation is the bedrock the NPS is built upon.

Just as Dellenbaugh accepted the changes brought upon by “time’s passing,” our definition of what constitutes wilderness may be best judged by our grandchildren. E.T. liked to quote Edmund Teale: “In a democracy one generation does not tie the hands of the next. The ultimate disposition of wilderness lands will be made by those who come later, so it is never enough to establish sanctuaries and then sit back content.”

I am thankfully less content after receiving Lillian’s books, reading Dellenbaugh’s notes and discovering E.T., her pioneering and accomplished father-in-law. The abundance of teachers in our lives is inescapable. May we be ever alert when our paths cross and remain teachable.

I have a newfound appreciation for the National Park Service, its foundation and the difficulties of managing Grand Canyon. And my concept of wilderness has been challenged to locate—and keep pace with—that ever-shifting balance between use and preservation. How fortunate Grand Canyon river runners are to have the greatest opportunity under sun and stars to practice this.

Scott Knies

Take a BQR Digital Trip Down Memory Lane!

FINALLY, AFTER FITS AND STARTS over the last couple years, ALL the GCRG publication archives are available in living color online at www.gcr.org!

I guarantee you will find more than a few treasures in here that you’d forgotten all about or never had a chance to read.

Click on the thumbnail of the issue you want to read and there you’ll have it. You can even download the entire issue as a pdf.

You can access past issues of the *Boatman’s Quarterly Review*, its predecessor “The News”—all the way back to the first Grand Canyon River Guides Newsletter that was published in Spring 1988. Enjoy the trip!

Mary Williams

The screenshot shows the website for the Boatman's Quarterly Review. At the top, there is a banner image of a river in a canyon. Below the banner is a navigation menu with the following items: ABOUT US, JOIN & DONATE, SHOP, BQR, ORAL HISTORY PROJECT, GUIDE RESOURCES, GUIDE OWNED BUSINESSES, ADVOCACY, RELATED ORGS, and CONTACT US. The main content area features a grid of issue thumbnails, each with a cover image and text indicating the volume and issue number. The thumbnails are arranged in four rows and four columns. The first row includes issues from 2018 Fall (Vol. 31-4) to 2018 Winter (Vol. 31-1). The second row includes issues from 2017 Fall (Vol. 30-4) to 2017 Winter (Vol. 30-1). The third row includes issues from 2016 Fall (Vol. 29-4) to 2016 Winter (Vol. 29-1). The fourth row includes issues from 2016 Fall (Vol. 29-4) to 2016 Winter (Vol. 29-1). The website also displays search results for 'BQR' and a page number of 1 out of 6.

An Old River Guide Learns New Tricks

A FEW MORNINGS INTO OUR fourteen day Grand Canyon trip in May, our lead guide read a poem about someone sharing my name—a former river guide called to action for a trip in Idaho. The old river guide remembers all the bad stuff that can go wrong, weighs whether to go and decides—“Hell yes!” This resonated, as I am a former California guide who now at age 51 was an assistant guide for AZRA, on my first time down the Colorado River. But why was I really there?

* * *

One answer as to “why?” was evident—I am an academic who teaches environmental politics and policy with an ongoing research project on threats to the Colorado River basin and the people who seek its conservation. I also had long pined after this river and

canyon since I was a child, having grown up rafting with my father, David Kay, who managed ARTA in the 1970s and who co-founded Friends of the River.

Since I got the call to go, a thought I had not expected nagged at me—“Hey, you were a guide before, you kayak all the time—maybe it’s time to retire as a professor, and go back to guiding.” That vision crashed on Day 6—somewhere near Phantom. It was not the physical part that was hard; the rapids were exciting and whitewater remains second nature. It was not the weather—though we called it “Mayuary”—with snow on the rims, hail on our heads, and rain and cold river everywhere. The real problem was—I missed my wife and kids, almost painfully wishing they were with me. My life had moved on—and, you can’t go back almost thirty years. River guiding is hard and in the Grand Canyon, it is the cream of the crop that make it. Even being an assistant to Grand Canyon river guides is hard—constantly scrambling wanting to be useful, while also angling not to get in anyone’s way or make stupid mistakes.

Life had moved on, I would not be a river guide again, at least in any regular sense of the idea, and

certainly not in the Grand Canyon. Sure, maybe on a small river somewhere, filling in as a substitute on weekends. Rather than being down, once I realized this everything became fun. I threw myself into what I could and was honest about my weaknesses (cooking!). Playing music turned out to be something I could contribute well, playing songs that I first crafted on rivers so long ago. I left at Diamond Creek with satisfaction that I had done my best and that

together we—guides, assistants, office and warehouse support, bus drivers, and passengers—had accomplished something hugely important.

* * *

Still, there was something lingering and it wasn’t just the tailbone I’d bumped hard while playing guitar in a side-canyon. Environment

work, former river guide, check—but why was I *really* here busting my butt in Mayuary?

Old timers among the commercial rafters know of David Kay, who working for Lou Elliott and the Elliott Family helped ARTA to grow commercial rafting in the American west and instill a new ethic of river conservation. Friends of the River was co-founded by David Kay and Jerry Meral to save the Stanislaus River in California from an unnecessary dam project. While that failed, the non-profit since has saved 41 endangered rivers. In publicizing rafting, Kay sought to emote the poetry of the experience. He reflected in 1978 at a “Save the Stanislaus” event: “the kayakers and private boaters are part of an American heritage of individualism and strength of character. The professional rafting companies who serve the general public are not just selling water by the river. They are putting urban-worn people in touch with themselves in nature. Let the best of the Stanislaus flow through time as a symbol of our grace in the real House of God.”

David Kay’s work shaped my life and resonates in places I least expect. I can recall in the early 1970s my mom, Jennifer, and dad rafted the Grand Canyon—



David Kay on a Grand Canyon oar trip.

with legendary guide Al Wilson. My folks had long told me a story of that trip, about how their motor-rig got loose and floated through a perfect run of Lava Falls. It was exciting when so many decades later, just above Lava, one of our guides pulled out a short story immortalizing the ghost raft. “Wait!”, I paused, “Is that Crazy Al Wilson you are reading about? My parents were on that trip!” There remains debate over whether it was my mom who was giving Al the message that offered the pontoon the chance for freedom. But all agree, there was an un-spilled open box of tomatoes.

My dad left the rivers of the west and returned to Ohio in 1979. We often talked over ensuing years about rafting the Grand Canyon together. This

was not to be, as he passed away suddenly while tending to his beloved garden near Cleveland in 2016. Thanks to my dad and so many others that carry that vision on, people experience special places like rafting the Grand Canyon. To be in that canyon, to experience flow of time and water, to hike National and Matkat, to see Havasu, to experience the joy of running Hance and Lava, plowing one’s head into a massive wave; and to feel wrapped around by that canyon; to leave it, but realize it has never left you. The canyon eventually becomes a part of you, a changed you who in a sense is always now on that river trip, in that canyon, taking it wherever you go—always learning from it. *That was why I was there.*

I also found myself engaged in a subtle debate in my head with my dad over environmental ethics. In the early 1970s, David Kay (writing on behalf of the Grand Canyon Rowing Association—which included ARTA, Grand Canyon Dorries, OARS, Outdoors Unlimited, and Wilderness World) proposed to the National Park Service a ban on the use of motor-rigs. These oar-oriented outfitters asserted the length of the river should be designated Wilderness Classification

and thus: “...motorized rafts will be banned from the river in favor of oar power rafts. This is deemed desirable by the National Park Service and informed conservationists, since it will restore natural quietude to the Inner Gorge and bring a more harmonious aspect to river travel.” These outfitters argued at the time that they “do not believe the Colorado should be the riverway of the masses. The river should retain

its natural appeal for people willing to ‘rough it’ in the wilds and adapt their time to the ways of nature for ultimate aesthetic pleasure and educational enhancement.”

The Grand Canyon Rowing Association was right in their concern that too many people could ruin the river



Ghost boat in Hermit—confirmed by Allen Wilson. Photo credit: David Kay.

experience: “The thesis of this thinking is that the Colorado River should be accessible to all people, and that primitive requirements for outdoor living should be softened accordingly. As a present-day trend, it is primarily responsible for the Disneyland atmosphere that now pervades the river scene in the Grand Canyon.” As I floated the river, I certainly witnessed the sounds of loud motor-rigs coming around the corner, momentarily messing with serenity. But I did not see any Disneyland atmosphere—as I had as a guide on the South Fork American River in California. Today’s companies have worked out a balance between the motor- and oar-rig options. So few people can afford to experience fourteen days rafting the Grand Canyon, a motor-rig allows for more access while leaving a limited footprint. Do I like the motor-rigs? No. Do they have a role? Yes.

I think my dad and I would have agreed about the need to let water flow freely out of Glen Canyon, seeing it eventually restored. Yet we would have privately conceded too that the dam provides for reliable flows and thus a long commercial river season. Today, our main focus would certainly be on growing threats to

the river, and the need to educate America. Overuse of water, wasteful water policies, agricultural inefficiency, major growing population demands in the upper basin, and climate change place enormous stresses on the Colorado River and those who rely on it. This challenge will grow more intense absent a comprehensive new look at American water use policy in the west.

While hard to explain, these debates in my head reflected a sense that I was, in a way, with my dad the entire trip; and that it was thanks to the hard work and dedication that he and so many others have made over decades that make it possible for us to do these things today. Camping below Lava Falls, without thinking, I took a stick and wrote in the red sand, “Love You Dad!”—and that in the end was why I was in the Grand Canyon—because of the love my father gave it, and gave me.

* * *

But all that said, I still wasn’t going to be a river guide again! And letting go of that, it turns out was very

healthy. I importantly realized that one never really stops being a guide, as the rivers teach us about life—about love and loss, excitement and fear, courage and peace. We learn to anticipate and avoid obstacles, moving around and not get stuck on things, and when necessary, hit the big ones head on. The river is always calling, as are the people who share it. Mayuary in the Grand Canyon was most special because of the privilege of supporting today’s Grand Canyon guides—heroes, carrying on a great tradition of one of America’s last frontiers—rafting the river.

Would, after all that, I do it again? Hell yes!

Sean Kay

NOTE: Sean Kay is a professor of politics and government at Ohio Wesleyan University. A former ARTA guide in California in the 1980s, he joined AZRA in May 2019 as an Assistant Guide. He is the author of five books, his most recent being *Rockin’ the Free World! How the Rock and Roll Revolution Changed America and the World* (2018).

100 Years—And Before—Tuweep

THE 100 YEAR ANNIVERSARY of Grand Canyon National Park may cause one’s mind to wander back to the days before it was a Park. How did those who lived in and around the Canyon see the place then, and how did they refer to it?

The Grand Canyon National Park map shows Tuweep Valley as the place name for the rim above Lava Falls, on river right. “Tuweep” is from Tuvip in the Kaibab Paiute dialect, or Tooveep in the Shivwits Paiute dialect, and translates to “the Earth.” The Southern Paiute will tell you that they have lived in the canyon country since “time immemorial.” It seems *grand* that this section of the river, which many of us see as the center of the Universe (not the least of which, while heading into the V-wave), has had a name denoting such specialness for so long a time.

Greg Woodall



Photo credit: Greg Woodall

Science, Policy and Dam Operations: the Process of Building Beaches

AS THE CLOUDS FAILED to congregate and spill monsoon rains this season, it became evident that a fall High Flow Experiment (HFE) was not going to be triggered this fall. Those who rowed, motored or paddled under the un-filtered sun this summer wished differently. It was quite a contrast to 2018's spotty and violent monsoon season that cooled hot days, but left many critical beaches stripped of sand on which to camp. While the November 2018 HFE was effective in replenishing destroyed camps, the condition of beaches come commercial boating season left us with several questions.

This season began with a fresh start, including several sandbars opening up in Marble Canyon which added some camps not seen in several seasons. We also saw tall cutbanks, and some beaches so steep they were nearly unusable. Throughout the Canyon, these conditions stood as compelling evidence of beach erosion from high fluctuating dam flows released during winter months. At the spring Adaptive Management Program (AMP) meetings, Grand Canyon Monitoring and Research Center's (GCMRC) sediment geologists confirmed that; fall HFE flows re-build beaches by 34 percent, but merely six months later those gains are cut in half by the high winter flows coming out of the dam. This led to a developing hypothesis: is it possible to design flows that can be more user friendly for beaches by timing beach-building flows in the spring—which would benefit the peak recreational boating season—but more importantly coincide with the natural hydrograph at a more biologically-relevant time of year?

Several other AMP stakeholders are asking similar questions. With a boom in brown trout populations in the Lees Ferry stretch there is some evidence that the timing of fall HFE's are a benefit to the non-native fish. This is concerning not only to the anglers in Lees Ferry, but also to the fish biologists monitoring native humpback chub, among other native species. GCMRC Entomologist Ted Kenedy, who has been studying the diversity (or lack of) within insect communities as the food base for multiple species that call the Canyon home, speculates (along with other scientists) if the timing of spring floods could benefit multiple resources in a more biologically natural way?

Unfortunately, there are some perplexing constraints that stand in the way. First and foremost is the Long Term Environmental Monitoring Plan (LTEMP), which was a huge success for river runners

in solidifying HFE's for the next twenty years, as well as limiting wild daily and monthly flow fluctuations. But because of how the LTEMP is structured, HFE's have been mostly stranded during fall—after the monsoon season—when sediment inputs are at their highest. Under the LTEMP, it is possible to trigger a spring HFE, but the chances for these conditions lining up is very low—in fact so low that the LTEMP models predict only two spring HFE's are likely to occur during the LTEMP planning period. Working with AMP members this fall, and within the constraints of the LTEMP, stakeholders are developing strategies on how to conduct a higher spring-time flow within the confines of the LTEMP. These “power plant capacity” flows have been conducted in the past, but this time we have a new set of questions to be tested. The desired outcome is that a few spring pulses (even though lower than what we'd like to see) could provide scientists with the evidence needed to encourage some tweaking to the existing HFE protocol. Responding to GCRG representatives' suggestions, GCMRC sediment geologists are also interested in testing slower down-ramping rates of these higher flows, with hopes of re-distributing sand with lower sloping beaches. Not only will this adjustment make more beaches accessible, lab studies show that gradually sloping beaches are likely to erode at a slower rate with fluctuating flows.

As your Adaptive Management Work Group (AMWG) and Technical Work Group (TWG) representatives, Dave Brown and Ben Reeder rely on knowledge and experience in the Grand Canyon to help develop the best decisions that relate to the best flows for recreational boating. As your representatives we welcome any ideas, questions or concerns you witness from time spent in the Canyon. After all, it is our guides' perspective, and power of observation that created the Adaptive Management Program in the first place. Please feel free to send us your input.

David Brown & Ben Reeder
bravedown@yahoo.com
benreeder33@gmail.com

Grand Canyon Be Dammed?

SIXTY YEARS AGO, Reclamation Commissioner Floyd Dominy was hell-bent on damming the Colorado River above and below what was then Grand Canyon National Park. Despite backing by every Arizona politician and the Secretary of the Interior, the dams were never built.

In September 2019, two Phoenix-based engineers applied for federal permission to commence feasibility studies to build two, pumped-storage hydroelectric projects on Navajo land that would dam the Little Colorado River within the first dozen miles before its confluence with the river's main stem.

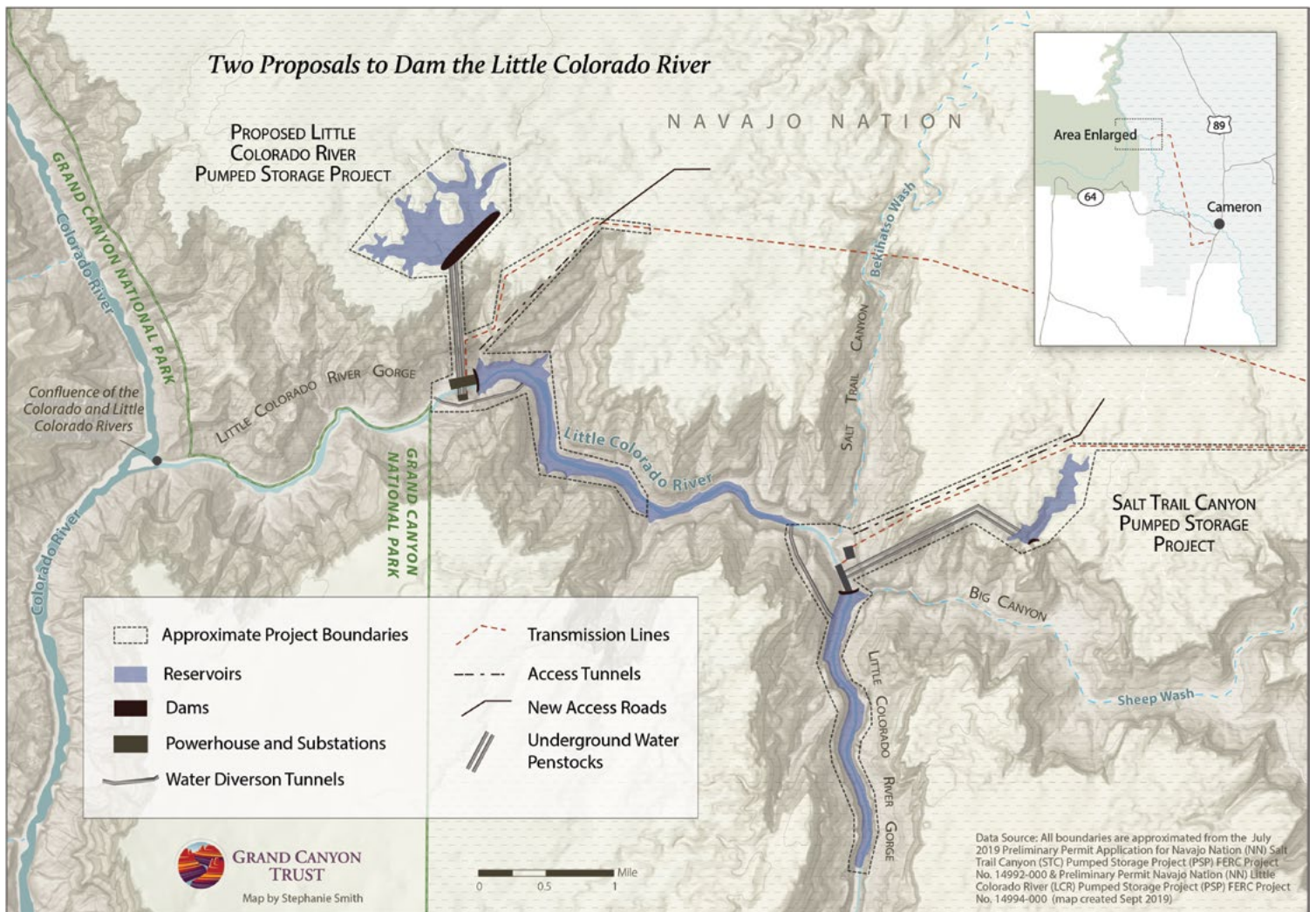
The deadline for filing public comments to the Federal Energy Regulatory Commission (FERC) has passed. And its decision was unknown at the time that this BQR went to press.

So what are the odds that these dam schemes might succeed?

On one hand, Dominy's dams didn't have today's gauntlet of environmental laws standing in their way. And yet those hard-won protections aren't stopping the feds from building a border wall with Mexico.

On the other, Reclamation's preconstruction crews didn't need to consult—much less ask permission—before building a cable tramway on the Navajo side to access the proposed Marble Canyon dam site. Local chapters and permittees must now approve land withdrawals for commercial and industrial purposes. People are just learning and forming opinions about the hydroelectric projects, which could bring much needed jobs where unemployment runs north of forty percent.

The Navajo Nation and the Hopi Tribe are always open to opportunities for economic development, particularly when they just lost tens-of-millions of dollars in annual revenues when Navajo Generating



Station and the strip mining that supplied it shut. Producing 24,000 tons of coal per day for nearly fifty years employed a lot of people, who are now looking for work. Regional residents are also cutting increasingly scarce firewood this winter due to Peabody's decision to discontinue distributing coal for home heating.

We could imagine a perfect storm, wherein the dam developers capture the support of elected leaders, and they're allowed to sidestep rules standing in the way of promised jobs and prosperity. Instead, let's recall a similar situation when developers nearly slam-dunked approval for a gondola to transport up to 10,000 tourists a day into the same reach of river.

The broad-based and still strong Save the Confluence coalition that stopped the proposed Escalade development two years ago seized the narrow sixty-day comment period to mobilize opposition to the proposed pumped hydro projects on the Little Colorado River. But, the Federal Energy Regulatory Commission rarely rejects applications to conduct

preliminary feasibility studies. It's possible—perhaps even likely—that the coalition is facing a prolonged campaign to oppose the projects during the 36-months of feasibility studies, followed by the FERC licensing and environmental impact statement process that could go on for years.

However, Hopi Tribal leaders' strongly worded comments offer hope that these projects might be stopped in their tracks: "Any development within the area of Confluence will forever compromise the spiritual integrity of this Sacred Place. The Hopi Tribe and many other Southwestern Tribes including the Navajo Nation hold the Grand Canyon as a sacred place of reverence, respect and conservation stewardship."

Once again, threats of such grave consequence can unite unlikely alliances among many communities. Our collective confluence of desires to protect the Grand Canyon is the river that runs through it.

Roger Clark

House Passes Grand Canyon Centennial Protection Act

THE *Grand Canyon Centennial Protection Act* passed the House of Representatives on October 29. Introduced on the 100TH anniversary of Grand Canyon National Park eight months earlier, the bill passed by a vote of 236-185. A companion bill has yet to be introduced in the Senate.

Passing the protective legislation out of the House is a significant step toward permanently banning uranium mining on more than a million acres of public lands adjacent to the park. The bill is nearly identical to the *Grand Canyon Watersheds Protection Act*, introduced by Arizona Congressman Grijalva in 2008. Both would ban uranium prospecting—allowed under the 1872 Mining Law—and erase hundreds of existing claims that have not been validated.

The legislation is intended to prevent any new sources of radionuclide pollution in waterways that flow directly into Grand Canyon's seeps and springs and to halt any further industrial dust, radon, and surface water contamination on Bureau of Land Management and Forest Service-managed lands that abut Grand Canyon National Park.

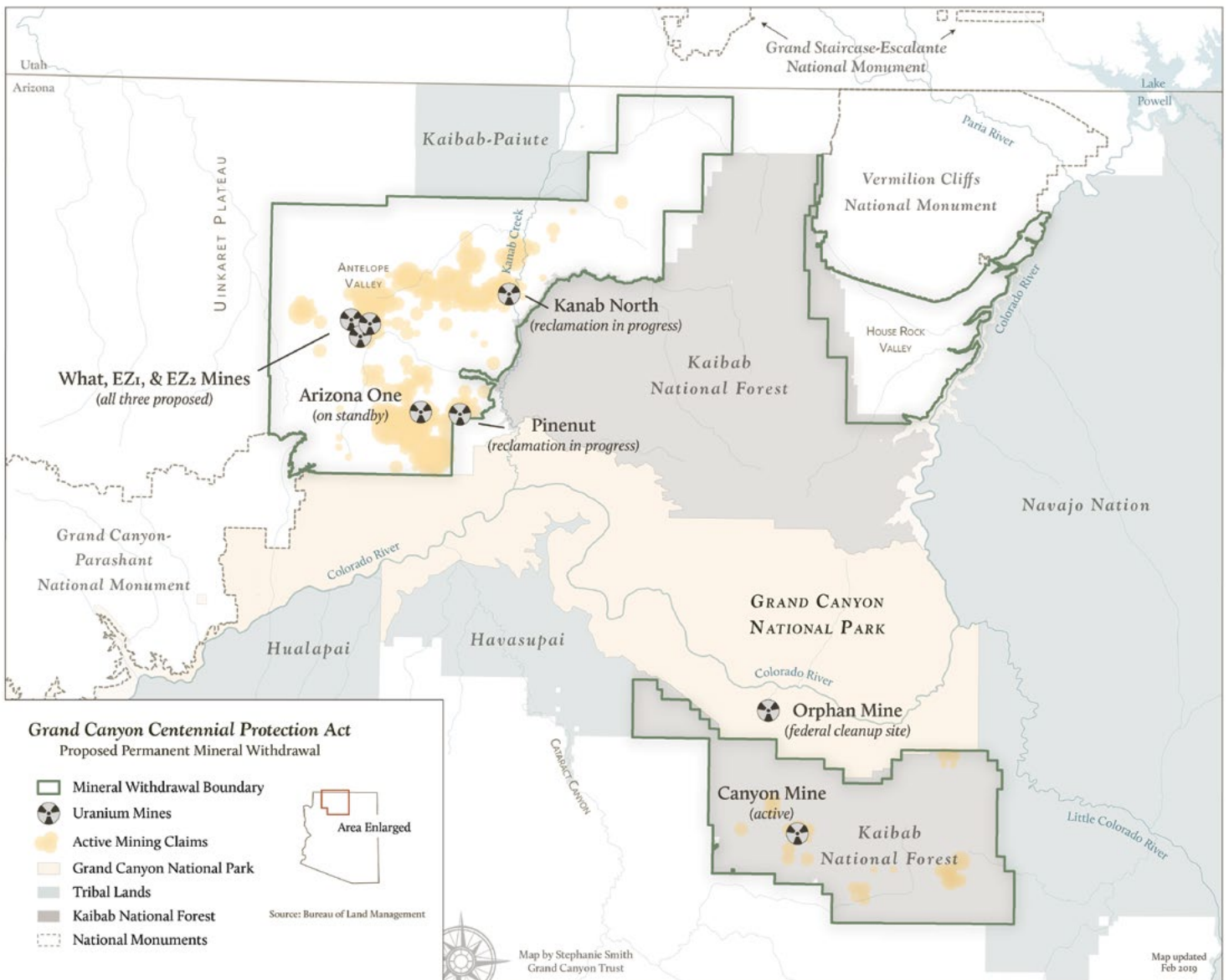
The *Grand Canyon Centennial Protection Act* of 2019 would also make permanent the twenty-year ban on new claims, ordered by the interior secretary

in 2012. That decision was a hard-won administrative victory led by the Havasupai Tribe—whose sole source of drinking water is threatened by uranium mining—and a broad coalition of public land advocates, including hunters and river runners.

An unprecedented alliance of Havasupai, Navajo, Hopi, Hualapai, Zuni, Paiute, Ute, Yavapai, and Apache leaders and the National Congress of American Indians has been essential to the campaign's success thus far. All of their sovereign nations have either banned or never allowed uranium mining. The deadly legacy of more than 500 un-reclaimed uranium mines and mill sites on Navajo land and the ongoing health hazards within Acoma, Laguna, Ute, and other Native communities underscore why we need to ban uranium mining around the Grand Canyon.

In praising passing the House bill, Natural Resources Committee Chair Raúl M. Grijalva said: "We wouldn't be here today without a truly historic level of dedication by people across the country, and I want to thank all the tribes, outdoor advocates, businesspeople, sportsmen and sportswomen, and everyday Americans who have poured their heart and soul into this fight."

But lest we forget the precarious nature of this



important milestone, Grijalva added “Protecting the Grand Canyon is more important than offering the mining industry more corporate welfare,” alluding to the United States Nuclear Fuel Working Group’s pending recommendations to the president on subsidizing uranium mined in the U.S. and opening public lands to new uranium mining claims, which would likely include areas currently protected by the temporary ban around the Grand Canyon ordered by the Obama administration in 2012. It could be undone by the stroke of a pen.

The multi-year campaign to permanently ban Grand Canyon uranium mining now turns attention to the Senate. Arizona’s democratic Senator Kyrsten Sinema has not endorsed the House bill, nor has she

acknowledged that uranium mining is a threat to the Grand Canyon. Martha McSally, who Arizona Governor Doug Ducey appointed to fill John McCain’s seat in the Senate, is being challenged in next year’s election by former astronaut Mark Kelly, who is speaking out against uranium mining around the Grand Canyon.

Without any support in the Senate, however, supporters have a long row into a hot headwind before we can celebrate enacting the *Grand Canyon Centennial Protection Act* into federal law.

Roger Clark

Back of the Boat— The Whale Foundation News Bulletin

HELLO ALL. Unless you're one of those who escapes to the southern hemisphere, this is the dark time of year. Nights are long, days are short, and—at least for me—thoughts of the next river season are starting to swirl around in my head. But it's not time for boating yet...

I've been working away at the Whale Foundation for a few months now. Still learning something new every day, but enough pieces of the puzzle are snapping together that a few clear pictures are starting to show. Thought I'd give you a detailed answer to a question that comes up a lot:

How does the Whale Foundation counseling program really work?

Counseling is right at the core of the Whale Foundation services. About 25 years ago the Grand Canyon guiding community lost a beloved friend to suicide. A group of guides decided they had to act. They set up a crisis hotline to help catch others who might be falling. Over time, due to the generosity and hard work of many river community members, the program has expanded. We now offer counseling for most of life's challenges: family and interpersonal issues, anxiety or depression, substance abuse, grief and loss, work related issues, and more. Our services are available to Grand Canyon river guides, past and present, and their immediate families.

It works like this:

If you're in an emergency situation and need a lifeline *right now*, call 911, or the Suicide Prevention Lifeline: 1.800.273.8255. The Whale Foundation isn't set up to handle emergencies. We just don't have the resources for that.

But if you're looking for other help, call our 24/7 Helpline: 1.877.449.4253. You'll reach an answering service. Leave your name and phone number and a short message about what you're after. That message will then be forwarded on to one of our case managers. They'll call you back as soon as they're able and will start setting you up with the right counselor for your needs.

Key point here: None of us at the Whale Foundation—board members, executive director, anybody—hear these messages or learn who has called. That's confidential. Our case managers and counselors are bona fide professionals. Only they will know who you are.

If you happen to live in Flagstaff, the case manager

will likely refer you to a counselor right away. We have a ready network of dedicated professionals in the area. They like working with guides, they're set up to work with the Whale Foundation, and they know something about the particular challenges of life as a guide. It's pretty smooth.

If you live elsewhere, it's going to take a little more effort to get things rolling. Our case managers don't know counselors in every town where a guide might live. So you'll have to find a counselor in your area yourself. Maybe you already know one, maybe a friend does, maybe Google will help. When you find someone there will be a bit of paperwork. We'll need to make sure they're bona fide and that they're willing to work with the Whale Foundation's payment structure. Once everything is lined up (we'll be as quick as we can) you're good to go.

We normally offer ten sessions through the Whale Foundation. That can sometimes be extended if need be, but there are (unfortunately) limits to what we can do. The counselors bill us directly. They're a good bunch—they've agreed to work with us at lower than their normal rates.

That's the story. I'm proud to be part of it. I know how much help a little wisdom from a professional can be—heck, people hire us guides for our particular brand of professional wisdom. Look how well it works for them.

If you have questions about the Whale Foundation or want to help out in any way, check out our website at whalefoundation.org or reach out to me at the office.

And don't forget: The WingDing is coming up, Saturday February 15TH. It's going to be a good one! Thanks much!

Sam Jansen

whalefoundation@outlook.com

CONFIDENTIAL HELPLINE: 1.877.449.4253

OFFICE: 928.774.9440

Teresa Yates-Matheson

IMARRIED AT NINETEEN—John Weisheit, who was my first husband. At that point in time we were just working here in Phoenix. We had a cleaning business up and running that was our own. My family was here—just a typical nineteen-year-old. Probably married a little too early. John’s mom and dad actually introduced us to the river. When I was nineteen or twenty, I did my first private trip. They organized it, rented some rafts, got a permit for Deso-Gray, and we all went down on this river trip. It was a typical private—not much experience, had Yampas we rented, went down Deso-Gray and got out at Green River. We basically would stop and look at the rapids, but none of us really knew what to do to miss ’em. We were kind of fumbling our way down. Most of it, 99 percent of it, was absolutely phenomenal. We just fell in love with it. We had a great time with his parents and their close friends. John was rowing and I was a passenger. It just was so therapeutic and wonderful to be so far away from everything.

We decided we were just going to do a trip a year, and so the next year we did the San Juan. Then I think we did the Dolores. We decided we wanted to do it often enough that maybe we should look into getting our own gear. We purchased two ten-man military surplus boats, and one seven-man—they had the bumper pads around the outside, they were black. On one of them, a cherry bomb or something went off in the front so a tube needed to be repaired. Like, 800 bucks we got all three rafts. We figured they were made to go out in the military and bomb coral reefs, so they were tough enough for a couple of privateers who were still learning how to miss things. We were getting better with each trip, but we still had our crash-and-burn stories. But we didn’t know how to fix them. So we went to the library and looked under “Whitewater Rafting.” Back then Google wasn’t around, so we had to actually go to the library. And in this book—*Thirty Years of River Running by Georgie Clark*—was a picture of her and Harry Aleson on a seven-man. So we figured, “Well, if anybody knows how to fix ’em, it’s her.” Somehow John found out her address and wrote a letter. “We purchased these rafts, we’re really just learning. Can you help us with information on how to fix ’em, and how we should care for these boats?” She wrote back pretty quick, “Well, this is what they’re made of. This is how you want to do it. Here’s where you can get the supplies.” She was very forthcoming with her knowledge. “Oh, by the way, you might want to paint them, because they’re black, and they get

really hot in the sun.” So we went ahead and painted them, got ’em all fixed up, and took ’em down Deso-Gray again. Had a *great* time.

In the meantime, we wrote back, because we had read her book. We had no idea who we were writing to until we read the book. But that was a great book to read, and pretty inspirational for me. She had a parade she was going to be in, in Sedona, and she was going to do a party there. So we decided to go up and meet her. From that point, she basically invited us to go on a trip with her. John and I each went on a trip in ’85. We had to do it separately, because we were still in our business of cleaning houses. So he went on a trip in May, and I think I went in August on *my* own, and he stayed back and ran the business.

John and I had talked about selling the business and getting into river guiding, because we liked it so much. Georgie was the person who taught us there’s a guiding community out there, that gets paid money to take people down the river. We’re like, “Boy, that sounds like a great idea!” So we kind of caught the bug, like all of us do that go down there. And Georgie was my inspiration for motors, because I was rowing a boat by now, I had my own boat on the private trips. We did Gates of Lodore, which is my first row trip all the way through, instead of just sparing John a little bit, or somebody else, on the oars. Georgie kind of was the one that... She actually let me start driving across the lake, and I think that kind of helped spur the motor end of things. I did two trips with Georgie in ’85, and then two more in ’86, and in this time frame we were transitioning out of the cleaning business. Then I ended up not doing a trip with Georgie in ’87. When I realized she wasn’t going to use us that summer, and wasn’t going to take us down, I pursued ARR, [Arizona River Runners] because I had done a GTS [Guides Training Seminar] trip—I paid for my own way down, stating I was a Georgie swamper, for the GTS trip, and met some people from ARR, and then pursued them to do a work-your-way position to try to get in there.

* * *

Teresa Yates Matheson started out privately and then worked for Georgie, Arizona River Runners, OARS, Bio-West, Humphrey Summit and GCMRC over the years.

She also initiated the bald eagle study with Larry Stevens and Bryan Brown down at Nankoweap.

This interview took place at Teresa’s mom’s (Betty Yates) house in Phoenix, AZ on Feb. 17, 2019. Betty, who

also worked for ARR as a Whitmore-down host for over ten years was present too. —LEW STEIGER

* * *

STEIGER: Okay, well, I want to hear as many particulars as you can give me about your first trip with Georgie. Like her boat—what was she thinking, and why did she want it tied such and such a way, etc?

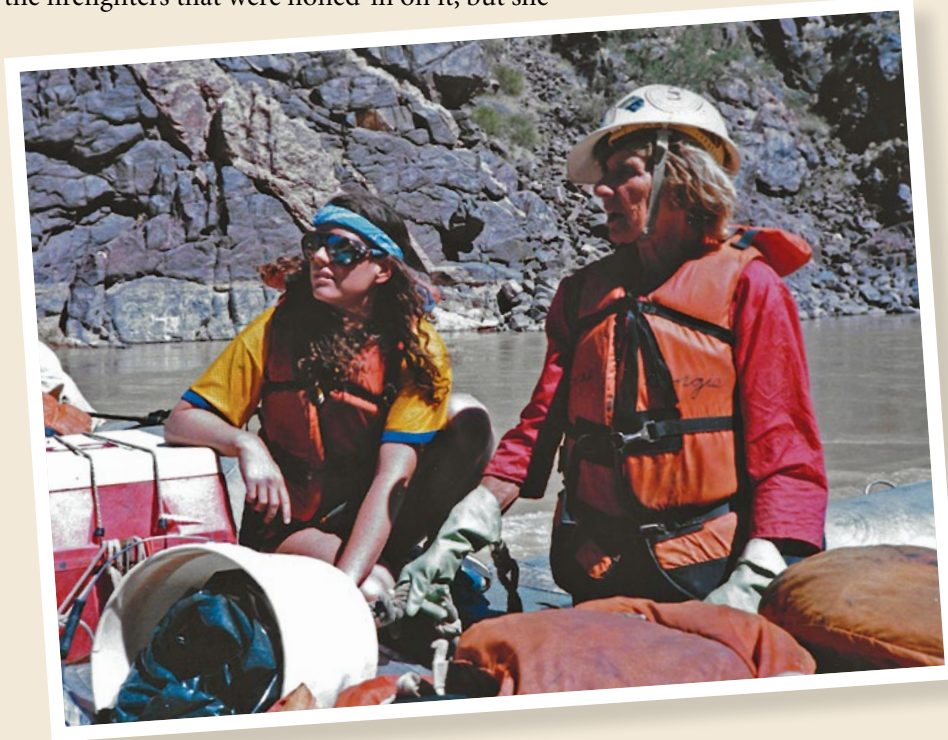
YATES MATHESON: Well, she told me her ideas with her brother that failed, like they wanted to make it safe, but she didn't want to miss anything. She wanted to be able to hit the biggest stuff down there. I heard her say many times, "If I'm going to be married to the river, I'm going to be married to the river. I want to go for the biggest ride, and I want to have the most fun I can, and not be worried about the boat or the people." So she wanted it safe, she wanted it where more people could be on the boat and experience it together. And one boat with most of the people on it means cost sharing isn't all that expensive, because you're not having to upkeep a bunch of boats. But she also had her thrill rigs for the people who *really* wanted to go for the ride. Now, I didn't get to experience that. I would have loved to, but she had stopped doing those because too much was happening, and she wasn't able to kind of train people in. There were some of the firefighters that were honed-in on it, but she

just kind of...don't know if the Park was getting down on her about 'em, or if there was just too much happening with them, or she was tired of waiting for them as the water was going down. You know, higher water was better, because they could float faster and motor faster. I don't know why she overall stopped using 'em, but when I was there, we didn't have any thrill boats. We just had the big-rig, and one time we had a single-rig that was kind of doing another trip at the same time we were. But *her* boat, her big boat, she wanted to be able to hit anything down there, not have to miss anything, have as many people on it as possible, to enjoy the same trip together as a group. I think too, probably, she liked being the one in control of it all. She said the reason she liked the boat as big as it was—there was always something of the boat in a different current. So like for instance even when she got stuck on Big Red in Crystal, there was enough of the boat out to catch the current, to *somewhat* spin her off of it. She liked the fact that no matter what happened, one part of the boat would be in a different current than the other, and she could hit everything possible. And she always tied it together with ropes versus straps, because she liked how it flexed and stretched, whereas straps keep everything kind of more together. But if one part of the boat is going up the wave, and the other part is still coming down,

especially if she was sideways, she wanted that boat that was still upstream to push—because it's in that faster trough current, and the other boat's hitting the wave at the top. So she felt like if it was pushing from underneath, that this one would always go over, instead of like we've seen some of those...This is just her telling me this. (chuckles) That's what she was telling me, that the other boat would be pushing it up over the top, and helping it to crest the wave. Now we've all seen those pictures where it doesn't quite...

STEIGER: Well, you mentioned also that you had to point it a certain...

YATES MATHESON: Yeah, like going through Tiger Wash...Well, that's where the potluck thing comes into play, because once she kind of made her position



Teresa and Georgie, mid-1980s.

in the rapid, you couldn't really maneuver that big of a boat to make another cut. So it's kind of like that first initial entrance is what really mattered. And for Crystal, she said she came in the tongue, and of course went through the hole, but she said her nose was always going to hit the wave a little bit pointed towards the wall, so it would go like this, and then like kind of go off to the right, if it all worked well. Then she always just pulled the motor for the island and just floated wherever it took her.

STEIGER: She wasn't going to get all precious about it?

YATES MATHESON: Uh-uh. There was no way she could... Yeah. When we went through Crystal, she would hit that first wave, then she'd do a couple more in the middle there, and all of a sudden you'd see her just pick up the motor—you know, grab her rope and pick up the motor and squat down in the motor well and just brace herself for whatever hit she was gonna take. So if you hit a wave, you saw her flip up, and she's just smiling and hanging on back there. Then as soon as it would settle down, she'd jump up and go, "Okay, pot luck, just everybody keep holdin' on!" And she'd go back into her position, pull the motor, and we'd just rumble down—usually, the ones I was on, we never went right of the island, we always went left. And maybe that's why she pointed her nose left, I don't know.

We would just rumble down that left side, and you wouldn't even see her—the passengers would be going, "Where is she?! Where is she?!" I'm like, "It's alright, she's back there, she'll be up in a minute." At the end, she'd pop up, put the motor down, start it, and off we'd go.

STEIGER: I'm trying to remember—'85, pretty high water.

YATES MATHESON: My first trip, I want to say it was about 50 [50,000 cfs] because I remember her saying, "50–52,000." Yeah, pretty big.

STEIGER: So Crystal must have been huge!



Georgie's G-rig.

YATES MATHESON: It was huge. I do remember.

STEIGER: She told you, "You go up front?"

YATES MATHESON: Yeah, "You go up front and hang on, because I know you will." I'm like, "How do you know I will? I've never been up there!"

STEIGER: "Why do I have to go up there?!" (laughs)

YATES MATHESON: "Do I have to go?" Of course I didn't know. The second, third, and fourth trip, I kind of knew I'd better hang on.

STEIGER: What do you think her theory was—sending you up there, instead of keeping you back with her? She thought it'd be more fun for you up there?

YATES MATHESON: Probably. And I loved it so much. I really did love it. But Lava was the one, when we went over the first time, I was like, "There's no way!" That wave was just huge.

STEIGER: You just went right down the middle?

YATES MATHESON: Oh yeah, right over the ledge hole, four times!

STEIGER: At 50,000. Wow!

YATES MATHESON: Yeah. The first time. The other times I remember her saying it was like—I want to say around 25,000. One of the trips was much lower. But yeah, she went right for it. Of course, like I said, Lew, it was my first experience, so I didn't know. I thought everybody did! (laughs) You know?

STEIGER: Yeah. So how many people were on that boat?

YATES MATHESON: The first trip was probably, I want to say about fifteen to twenty. I have the album at home, I should have brought it. But fifteen to twenty



people. I didn't know anything about the leopard print. That's something she told me about down there. She said that in the early years when she was just building up her business, she would always get grease all over her clothes. Then she brought Marie into the picture, and Marie would stay home and do all the booking and paperwork and stuff like that, and Georgie was gone all the time, I guess, travelling quite a bit in the summer, plus doing trips, and she would come home with oil spots on her clothes. She just basically said, "Here, Marie, I'm on my next one." So Marie got tired of all the oil spots, and *she's* the one that came home with the leopard print bathing suit, "Here you go, start wearing this, because you can't see the oil spots on the leopard print." That's what Georgie told me, so I just kind of went with it. But yeah, she started wearing leopard print, and then she went to Fredericks of Hollywood to buy the leopard leotards she was wearing back then, because, you know, where'd she get this stuff?! It's like, "Where did you find it at that point in time?" Now, you can find it everywhere.

STEIGER: So fifteen or twenty people. Had any of them been with her before?

YATES MATHESON: No, not on this trip.

STEIGER: And who were these people, how did they decide to go with Georgie?

YATES MATHESON: Probably cost... The ones that I went with, I don't think they really knew. Some of them, I don't think they really knew what they were getting into, or what their reason was for choosing her, but I do remember them saying that they were curious about Georgie.

STEIGER: What do you suppose it *did* cost in 1985?

YATES: Mine was \$800.

YATES MATHESON: \$800 in '86?

YATES: Something like that.

YATES MATHESON: Thank you, Mom! I didn't pay attention to that.

STEIGER: 1986—800 bucks.

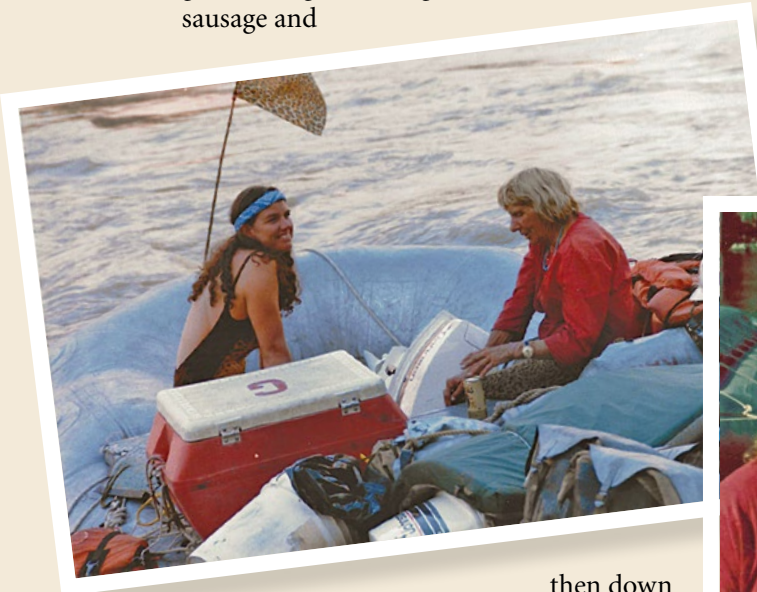
YATES MATHESON: I have her brochures, all her letters, everything we sent back and forth. I can't remember how long it was. No! It was *ten* days, because it was your first time you were away from Dad for ten days. So probably from the time you came to the Ferry, to the time you got home... Yeah, okay, so maybe eight days, because she did have those couple days she took over the Ferry to rig.

STEIGER: Yeah—three days to rig, huh?

YATES MATHESON: Just tying all the knots. Yeah, we basically took a day to get all three boats blown up, set up, framed where she stood, and then tied all those ropes back and forth, pretty much every two to three feet, because those ropes became the handholds for the people who sat in the boat. So there were just big ropes to hold it together structurally, and then there were all these small ropes to tie bags to and stuff, and hang over the side.

STEIGER: So there's three doughnuts (**YATES MATHESON:** Uh-huh.) and then there's a tube in the middle of each doughnut. All that stuff's gotta get... That's a lot of the ropes crisscrossing over and under the tubes.

YATES MATHESON: Right, they're going from the right side of the right boat, and then it intertwines, it goes through "D" rings and over the sausage and



then down into a "D" ring, and then it goes to the "D" rings between the two doughnut-shaped boats. So that one rope's going to go over all three boats, intertwined with clove hitches.

STEIGER: Wow. So that really is a project to put that together and take it apart.

YATES MATHESON: Uh-huh, and you have to interweave it between the three boats in the right way. And then, of course, it's gonna flex and stuff. Then you had a rope that went down the middle of the sausage tube, that was laid over the top. That's the rope you did a knot to, and then came down from, to the doughnut tube, so the sausage tube had some sort of structure to it. I can't remember anything *underneath* the sausage tubes, but I do remember tying over the top of it and just

interweaving it between the three boats. Then there were smaller ropes between even those. But those went over all three boats.

STEIGER: So that would take all day to do?

YATES MATHESON: Uh-huh. But I mean she would talk to the rangers, she would talk to people that walked up. I remember one time Brian Dierker walked up—or he was standing there—and she walked up behind *him* and grabbed his braid, and just like yanked him to the ground. I mean, Dierker was on the ground. (laughs) You know? Then that first time I met her at the Ferry, after the boat was finally in the water, she made me walk out with her and stand at Lees Ferry for a *very* long time, just to see if I would get out, I think. I mean, she had her little things she did to see what type of person you were, and if you were hard or soft, I guess, would be the best way to say it.

STEIGER: So you just met her, you're getting ready to go down the Grand Canyon, you start tying this boat together, and now she's, "Okay, let's go out and stand in the river?"

YATES MATHESON: She grabbed a beer and said, "Let's go stand out here in the Ferry and hang onto this boat."

STEIGER: Did you get a beer too?

YATES MATHESON: No, I did not. (laughter) At that point, I was kind of the Pepsi Queen. No, I didn't get a beer.

STEIGER: I remember that water was a lot colder than it is now.

YATES MATHESON: Yeah, it was pretty frigid. I bet we stayed in there twenty minutes. But she wasn't getting out, so I wasn't gettin' out. I mean, I don't know, we were in there a *long* time—long enough to go numb. About waist deep.

STEIGER: Were you able to even walk when

you got out?

YATES MATHESON: Barely. But, you know, when somebody's 76 and you're, what, 25? You know...I stood out there 'til she was ready to get out.

STEIGER: Did she, like, finish her beer?

YATES MATHESON: Yeah. (chuckles)

STEIGER: Was it just you on that first trip?



YATES MATHESON: It was just me, and there was Marty Hunsaker [phonetic] who was her other crew member. On *my* first trip there was Marty and Roz.

STEIGER: And you and Georgie. And that was it?

YATES MATHESON: Yeah. So Marty was tying up the one—the bow lines went from the side boats, and Marty was on one boat, and I was on the other boat, to tie up.

STEIGER: You would put *two* lines to shore every time?

YATES MATHESON: Yeah, every time.

STEIGER: Well, especially at 50,000 too.

YATES MATHESON: Yeah. The pull-in at Havasu, she literally... Here's Marty and I, sitting up front, ready to go tie the boat at Havasu, right? She's pulling into the motor-rig parking, and she liked getting there when there were no other boats there, so she timed it. She always shot for that cliff at the end that we all—you know, right there in the pocket?

STEIGER: The notch.

YATES MATHESON: Yeah, the little notch there. So that's what she aimed for. But when she came in, because she couldn't spin the boat fast enough, she would literally... When we came in at 50,000, she literally hit the wall, it seemed like to me, now that I know Havasu, as close to the mouth as possible.

STEIGER: And then just scrape down the side of it?

YATES MATHESON: Just as soon as she hit the wall, she spun, and then you could hear just the motor whining, whining, whining. She got into shore, then she yelled for Marty and I to get off. We had to, like, hang onto her while she was motoring, and then we both had to go tie up. Neither one of us had done it before at Havasu, so we're looking at each other, running around. When she hit the wall, we both went, "Hang on!" Anyway, we got her tied up, we got the hike in. But there were times she *didn't* make it. But that's how she came in that first trip. She hit stuff.

STEIGER: We interviewed her at her birthday party, and she said, yeah, they made her get a table, which she really didn't want to do.

YATES MATHESON: No.

STEIGER: She had this theory if it was all soft, that would be safer. I guess she used to have this wading pool, and she'd just throw a bunch of cans out there, and everybody could grab one.

YATES MATHESON: Yeah. She told me she used to just have a stove in the middle with a pot of water from the river, and then she would just throw cans in there. Of course the labels would come off, so you didn't know what can you were grabbing. She said passengers just came up and opened up a can, and whatever was in the can was what they ate. So they just ate it, hot...



Georgie in her mid-70s.

In the morning there was just hot water, and then you could add it to—well, when I got there, instant oats or, you know... Then she had a cold pot she'd turn into instant milk, so if you wanted to do some cereal or something you could, but that's all she did for breakfast. Then she had her egg break at about ten o'clock, where she pulled in, because she'd boiled eggs the night before, so that next morning she'd have her egg break. You'd just peel an egg and get a tortilla, put the egg in there, and then you had that spray cheese and the fake bacon bits. Yeah, it was crazy. But that was really the protein of the day (laughs) for them. I think we did sandwiches for lunch, the trip I was on. But you hardly saw her eat. She'd eat an avocado or... You know, she didn't eat very much.

STEIGER: So in 1985, she would have been like 75 then, do you think?

YATES MATHESON: Seventy-five or 76. I just remember thinking, as a 25 year-old... I mean, she was walking with the half of the generator, she was helping carry the motors. She'd be laying on her bed and be talking to you, and she could just do like a thousand sit-ups. She was just lanky and strong, and I couldn't believe she was 76. I was blown away with everything she was doing: driving the boat, picking up the motor...

STEIGER: Did it seem like she was pretty happy?

YATES MATHESON: At that point, yes, it did. She was still involved quite a bit. When I saw her later on in my



career, I could tell she was slowing down. Roz would keep me informed how she was doing. When I met her, those four trips I did with her, she was still vibrant, she was talking to the people, she was telling stories, she would point out things. She was still involved—although when she was tired, she'd go to bed. She'd go out and make her bed with her Mae Wests in the crack of the boat and go to sleep, and the rest would be up in camp, doing their own thing. All of us slept on shore—she was the only one that slept on her boat. And she did the initiation that trip. She was in charge of that. That entailed... She would have everyone line up, and they'd put blindfolds on, and one of her boatmen—actually, on this first trip, she did it—she led us around. We'd all hold hands, and she led us around, I think it was—I want to say Fern Glen or Tuckup. Once we were blindfolded, we had to hold hands, and she would lead us around the camp. She would tell the story about—at least *my* story was, “Now imagine you're in camp, it's dark as it can be. You can't find your flashlight, and now you're going to be stumbling around looking to get to the river, but you're gonna get there, because that's where you have to be.” So she leads us, and everybody's laughing because we're going through bushes, she's taking us through an obstacle course, you know. We're laughing, we're falling, by this time everybody's together in a group. Everybody was making comments, and she was commenting back, just kind of giving us grief. I wish I could remember more of the details. But she'd



A Georgie initiation.

eventually get you down to the river. And I'm crew, so I'm not in this group. I'm later. She just did the passengers.

STEIGER: You didn't have to be blindfolded?

YATES MATHESON: Well, not 'til later. She did me and Marty separately, after we did the passengers. Anyway, she led 'em through, and she had 'em line up right by the river, and they put their feet in the river, so they were right close to the river. Their feet were in the river, and they had buckets of water, and she had a little red paddle. She would say, “Okay!” She'd be like a drill sergeant. “Alright, listen up! This is what we're gonna do.” She said, “I'm gonna walk behind you, and this is gonna be a quiz about the trip. You have to answer the question I'm asking you, and if you don't, you're gonna get a bucket of water poured over your head.” Everybody's like, “Uh-oh! now we're being tested!” They're already cold, because they've got their feet in the water. She'd walk behind each one and say, “Okay, where did we camp the first night?” Then she'd go to the next person, “Okay, what was the name of the big waterfall on river right?” You know, whatever—“Deer Creek.” She'd just go through each passenger and test 'em. And that was fun, because everybody's like, “I know this, but I...” So the water would pour, and everybody'd be laughing and having a good time. It was actually pretty cool. Then, once she asked everybody a question, she would wander off a little bit away and she'd have 'em come...singly? She'd wander off, and then I think if it was a big group, they'd do it two at a time, but if a small group, they'd do it one at a time. She'd have the blackberry brandy, and they'd take the blindfold off and take you over to Georgie. Then Georgie would have you get down on the sand



Georgie White. Photo: Teresa Yates-Matheson

on your hands and knees. She'd say, "Now you have to take the oath." And the oath was something to the effect where, "You've come to do this river trip, and it's been an adventure, and you've had things happen that I'm sure were not very pleasant," like the sand blew, or she'd bring up things that happened on the trip—"the sand would blow, or you got cold in the rapids, or maybe you stubbed your toe or something and you still wanted to go on the hike, so you did that hike in pain, because you didn't want to miss it." There's something about a river trip she wanted to imply in this little oath, and that was—"things happened that you didn't want to have happen, but my motto for Georgie's Royal River Rats is *Everything is just the way you like it*. You go through life hitting these bumps in the road, but if you come out of it with a positive attitude, and learn from it, then *everything is just the way you like it*. And if you agree with me, say yes, so that you'll live your life with a positive attitude." Then they would say yes, and then she'd hit 'em on the butt with this red paddle, and then pour a bucket of water on their butt. (laughs) Then she'd make 'em stand up, and take a swig of blackberry brandy. (laughs)

* * *

STEIGER: So you and the Grand Canyon. Did it leap out at you as being markedly different from these other rivers you'd been down?

YATES MATHESON: Well, it really pulled at me because of all that it had to offer, for myself and for the people who went down commercially. I mean, you have the human history: Lees Ferry, John Wesley Powell, Anasazi. You had the geology to give you perspective. I loved it that you start out at the Kaibab, and as the trip goes on I was blown away by the layers, and getting deeper and deeper into the canyon. And the length of the trip, the style of the trip and the rapids—just enough rapids—but yet side hikes to go on. From the minute you push off at Lees Ferry, to the minute you get out, you're experiencing something at some level. Cataract, you have forty miles of flat water before you hit the rapids, whereas soon as you hit Lees Ferry, you're into all of those things: geology, human history... Then you can also take people to show them visually what you're going through, like Blacktail for the Great Unconformity, with the Indian ruins, to Deer Creek with the handprints, to, you know, all that first exploration with John Wesley Powell. There's *so* much information, and things to learn there. And that's what I loved about the science too. My curiosity, my need to find out as much as I can about the area. I felt like I could be there for a long time, and experience different water levels, and get more and more information over time, that I wouldn't get tired of it. And with each group you experience so many different things. So I think it called to me for that, but I also think at that point in my life when I found Grand Canyon, I was looking for healing. I really felt the therapeutic value of being in the canyon. Being removed and being taken away was not only what *I* needed, but what I enjoyed sharing with people, where you *have* to take advantage of the moment, and you have to take in everything each moment gives you on a river trip, because you're never going to be back in this moment again. You know? For me, being removed—getting out of my relationship with John, and becoming a river guide, was really the start for me. It was my first time that I really made a decision for *me* to do something that I *really* wanted to do. And being that nature lover, it just filled me, just filled my soul with not only what being a guide down there does for you... I mean, you know, you have to stand above a rapid and look at it. It's not like you can walk away, you've *got* to run it, especially when you have people! (laughs) So there's all these things you learn, being a guide, that sometimes are delayed in life, for

confidence, for digging down deep and making it happen. Then there's always those things that come up that are unexpected. So it really, for me, was an exciting time, because I was experiencing something new every time we left the Ferry. It was therapeutic because it was the first time in my life that it was up to me to get the work done, it was up to me to enjoy it as much as I could. It was up to me to live the lifestyle and make a living doing it. The canyon just spoke to me in so many different ways that brought me in, and I couldn't get enough of it. I did everything and anything I could to get down there.

* * *

YATES: I was so dumb, I'll tell ya'!

YATES MATHESON: (laughs) No, mom, you were just a first-timer.

YATES: Teresa told me, "Don't put anything out before we get ready to get into it," like sleeping bags and stuff. It was funny, because we camped early that day, around two o'clock. We'd always waited until bedtime to roll the things out and everything. For some reason, everybody was setting up early, "Oh, well, we'll do ours." So I put our bags out, Teresa's and mine, and set 'em all up. But other people, I noticed later, had put plastic over their bags. Ours was wide open.

YATES MATHESON: She did that while I was down in the kitchen with the crew. We had a bunch of guys that knew each other, and then the crew, of course, and then myself and you and Liz. She had made friends with Liz, because I told her, "I'm going to be busy. You kind of have to take care of yourself and get to know the people, and get yourself up on the hike." I did that for a couple of reasons: one, I wanted her to experience without me hovering over her, but at the same time, we wanted to have some time together. So yeah, she and Liz set up the camp early, which I didn't know they did. So the group was sitting around, and Georgie had gone to bed. A bunch of these guys were just telling jokes, good jokes, but I didn't want to spend time with my mom listening to jokes. So I said, "Mom, let's just go set up our camp." We came around the corner, and I saw it was already set up. I went, "Oh!" "Yeah, Liz and I decided to go ahead and set it up early tonight, since we were here early." I said, "Okay, fine. That's great." It's August, it's dark, and so mom's bag was next to mine, and of course it's a Georgie trip, so it's not like you're on a cot or anything, you're basically right on the sand—no pillows, no nothin', no tarp—not even a tarp, I don't think.

STEIGER: Well... and they were probably those light, like not waterproof foam pads?

YATES MATHESON: I don't even remember a pad. It

was right in the sand.

STEIGER: You didn't even get a pad?!

YATES MATHESON: No, we threw the sleeping bags out on the sand. I remember, Lew, on her trips, just getting into my sleeping bag and wiggling until the sand would support my back, and then I would pick up my sleeping bag and push sand underneath my sleeping bag to have a pillow. *That's* what I remember from her trips—not any camping gear whatsoever. That was part of her adventure: it's not an easy trip, it's not Disneyland, it's not everything done for you.

But anyway, we came into our camp, we were sitting on the sleeping bags. I said, "Mom, let's just sit down and have some time." We both sat down on our bags, and we were talking away, just talking, about life, about the trip, about people on the trip, about Georgie. You know, it was just the normal conversation, going back and forth. We're best friends, so we were just talking back and forth and enjoying the time and the experience. This was Tuckup, so we'd had several days on the river already, and it was going back and forth between us. We were in shorts and tee shirts. All of a sudden we just got a little chilled. I'd say we were probably there forty minutes. (**YATES:** Yeah.) So we decided to crawl in our sleeping bags and keep talking. We crawled in our bags. I remember unzipping mine like halfway, crawling in, laying down, zipping it up, put my head down, got the pillow, I was looking at the stars, and I went... Mom's talking, telling me something. I just remember hitting something with my left ankle in the bag, and I went, "Hm." I kind of figured out what it was. She's just talking away.

YATES: Yeah, I didn't know anything was going on.

YATES MATHESON: I'm laying there going, "Uh-oh." I was no longer engaged in the conversation, but in my mind I'm thinking, "Okay, now this is a *snake*, I can tell. It's on the left side of my left ankle, in the sleeping bag. I've got a bunch of people down at the fire who've been drinking; Georgie's in bed; and my mom's right here." And I don't want to move, because it's in the bag. So I was just going through all these scenarios in my head. You know, do I tell anybody I've got a snake in my bag? Because I don't want those guys to come up here. I mean, I'm just totally going through "What do I do now?" And Mom's just (laughs) talking away! She has no idea. I'm just laying there going, "Oh no, somebody's going to get struck trying to get the snake out. Mom's gonna panic if I tell her. And I don't want to move, because if *I* move, I might get struck." So I just laid there, I just stayed in my bag.

YATES: You were very still. I saw that.

YATES MATHESON: Yeah. So the whole time she's talking and I'm trying to figure out what to do, the

snake started to move. So I laid there, and it went over my left calf, got between my legs, and I could feel it coming across, then kind of moving up. My thought was, “Please don’t find a hole in my shorts and just curl up for the night. It’s like, “Please keep moving,” because it was hard enough to lie there while it was crawling over me. I didn’t want it to, like, stay there all night. I mean, we were on our bags for I don’t know how long, and it never let me know it was there. So it came over the top of me, and then it started going across here, on top of my chest, and then across my shoulder and out the sleeping bag. I knew it was relatively big. I don’t know if I was holding my breath... The whole time I’m thinking, “Please don’t stop, please don’t stop, please don’t stop, just keep going.” Because I was worried it wouldn’t come out. But it did, and there was just enough light, I could see the rattles go by. That’s when I went, “Snake!” and she went, “What?!”

The snake started going across to this other camp... There were two other people over there that were sleeping. I said, “Tanya! Tanya! Snake comin’ your way!” That’s when I got out of my bag, because it was going her direction. Then *they* sat up, and it turned around and came back towards us. It curled up underneath one of the Georgie black bags. I had a stick, and so I got the bag off of the snake, and then just held it down. And then somehow...

YATES: Everybody came!

YATES MATHESON: I think they must have heard me say it or something. Then we got it out of camp. We just put it in a bucket and got it out of camp, which took a little while. What happened *then* was everybody knew there was a snake. Yeah, so now everybody’s freaked out. I’m like, “Uh-oh!” Everybody’s like, “Well *our* bags are out!” “And *our* bags are out!” I ended up walking around with everybody, with a flashlight, and just shaking their bags and making sure they were comfortable for *them* to go to sleep. I’m walking around, just helping them, and when I came back to *our* camp—because the way the sleeping bags were set up was our heads were downstream...

YATES: Yeah, this is funny.

YATES MATHESON: Yeah, our heads were downstream—or *upstream*. Upstream—you know, the way the river flows. And so when I came back to camp, her and Liz had turned the sleeping bags around, so that the heads of the sleeping bags were *downstream*. So I walked into our camp and just had a chuckle. I went, “What, you think they only move one direction?!” (laughter) Like, “What were you thinking?!” It was funny. And then we *did* look, there was a trail from the bottom of my sleeping bag off into

the rocks, down toward the river at Tuckup, because we were up in that sandy area, and you could see where he had come by the bag.

STEIGER: And just thought, “Ah! I’ll get in the bag!”

YATES MATHESON: I don’t know if we walked up on him and he went in, because we were coming... Did he go in while we... Yeah. But for me, when I think about it later, it’s like we sat there, talking (**STEIGER:** Forever, yeah.), and he must have been just down there in that corner going, “How am I gonna get outta here?” You know? (laughter)

* * *

STEIGER: Okay, I want to hear a river story.

YATES MATHESON: Oh my gosh. I don’t know.

STEIGER: I was talking to Bert Jones about this. He’s like, “Trouble is, all the good river stories involve disasters that we’ve had.” (laughter)

YATES MATHESON: Exactly!

STEIGER: Nobody wants to tell any of those!

YATES MATHESON: With my time at ARR, I know Tim Whitney was fearless.

YATES: Oh, he was fun.

YATES MATHESON: The greatest, you know.

YATES: He let me sleep on the boat all the time.

STEIGER: Yeah. What a good guy.

YATES MATHESON: Yeah, he’s a great guy. Well, I don’t know, there’s lots of stories out there about me—especially at ARR. One year I was known as the “Rescue Queen,” and the other year I was known as the “Evac Queen.” In fact, a rescue just came up in my mind, which was with Billy Ellwanger. He was a single boat in front of me, and you know how you kind of overlap each other—you know where everybody’s at—back then, anyway. You kept track of where everybody was at so you could find a little space for yourself, hopefully, to kind of cruise in. Anyway, Billy was in front of me with a single boat trip for Hatch, and I had a two-boater with ARR and we’re doing the pictures at Hermit and Granite. I’m coming into Granite, because I was going to be the one at the bottom taking the other boat, and then he was going to run Hermit and take pictures of us. So I came into the tongue in Granite, and looked downstream—here’s Billy’s boat tied to the bottom of the island, and people everywhere. I’m like, “What’s going on down there?!” So I started running the rapid, kind of looking up and seeing what’s going on. I spun into the eddy on the left, just so I could see in Forever Eddy, to see what was going on there. Here’s Billy Ellwanger with an [airmattress]... It was one of those ones you actually blew up. Hatch had ’em for the passengers to sleep on.

Anyways, he had one of those underneath his arm, and he had ropes and carabiners and everything hanging from him. There were people around him, and then there were people on the island. I looked at the boat first, and then just kind of scanned—saw Billy—kept scanning, and then *on* the black cliff at the top of the eddy, about ten feet in and about fifteen feet *up* from the river level, is a passenger Spider-manned to the black cliff, just hanging out there. In my mind I'm thinking, "Billy's got that little inflatable thing, and he's been trying to get to Spiderman there and save him." I go "Oh! *that's* the guy I have to get!" So I told all my people, "Sit down!" because they were getting ready to take pictures, and I'm still in the eddy. So I drove up as far as I could with the motor-rig and came across the tail waves, and got into the eddy, and then of course it was high enough to where it was really surging around. There were boils. You know how that eddy is. We've all been there. So I finally get in there. He was here, but I bumped the wall way in front of him, because the current was coming so fast I knew I couldn't just go right for him. So I drove towards Billy and just bumped the wall down, and ended up, fortunately, stopping and hitting the wall right below the guy. I told my swamper, "Don't move until we anchor into the wall. Can't have you falling in. But when we anchor in and get steady, I'll give you the go-ahead and then you can run up and help get this guy on the boat," because he was above the boat by maybe ten feet. He had climbed up there. He had a sock draped on his foot, soaking wet, no shoes. I'm like, "Okay." So we bump in there, and my swamper's runnin' up to get him, but before he could get there, the guy just goes "spew!"

STEIGER: And jumps off! (laughs)

YATES MATHESON: Off the wall! And jumps onto the duffle pile, and hits the beaver board in the duffle pile. My swamper's like, "Wait!!!" And this guy just "bing!" and jumps on the boat. I said, "Okay, everybody move over, give him a seat!"

STEIGER: Now is Billy coming up the eddy on his air mattress?

YATES MATHESON: No, he was standing on the shoreline. I heard him yelling at me, like, "Teresa! Get him! Teresa, get him! Teresa!" So we drove and I got him, and as soon as he jumped on, I got him a seat. My other boatman had come into the eddy and saw what was going on, so *he* was ferrying over, and he got in the bottom end of it and went over and picked up those people who were standing there so they didn't have to get across the river there. So I ferried the guy down from the wall, and he ferried Billy and the other people down. In the meantime I'm saying, "Hey!

Give him some water!" I forget his name. Phil or Bill or something. So we spun out of there and I parked right below Billy's boat. When I parked in there, we were still waiting for Billy and the rest of the crew. I said, "Hey, are you alright? What do you need?" He goes, "I just want to see my brother. I want to know my brother's okay." What he told us was they were out on the right side-tube, and he and his brother got bumped off in Granite, and they both ended up in the eddy. His brother got to shore, but he kept getting pulled down in the boils—it pulled off his shoes in the boils. Billy was trying to get to him, and then finally he grabbed the wall. So he was in the eddy, probably hypothermic at this point, and climbed up on the wall just to get out of the river. Billy said he was up on the wall for, like, thirty, forty minutes. So he went from hypothermic to a black rock—hot! Hot, hot, hot. Billy said he kept trying to go around the eddy, but he couldn't get to him, couldn't stop, because the current was so fast by the wall.

STEIGER: Billy's on a single boat.

YATES MATHESON: With no other boat. They fell in, and he went by. So he was fit to be tied. And we were the last boats of that day, so if Billy wasn't in front of us, he would have *really* been fit to be tied. You know how it goes, it's all timing; and where you're at, who's in front of you, who's behind you. That's why you always try to keep track. Anyways, Billy gave me the *biggest* hug. He was like, "Teresa, I couldn't get to him. I tried everything, I couldn't get to him." Anyway, his brother was fine, they hugged on the beach. I got the story from Billy what happened, and how long he was in the eddy being sucked down, and then how long he was on the wall. I mean, I wish I had a picture! Yeah. So it was quite the scene. But then it was like, "Well, where you camping?" You know? Back to business. "Where you going?" I said, "Oh, I'm just going right down here." He goes, "Okay. We're just gonna go on." Anyway, we both camped between Granite and Hermit, and the next morning those two brothers were back on the right side tube, going through Hermit! (laughter)

STEIGER: Well, that's good!

YATES MATHESON: It was fun. But anyway, that was one rescue.

YATES: There's the girl that hiked down.

YATES MATHESON: Oh, oh, oh, oh, yeah. In April, early nineties, science was slowing down for me, and I just had one trip that I really enjoyed doing, with a really good friend of mine. It was a single-boat trip with a snout, doing vegetation work: kind of just doing plots and species and stuff in different areas. I think there were only like six or eight of us. Mike Kearsley

was the scientist. So we were down there at Tanner, doing a plot, and Mike was downstream with his group, and I'm with a group upstream. I heard a cry for help. I'm like, "Where's *that* coming from?!" I heard it a few more times. It was across the river, on the Tanner Trail, above the rapid. I said, "Hey, you guys, I gotta go check this out. You keep doing what we're doing. Sometimes they just need a little something." This is a hiker, it's April, there's not a lot of people down there. So I got in my boat just by myself, untied it, went across the river, and as I was pulling in to see what was going on, I see this figure of a young woman with a backpack on her back. She's in tripod position, where the legs are apart, and she's bending over with her hands on her knees, just standing there bent over, which is *never* a good sign. It means abdominal, there's *something* going on. So I called out to her. "Hey, how you doin'?" She goes, "Not very good." I said, "Are you comfortable in that position?" She said, "This is the most comfortable position for me." I said, "Can you stand there for just a second?" I've gotta tie up my boat." She goes, "Yeah, I'm not movin'." I said, "What's your name?" and she told me her name. I said, "Okay, I'll be right with you." I knew it wasn't just a Band-Aid or trash here—this was an emergency.

STEIGER: Like appendicitis or something?

YATES MATHESON: *Something*. So I pulled in and tied up my boat, and got out my AA battery that science carries, and the emergency radio, and turned it on. And fortunately, right there is the flyway, so you've got all those tour planes. So I get on it, and within minutes I'm talking to one of the tour operators. This is way before sat phones and everything. When we started, it was signal mirrors! So I got to the channel, and I was putting out what we said back then, "River Mile, medical emergency, need an evac." This plane picked me up almost immediately. I said, "Life-threatening emergency. We need an evac *right away*," blah, blah, blah. He dispatched to the Park, and then he got back to me that he'd gotten through to them and they're initiating... You know, I'm in the books. So I said, "Okay, great, thank you very much." So I put the radio down and walked up to the beach, and just getting her on the snout rig was *painful*. I took her pack and put that on. I said, "We've gotta get across the river to where I have help to set up an LZ [*landing zone*]. I don't know where to put you here, but I know I can take care of you over there. Let's get you on the boat." So I put her on the boat, laid her down where she was comfortable, drove across the river, got her off the boat. We got her in the shade, put her on a paco pad, got her comfortable. One of the gals ran down and got Mike, and then we're all together. I had people wetting down the beach, and

me and Mike were with her, and talking to her and everything, and just did the typical woofier thing: get her name, medications, just went through that assessment; palpate her, asked her questions. It was all pelvic pain, abdominal pain, started the night before. She was with her boyfriend. She left her boyfriend in the morning, headed to the river. He evidently gave her no sympathy all night long, and she was mad at him because she was in pain all night long. So she packed up and left him laying there, asleep. She just put on her pack and went to the river. Instead of going up, she went down.

STEIGER: Good thing she did!

YATES MATHESON: Yeah. So an hour and 35 minutes later, the ship hadn't arrived. I called them again, "Hey, she went from fully aware, alert, to really hard to wake up." I mean, I was shaking her and rubbing her chest. "Wake up! Wake up! Wake up!" So I'm shaking her, and she's 23 years old. I asked her all these questions, and then her pulse rate was going down. I didn't have a BP cuff, I just had pulse rate—I kept taking her pulse. At one time Mike looked at me after I took the pulse and went (makes a gesture) like that. I said, "I gotta go make another call." So I called and I said, "*Where ... is... the... ship?! Are you going to get here soon?*" because I knew she could die on the beach.

STEIGER: So you're saying this on the radio to another plane?

YATES MATHESON: I'm talking to another plane, "Can you please give me an ETA on when they think the ship is gonna be here?" The Park said, "Ten minutes." I walked back thinking, "She's not gonna make it." She was dying. Her stomach was hard and distended. I didn't know what was going on. I mean, there's so many things it can be.

Finally the ship came. I put my name and address in her pack, and put it in one of her pockets. They came in, started an IV and took her away. Just as she was flying away, her boyfriend showed up on the opposite beach. So I had to tell him she just flew out, and he had to hike back up. I knew they were taking her to Flagstaff Medical, so when we got to Phantom, I called, "Hey, I'm the boatman that flew her out. Can you tell me..." They're like, "Nope, can't do it. All we can say is her parents are here from Texas and she's in ICU." I thought, "Okay. Well, I'll never find out." But in August I got a letter from her, "Thank you for saving my life, thank you for everything your team did for me. Thank you, thank you, thank you," but never said what was wrong with her. So I got her address and sent her a letter back. "Call me collect," because I knew she was a student, going to university. She was 23. So she called me back, and it was a burst fallopian tube with an ectopic pregnancy.

STEIGER: Oh yeah, that'll kill ya deader than a doornail.

YATES MATHESON: Uh-huh. Broke up with the boyfriend. That was the end of him. Yeah. So she was *lucky*. I told her on the phone, "Do you know, if you were twenty minutes later, there would have been no boats by you," because I knew I was the last boat—I'd seen everybody go by me, and I knew the schedule for April. I said, "There would have been no boats. What made you go to the river and not the rim?" She said, "I knew I could go downhill. I couldn't go up."

STEIGER: Man!

YATES MATHESON: Yeah. Lucky girl, lucky girl. But I thought she was gonna die on the beach. I looked at Mike, "Oh man, this is not good." And you don't *know* when the ship's coming. You're waiting and waiting and waiting.

That started that summer of evacs. That whole season. It was like every time I turned around, I was flying somebody out. On one trip I did *two* evacs. Gloeckler loved that when I called him from Phantom, "Hey, by the way, there's another one comin' out."

Jon Stoner finally comes up with my passenger list as I'm packing out a trip, he points to this one passenger. He says, "Okay, just so you know—*that's* the one you're gonna be evac'ing this time" (laughter)

STEIGER: He's already figured this out?

YATES MATHESON: Yeah, he's already figured it out.

STEIGER: And did that turn out to be the case?

YATES MATHESON: Well, what happened was, we got to Marble Canyon, and Marble Canyon Lodge came knocking at the door, "Who's the trip leader of this trip?" Walt Garrison was there with me. Walt goes, "Teresa." "Well, we got a passenger over here at the office wants to talk to you." I said, "Okay." So I go over to talk to him... It's the guy that Jon Stoner said, "This is gonna be your evac." He never even made the trip.

STEIGER: That's alright. Saved a lot of time!

YATES MATHESON: Which was good. Stoner laughs about that to this day. Anyway, he had something going on. I said, "Nah, you shouldn't do the trip." And so he didn't.

STEIGER: Yeah, much easier to quit before.

YATES MATHESON: Yeah.

* * *

STEIGER: What did you like best about ARR?

YATES MATHESON: Just that they took me in, they gave me the opportunity. Kim Claypool was there, but I don't remember any other women. It was an all-guy crew then. So just to give me the opportunity and *let* me learn, and to give me the opportunity in Moab.



With friend and mentor, Tim Whitney.

They're a very dynamic company. What I liked about them was they were organized and the gear was kept up, it was looked at every year, and they gave a high-quality trip. You know, the six-days were sometimes hard to make, but we had the tagalong at the end that came in and out. I was there for eighteen, nineteen years, just with ARR.

STEIGER: Really? Boy that went quick.

YATES MATHESON: Yeah. They weren't doing rowing trips when I started, so I would do OARS rowing trips in the spring and fall to keep on the oars. Then I did the science trips in between, but for ARR I just felt it was an awesome company to work for, and the opportunity was there, and I did ten to thirteen trips a summer for a long time for them. And like I said, they wanted the interp, they wanted people to know about the canyon. To me it was a level of guiding that I wanted to be involved in, and be a part of. Of course you work with people like Tim Whitney and Richard Quartaroli and you. You know? I came in at the perfect time in that I met all the ones that were there before me and learned from them and ran with them and followed them. You know, Tim Whitney met me as a free work-your-way, and then I was his swamper, and then I followed him with my own boat, and then he let me lead my own boat trip, with him behind me. Then we hardly did a trip again together because I became a trip leader. But he watched my full...

STEIGER: Was that his idea, that you just lead this one, or was that their idea?

YATES MATHESON: No, that was Whitney's. That was Tim's.



Looking for bald eagles from land and air.



Running for OARS and ARR.



STEIGER: How did *that* transpire?

YATES MATHESON: He just came up to me the trip before and said, “Let’s just have you lead *me*, and that way I’m behind you. If you need anything, if you have any questions or thoughts, we can go over every night what you’re thinking, and where you want to go, what you want to do.” He just got behind me and followed me. Yeah. And he’s the reason I got my own boat in ’89, because he had to go for a wedding. He just said, “Give it to Teresa. She’s the swamper, just give it to her.” So I followed Brian Hansen on my first trip. But I liked the company, I liked the people, I liked the trip they offered. I watched them evolve from when they bought Adventures West and they went to the big trailer, and now they’re even bigger.

STEIGER: Oh, they’re huge, but they’re so cool.

YATES MATHESON: They are so cool. They’re just on it. They treated us well, and they had all the help and support at the warehouse, and everything organized. Good equipment, good motors.

I feel really, really fortunate... I mean, my career in Grand Canyon was so fortunate in that because I did motors, and then I wanted to pursue rowing outside the motor... Because ARR didn’t have rowing trips, it’s not like it’s a competitive move. So I would do OARS trips in the beginning and end of my season, after the motor trip was done, and keep handy in that. And then when the science came into play, I met Steve Bledsoe, Stuart Reeder, John Toner, Whale. I mean I ran with all those people.

Whale did a couple of science trips with me. Then when you go to OARS, you’ve got Mike Boyle and Ian and Lester—you know, all *those* people. So I was really lucky in that I wasn’t just in this four-year, one-company system. You know, Larry Stevens... I was rowing boats, I was motoring boats, I was running sport boats for Bio-West, I was running at night with a spotlight, up rapids as well as down. I had all these opportunities around the canyon where I met this plethora of people that are so near and dear to me, because we experienced it together. And then I got asked to do other things, like with the bald eagle project. I was entering data, I was working in the lab for Larry. Then they hired me to fly in the helicopter every ten days to look for bald eagles 300 feet above the river, from the Little C up to the dam. So I got paid to fly in a helicopter to look for bald eagles.

STEIGER: A dirty job, but somebody had to do it!

YATES MATHESON: Had to do it, yeah!

STEIGER: When you were running a sport boat, did you get to run an Osprey, a metal one?

YATES MATHESON: No, it was the other one, the Achilles. It was before the Ospreys.



Driving the sport boat for Bio-West. Photo: Steve Bledsoe



Chub kiss. Photo: Bill Liebfreid

STEIGER: Boy, that was exciting! Yeah, anybody that didn’t do that would never... Just running upstream with those things—holy moley! You’re runnin’ at night with these unrestrained people.

YATES MATHESON: Yeah, with a spotlight. But it was another opportunity, another, “Yes, I’ll do it.” You know, I’d never done it before, but, “Do you want to try it?” “Yeah! Let’s go!” And it led to so many wonderful things in that, yeah, you run upstream, do your work, you’re running that Electro-Fisher, you’re taking all these chances and risks, and you hope if anything goes wrong you’re *above* camp instead of *below* camp in January, when you’re swimmin’. But the fun part was you go up, you do your work, and then you’ve got to go back down to camp, so you shut the spotlight off, and it’s a moonlit night, and you can see, there’s nothing big between you and camp, and you just float. So you get to camp, and you go to bed, and you wake up and do your next round in a couple of

hours. I mean, it's the place. It pulls you in.

There's so many quiet times. I constantly, now that I'm off the river, am thinking about the therapeutic value of being out there. Even though you're a guide, and you're pulling off a trip, and you're doing your thing, it's still removed. It's not the rim.

* * *

STEIGER: Do you mourn it?

YATES MATHESON: I miss it. I miss it. I mean, I realize that my health wouldn't have let me do it any longer. But yeah, I miss it.

STEIGER: You also did it for your husband, too.

YATES MATHESON: Yeah, for *his* health. Yeah, and for the benefits. I almost lost him while we were dating. I think for me—I was ready to be at home more, because I missed so much. I think it started the summer my dad died. That was really the trigger. It was like, you know, I've missed so many family things. I didn't miss, but I wasn't home for the whole thing. I think I was starting to get to where, "It'd be nice to be around more." Because I was putting in 250 days a year. I barely was home.

STEIGER: You give it all up, there's nothing else.

YATES MATHESON: Yeah, there's nothing else, and you're there winter and summer, every month in the year, and you barely get home to check your mail and do your laundry, and you're back out again. Between the science and commercial, sometimes I had these horrendous turnarounds. Yeah, you just do it, because it's what you do. But it's like I got to where I was ready for a change. I met Steve [Matheson], for one. I met this awesome guy who I just adore, and I didn't want to be away from him. And with his health issues, we almost lost him. So you get to where you're like, family and friends are important. And, I've done this for so long, maybe it's time to pursue other things in life, and that's what happened.

STEIGER: Well, it seems like Costco's a really good company to work for.

YATES MATHESON: Oh, it is, yeah.

STEIGER: They seem to take really good care of their people.

YATES MATHESON: Oh, they do, they do. And I really like this position I'm in now, because I can do it for as long as I want to. There's no lifting, twisting, picking things up—but it's definitely... What's that thing by Edward Abbey? Tim had it on his wall.

STEIGER: The one where you're gonna outlive the bastards?

YATES MATHESON: Yes, thank you. Yes, that one, that one. I used to read that on every trip. But yeah,

I would never have guessed I'd be at a box store, managing somebody's health for their ears, but yet at the same time I get to have time with family and time with friends, and be home. But I admire all of you who are still doing it, because the canyon...

YATES: It's magical.

YATES MATHESON: It's magical, you know, on so many levels... One of the things Georgie kept telling me when I was younger was as long as you have health, you can do this. And that's exactly it.

STEIGER: She had a lot of wisdom, didn't she?

YATES MATHESON: She did. She taught me so much, just by telling me her stories and her life. I mean, she said things—after she passed, there were many times I went, "She told me about this. She said this would happen." Just kind of personal things, just how people think. She knew there were people out there that didn't quite like how she was. And you know, that just was her.

STEIGER: "Just the way I like it."



With Steve Matheson at home in Utah.

GCRG Day
of the Dead
Celebration
Oct 31



Financials

GRAND CANYON RIVER GUIDES, INC.
DRAFT STATEMENT OF ACTIVITIES
FISCAL YEAR ENDING 6/30/19

GRAND CANYON RIVER GUIDES, INC.
DRAFT BALANCE SHEET
FISCAL YEAR ENDING 6/30/19

REVENUE

Foundation Grants	\$ 51,000
Membership Dues	41,797
General Contributions	39,707
Circle of Friends	23,112
GTS Revenue	17,148
Government Grants	7,997
Noncash Contributions	7,200
First Aid Class Income	6,820
Interest & Investment Income	6,762
Endowment Gifts	1,565
Memorial Contributions	1,325
Fall Rendezvous Income	110
Sales of t-shirts, hats, etc...(net of cost)	(333)
Total Revenue	\$ 204,210

EXPENSES

Salaries & Benefits	\$ 50,882
Outside Contractors	44,006
Printing (mostly BQR)	20,551
Rent (includes \$7,200 donated rent)	12,200
Postage (mostly BQR)	9,680
Food (GTS, etc)	7,776
Outside Services & Outfitters (mostly GTS)	6,229
Insurance	4,948
Equipment & Venue Rental	4,512
Payroll taxes	3,687
Telecommunications	2,535
Office Expenses & Supplies	2,355
Travel & per diem	1,983
Honorarium	1,370
Utilities	1,339
Investment Fees	1,319
Professional Fees	1,010
Merchant & Service Fees	961
Depreciation	926
Advertising & Promotion	569
Repairs & Maintenance	303
Subscription & Books	84
Total Expenses	\$ 179,225

Net Income **\$ 24,985**

ASSETS

Cash in checking/savings	\$ 79,217
Grants receivable	1,175
Postage & security deposits	1,335
Fixed Assets (at cost)	56,611
Less Accumulated depreciation	(56,034)
Investments: Endowment Fund	68,639
Investments: Reserve Account	52,427
Total Assets	\$ 203,370

LIABILITIES & EQUITY

Accounts Payable	\$ 0
Payroll Tax Liabilities	1,091
Unrestricted Net Assets	120,827
Temporary Restricted Net Assets	25,974
Permanently Restricted Net Assets	55,478
Total Liabilities & Equity	\$ 203,370

Major Contributors

July 1, 2018 to June 30, 2019

GRAND CANYON RIVER GUIDES proudly presents the very long list of major contributors who supported our organization in numerous ways during this last fiscal year (July 1, 2018 through June 30, 2019). Due to space considerations, this list does not reflect the five-year memberships or contributions under \$100 (including general contributions and Circle of Friends), of which there were many. Your support helps us to move forward and maintain a healthy and vital organization that is better equipped to protect and preserve the Grand Canyon and the Colorado River experience.

We apologize in advance to anyone we may have missed in the lists below. Please let us know. And thanks again, not only to those acknowledged here, but to each and every one of you who support our efforts and believe in GCRG. We appreciate that support more than we can express. Thanks to you all!

FOUNDATION, GOVERNMENT AND CORPORATE SUPPORT

All-Star Grand Tours (Colorado River Days)
 Anne B. Wallace Foundation (Circle of Friends)
 Arizona Raft Adventures (Colorado River Days, general support, matching gifts)
 Bisby Charitable Fund at Fidelity Charitable (general support)
 Catena Foundation (Boatman's Quarterly Review)
 Ceiba Adventures (Colorado River Days, Circle of Friends)
 Canyon R.E.O (Colorado River Days)
 Ceres Foundation (general support)
 Chehalis Fund/Tides Foundation (general support, on the recommendation of Drummond Pike)
 Chris Brown Photography (endowment contribution)
 Colorado River and Trail Expeditions (Circle of Friends)
 Delta Dental (general support)
 Demaree Inflatable Boats (Circle of Friends, general support)
 Elliott Family Fund at Arizona Community Foundation (general support)
 Grand Canyon Conservancy (Guides Training Seminar)
 Grand Canyon Fund (Adopt-a-Beach, GTS, Adaptive Management Program)
 Huppybar, LLC (Colorado River Days)
 Inca Floats, Inc. (Circle of Friends, general support)
 Jim and Patty Rouse Charitable Foundation, on the recommendation of Jim Norton (general support)
 John Blaustein Photography (Circle of Friends, general support)
 Neighborhood Acupuncture, PLLC (Circle of Friends,

general support)
 Network for Good (general support)
 Rapid Creek, Inc. (Colorado River Days)
 Robert J. Katz Charitable Fund (Circle of Friends, general support)
 Sandford Family Fund (general support)
 The Wildland Trekking Company (Colorado River Days)
 Tom and Carol Asprey Charitable Fund (general support)
 U.S. Charitable Gift Trust/Anonymous (BQR, GTS, general/admin)
 U.S. Geological Survey (Adopt-a-Beach Program cooperative agreement)
 Vertical Hydraulics (general support)
 Vishnu Temple Press, LLC (Colorado River Days)
 Waterman Welding, Scott Dunn (Circle of Friends)
 Whale Foundation (rent)

ENDOWMENT FUND GIFTS

Anonymous	Jim Kranz
Joe Brazie	Sarah Kurusz
Chris Brown Photography	Wayne and Helen Ranney
Mary Clark Clute	Barbara Ray
Shawn Eddy	Dr. Thomas Richardson
Bruce Fine	Sharon Ringsven
Maryann Gaug	Heidi Schmidt
Pam Hyde	Yvonne Settle
Amy Ieverlino	Bill Vernieu
Vlad Kovalik	

MEMORIAL AND HONORARY CONTRIBUTIONS

John Cooke (in memory of Jessica Youle)
 Janice Dinner (in memory of Jessica Youle)
 Leonard Ely (in honor of Steve Kenney)
 Lisa and Jim Maino (in memory of Clyde Philbrick)
 Jo Ann Marik (in memory of Lt. Colonel Joe C. Hester)
 Barry Morenz (in thanks to Andy Hutchinson)
 Joanne Nissen (in memory of Jeff Pyle)
 Joanne Nissen (in memory of Sue Antle)
 Karen Schroeder (in memory of Jessica Youle)
 Ken Wright (in honor of Joanne Nissen)

INDIVIDUAL AND BUSINESS CONTRIBUTIONS TO PROGRAMS COLORADO RIVER DAYS

All-Star Grand Tours	Hubbybar, LLC
Arizona Raft Adventures	Rapid Creek, Inc.
Canyon R.E.O.	The Wildland Trekking Co.
Ceiba Adventures	Vishnu Temple Press, LLC
Ian Harrison	

GUIDES TRAINING SEMINAR

Anonymous

COLORADO RIVER RUNNERS ORAL HISTORY PROJECT

Richard Quartaroli

GENERAL CONTRIBUTIONS (\$10,000 AND UP)

Michael Wehrle

GENERAL CONTRIBUTIONS (\$5,000 TO \$9,999)

U.S. Charitable Gift Trust/Anonymous

Lauri Wilson (reduced rent for GCRG office)

GENERAL CONTRIBUTIONS (\$1,000 TO \$4,999)

Arizona Raft Adventures

Ceres Foundation

Chehalis Fund of the Tides Foundation (on the recommendation of Drummond Pike)

Mark Herring

Jim and Patty Rouse Charitable Foundation (on the recommendation of Jim Norton)

Gary and Mary Mercado

Edward and Joan Steiner

Mark Plassman

Tom and Carol Asprey Charitable Fund

GENERAL CONTRIBUTIONS (\$500 TO \$999)

Arizona Raft Adventures

Steve Asadorian

Tom and Carol Asprey Charitable Fund

Rick and Tracey Cassard
Bill Crane

Darroy Hanson

Joanne Nissen

Gloria Pfeif

Philip & Roger Puschel
Ian Vossbrinck

Ken Wright (in honor of
Joanne Nissen)

GENERAL CONTRIBUTIONS (\$100 TO \$499)

Craig Alexander

Bill Bishop

John Blaustein Photography

Alistair Bleifuss

Cliff Bombard

Troy Booker

Phil Boyer

Joe Brazie

David Brown

Paul Butler

Susan Carter

Matthew Claman

Gerri Clark

David & Nancy Clayton

Natt Cobb

Peter Coha

Randy Cook

Myron Cook

Sharky Cornell

Matt Craven

Vic Cutter

Joanna Davies

Dick & Leanna Deneale

Michael Dom

Fleet Eakland

Rob Elliott Family Fund

Leonard Ely

Michael Fabry

Kevin Fedarko

Stephen Fickett

Donald Foust

Hank Gentry

Susan Georgette

George Gerhart

Kevin Greif

Craig Griffin

Richard & Cathy Hahn

Warren Herlong

Don & Virginia Herrman

Craig Hesse

Sharon Hester

Jeff Hulse

Peter Huntoon

Teresa Hylton

Steve Jackson

Robert Jackson

David Jaquette

Steve Jellinek

Marv Jensen

Kevin Johnson

RJ Johnson

Bert Jones

Maria Kaminski

John Karon

Robert J. Katz Charitable
Fund

David King

Alex Klokke

Jim Knaup

John & Renee Kramer

Kathi Kruczek

Randy & Mary Larson

Dan Lindermann

John P. Linderman
(qualified charitable
distribution)

William Lockwood, Jr.

Linda Luke

James & Charlene
MacDonald

James Mackenzie

Steve Martin

Kiyomi Masatani
Boyce McClung

Peter Mills

Barry Morenz

Shane Murphy

Denise Nadeau

Jim Ogg

Jerry & Judy Overfelt

Allen Page

Russell Patterson

Tim & Annie Payne

Rudi Petschek

Rewalt Rakestraw

Barry Read

Michael Richardson

B.C. Rimbeaux

Betty Rintoul

Walter Rist

Sandford Family Fund

Jack Schmidt

Neal Shapiro

Laura Shearin

Charles Sheketoff

Elizabeth Shippey

Jan Silverstein

Bruce Simballa

Toby Simon

Latimer & Megan Smith

Earle Spamer

Malcom Spector

David Steichen

Melissa Stepien

David & Heather Sterling

Kenneth Storm

Shan Stuart

Tim & Cathy Syverson

Jan Taylor

Catherine & Douglas Thayer

Ellen Tibbetts

John & Barbara Troyer

Mike Ullner

Rich Valdez

Ellen Voorhees

Dave Wegner

Roger Wilcox

Don Zaunbrecher

CIRCLE OF FRIENDS—STEWARDS (\$1,000 TO \$4,999)

Tania Calhoun

Zina Mirsky

Joseph A. Willhelm

CIRCLE OF FRIENDS—PROTECTORS (\$500 TO \$999)

Darroy Hanson

David Schaller

Gary & Mary Mercado

Keith Boman

Bill Crane

Lynette Sheppard & Dewitt
Jones

CIRCLE OF FRIENDS—SPONSORS (\$100 TO \$499)

Anonymous

Debra & Russell Agee

Annette Avery

Bill Bishop

Maggie Blair	Scott Knies
John Blaustein Photography	Jim Koeller
Alistair Bleifuss & Ann Cassidy	David Kreamer
David Bodner	Ken & Patty Kupchak
Cliff Bombard	CC Lockwood
Kate A. Boor	James Mackenzie
Mark Braden	Jim Marzolf
Jack Calabrese	Peter Mills
Bryant Callaghan	Roberta Motter
John Callahan	Jill Murray
Butch Carber	Brad Newman
Mari Carlos	Joanne Nissen
Jim Case	Jim Ogg
Gary Casey	Sue Ordway
Rick & Tracey Cassard	Russell Patterson
Ceiba Adventures	Earl Perry
Gerri Clark	Rudi Petschek
Jake Coggin	Gloria Pfeif
Colorado River & Trail Expeditions	Jon Porter
Randy Cook	Douglas Proctor
Demaree Inflatable Boats	Barry Read
Phil & Mary DeReimer	B.C. Rimbeaux
Robert Dycus	Dan Sealy
Kent Erskine	Toby Simon
Michael Fabry	Nedree Simpson
Joanne Feller	Bill Skinner
Donald Foust	Gary Snyder
Rob French	Malcom Spector
Dudley Friskopp	Melissa Riparetti-Stepien
Patrick Gagan	David & Heather Sterling
George Gerhart	Douglas Stuart
Raymond Gorospe	John Taylor
Kyle Graber	Jan Taylor
Julie Graf	Warren Thomas
Grant Gray	John Toner
Walt & Ruth Hibarger	John & Barbara Troyer
Randy Holton	Richard & Susan Turner
Peter Huntoon	Rich Valdez
Andrew Hutchinson	John Volkman
Inca Floats, Inc.	Anne B. Wallace
Jim Jacobs	Foundation
Ed Jodice	Waterman Welding
RJ Johnson	Vince & Helen Welch
Bert Jones	Roger Wilcox
Maria Kaminski	Stephanie Yard & Charlie Moody
John Karon	Glade Zarn
Robert J. Katz Charitable Fund	David Zickl
	Michael Zimmer

PATRON MEMBERSHIP (GUIDE)

Rewalt Rakestraw

BENEFACTOR MEMBERSHIP (GUIDE)

Sean Bothman	Joanne Nissen
Stephen D'Arrigo	Lynn Roeder
Jim Irving	

LIFE MEMBERSHIP (GUIDE)

Laura Campbell	Sam Jansen
Susan Carter	Timothy Lahey
Tabitha Chlubicki	Enga Lokey
Bob Granger	Clare Magneson
Nate Haldeman	Kevin Mueller
Carol Hamilton	Scott Phair
Joe Hazel	Bram Role
Mariah Hibarger	Parker Vuke
Jon Hirsh	Christian Wright

PATRON MEMBERSHIP (GENERAL)

Ruth McLeod	Zina Mirsky
-------------	-------------

BENEFACTOR MEMBERSHIP (GENERAL)

Don Brown	Michelle Thomas
-----------	-----------------

LIFE MEMBERSHIP (GENERAL)

Gabrielle Accatino	Donald Foust
Michael Anderson	Michael Keating
Michael Aquilino	Mark Peesel
Elizabeth De Witt	David Zickl

Businesses Offering Support

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

- Apex Brewing Supply**—Brewing Equipment 916/918-9058
Artisan Metal Works—Custom Fabrication 928/773-4959
Aspen Sports—Outdoor gear 928/779-1935
Blue Sky Woodcraft—Dories and repairs 970/963-0463
Bright Angel Bicycles & Cafe at Mather Pt.—928/814-8704
Canyon Arts—Canyon art by David Haskell 928/567-9873
Canyon Books—Canyon & River books 928/779-0105
Canyon R.E.O.—River equipment rental 928/774-3377
CC Lockwood—Photography books 225/769-4766
Ceiba Adventures—Equipment & boat rentals 928/527-0171
Cliff Dwellers Lodge, AZ—928/355-2228
Design and Sales Publishing Company—520/774-2147
Down By The River Productions/FaheyFoto—928/226-7131
Entrance Mountain Natural Health—360/376-5454
EPF Classic & European Motorcycles—928/778-7910
Five Quail Books—Canyon & River books 928/776-9955
Flagstaff Native Plant & Seed—928/773-9406
Fran Sarena, NCMT—Body work 928/773-1072
Fretwater Press—Holmstrom & Hyde books 928/774-8853
Funhog Press—AZ Hiking Guides 928/779-9788
Hell's Backbone Grill—Restaurant & catering 435/335-7464
Herptech Metalworks—Biologically-inspired art 435/335-7464
High Desert Boatworks—Dories & Repairs 970/882-3448
Humphreys Summit—boating & skiing gear 928/779-1308
Inner Gorge Trail Guides—Backpacking 877/787-4453
J Nautical Ventures—360/296-2747
Jack's Plastic Welding—drybags & paco pads 800/742-1904
Dr. Jim Marzolf, DDS—Dentist 928/779-2393
Kathy Oliver, CPA—928/853-2403
KC Publications—Books on National Parks 800/626-9673
Kingsmark Kennels—Flagstaff pet boarding 928/526-2222
The Kirk House B&B—Friday Harbor, WA 800/639-2762
Kristen Tinning, NCMT—Rolfing & massage 928/525-3958
Laughing Bird Adventures—Sea kayak tours 503/621-1167
Marble Canyon Lodge—928/355-2225
Marble Canyon Metal Works—928/355-2253
Mark Allen Productions—Film & Video 801/709-1676
Dr. Mark Falcon—Chiropractor 928/779-2742
Moenkopi Riverworks—boat rentals & gear 928/526-6622
Mom's Stuff Salve—435/462-2708
Mountain Angels Trading Co.—Jewelry 800/808-9787
Mountain Sports—928/226-2885
Neighborhood Acupuncture, PLLC—206/782-5662
Plateau Restoration—Conservation Adventures 435/259-7733
Professional River Outfitters—Rental boats & gear 928/779-1512
Randy Rohrig—Rocky Point Casitas rentals 928/522-9064
Rescue Specialists—Rescue & 1st Aid 509/548-7875
River Art & Mud Gallery—River folk art 435/648-2688
River Gardens Rare Books—First editions 435/648-2688
River Rat Raft and Bike—Bikes and boats 916/966-6777
Rivers & Oceans Travel—La Paz, Baja sailing 800/473-4576
RiverGear.com—Please call for guide discount.
Rubicon Adventures—Mobile CPR & 1st Aid 707/887-2452
RuffStuff—Off-road Fabrication 916/600-1945
Sanderson Carpet Cleaning—Page, AZ 928/645-3239
Sierra Rescue—WFR and swiftwater classes 800/208-2723
Sunrise Leather—Birkenstock sandals 800/999-2575
The Summit—Boating equipment 928/774-0724
Tele Choice—Phone rates 866/277-8660
Teva—928/779-5938
Westwater Books—Waterproof river guides 800/628-1326
Wet Dreams—River Equipment and Sewing 928-864-7091
Wilderness Medical Associates—888/945-3633
Willow Creek Books—Coffee & gear 435/644-8884
Winter Sun—Indian art & herbal medicine 928/774-2884

Care To Join Us?

IF YOU'RE NOT A MEMBER YET and would like to be, or if your membership has lapsed, get with the program! Your membership dues help fund many of the worthwhile projects we are pursuing. And you get this fine journal to boot. Do it today. We are a 501(c)(3) tax deductible non-profit organization, so send lots of money!

You can pay securely on the GCRG website at www.gcr.org or send a check to: Grand Canyon River Guides, PO Box 1934, Flagstaff, AZ 86002-1934. Note whether you're a guide member or general member.

- | | |
|-----------------------------------|--|
| \$40 1-year membership | \$16 Short-sleeved t-shirt size (S, M, L, XL, XXL) _____ |
| \$175 5-year membership | \$18 Long-sleeved t-shirt size (S, M, L, XL, XXL) _____ |
| \$350 Life membership | \$30 Sun Hoodie—does not include SPF (XS, S, M, L, XL) _____ |
| \$500 Benefactor* | \$15 Baseball cap (classic style or soft mesh cap) _____ |
| \$1000 Patron (A grand, get it?)* | \$8 Insulated GCRG mug |

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

Box 1934
Flagstaff, AZ 86002

boatman's quarterly review

NON-PROFIT
ORGANIZATION
U.S. POSTAGE
PAID
MEDFORD, OR
PERMIT NO. 110

ADDRESS SERVICE REQUESTED



THANKS TO ALL YOU poets, photographers, writers, artists, and to all of you who send us stuff. Don't ever stop. Special thanks to the Catena Foundation, the Adopt-a-Boatman sponsors, "Circle of Friends" contributors, and innumerable GCRG members for their generous and much appreciated support of this publication.

The Rainbow Road

Hwy 89

(name that mile marker)



Photos: Margeaux Bestard