

Boatman's Quarterly Review

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DAVE WEGNER

boatman's quarterly review

Published quarterly by and for
GRAND CANYON RIVER GUIDES.

GRAND CANYON RIVER GUIDES
is a nonprofit organization dedicated to:

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

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

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

Written submissions should be less than 1500 words and, if possible, emailed to GCRG. Include postpaid return envelope if you want your submission returned.

Deadlines for submissions are the 1st of February, May, August and November. Thanks!

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GRAND CANYON NATIONAL PARK SUPERINTENDENT

GUIDES TRAINING SEMINAR 2021!

DAVE WEGNER

COVER

Non-toxic red dye was released into the Colorado River on March 26, 1996 by the USGS to track the speed and distribution of water as part of the high flow experiment. Numerous USGS personnel were stationed downstream to record the arrival, dispersal and dilution of the "marked water" in order to characterize how water moves through the Grand Canyon

Inset: Dave Wegner

Prez Blurb

Greetings river friends! Here we are, 2021! I'm pretty sure all of our troubles are behind us, right? This is actually something I would jokingly say after a small (usually) incident occurred. Then the crew would respond with, "The trips not over AI", or, "We're jinxed now!", or simply, "Shut up AI!"

I have high hopes that the future will be a bit brighter. However, now more than ever, we must focus on how we got here. We must also ask ourselves, what we can do to continue to grow in a way that is best for all. Concentrating on our corner of the world is a place to start; it will have worldly impacts. As guides, we know how Grand Canyon can positively impact the lives of many from all over the globe. We take folks on a brief vacation from the things that seem so important to them. Most of them are able to leave it all behind, and be around others that are doing the same. At the end of it all, they realize the majority of people are simply, good. Not to say that beliefs, politics, religion, and cultural differences aren't still there, but it's nice to see the core human.

There are many new things happening in the GCRG Association! One being the announcement of the Indigenous WFR Scholarship. There is more information on this in the pages that follow. By collaborating with other organizations we were able to pull the project together. Lynn Hamilton reached out to GCY and their JEDI Council (Justice, Equity, Diversity, Inclusion). A question that was posed to GCRG and other organizations was to define what justice, equity, diversity, and inclusion means to them and their organization. I suggest we also take some time to define what that means to each of us, and expand on it by seeing what it means to others.

Here it is, February. My mind is to trying to recoup and be outside of Grand Canyon for just a moment. I hope all of you are getting rested up! I am ready to tackle a long, hot, wonderful summer; with lots of love and laughter!

Let's get this Covid thing under control

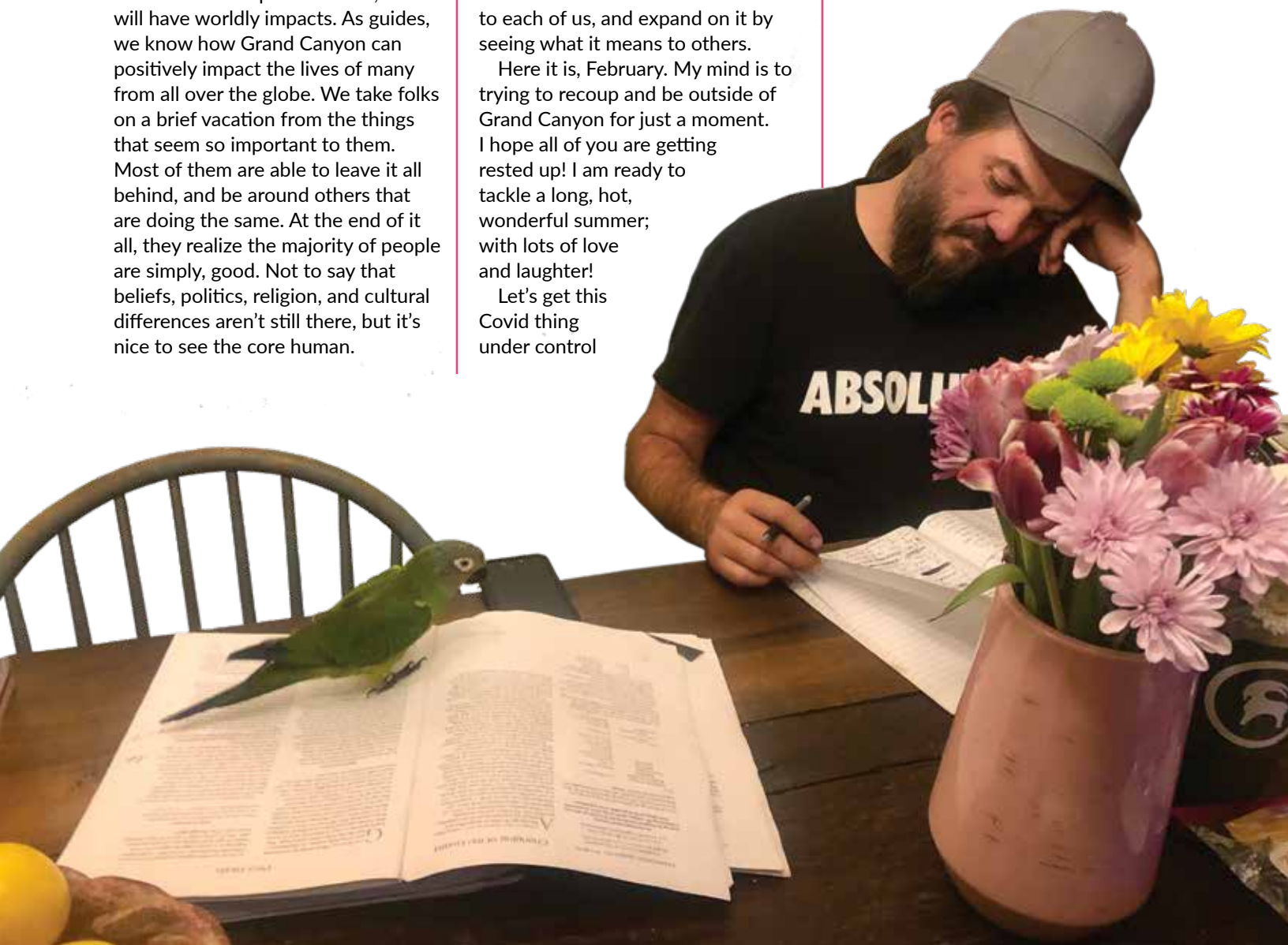
or at least moving in that direction. I don't know about you, but I need more hugs in 2021!

So, no. Our troubles are never really behind us. Let's do what we can in areas we can. Let's get uncomfortable doing it. After all, that's our Grand Canyon life!

Fellow boatman, generous donor, and, good friend, John Torgenson put it best in a poem he wrote while surrounded by the beauty of Grand Canyon.

You can read his poem on the next page.

Al Neill



The Grand Canyon is not a tour.

It is not an attraction.

It's real.

*When you ride its raging river, it is
now part of who you are.*

*It is now woven into your life story;
it is now a component of what
makes you a human being.*

*What are you going to do with this
new piece of your life?*

Because life is the Grand Canyon.

*Just when you're hitting your stride,
calmly floating along in smooth
water, you are gonna have a rapid
rock your world, you're gonna
drop a hole.*

Life's wind is going to turn you over.

Life's gonna bang you up.

*So what do we do with this new
grandest piece of our life?*

*We don't tell ourselves that we are
not going to get through it.*

We keep fighting.

*We turn our boat back over, and stay
on the current.*

*We fight through the hangups and
we cut ourselves loose from them.*

*Because, while life's river is long, our
Grand Canyon comes to an end.*

We experience.

We live through.

We learn.

*We attack the next one with a
different fervent grace and
a learned passion, and we
persevere.*

We float on.

*Because the beauty of our Grand
Canyon carries us through.*

She remains.

*We are going to breathe her sweet
air, thrive under her glittery sky.*

*Our hard work pays off when we turn
that final corner and come upon a
glorious rushing waterfall.*

*Births, baptisms, graduations,
anniversaries, weddings, holidays,
laughter.*

What do we do?

We soak them in.

*The Grand Canyon is not a check on
life's checklist.*

*She is not a "thing" we finish and toss
into our bucket.*

We live it every single day.

It is part of us.

The Grand Canyon is who we are.

THE GRAND CANYON REMAINS.

John Torgenson

dear eddy

I read with sadness the obituary for Suzanne Jordan (BQR, Fall 2020).

Her high energy, her engaging spirit, and her wild demeanor cast a spell on many people, guide and client alike. There is no need to embellish her story. She was the real thing.

That's why it's important to point out that she was not the first or the only woman rowing on international Sobek trips back then, 37 years ago, as Jeffe Aronson claims in the obit. It's true that we were a male-dominated outfit, but most of us were pleased to work alongside qualified women when we got the chance. It was rare back then for women to get work on international rivers, but those few who did left legacies that deserve recognition. It's worth noting that most of the early Sobek guides, male and female, learned to love rivers working in the Grand Canyon in the '70s.

Kate Rineer/Boor was the first woman to work rivers for Sobek, starting on the Tatshenshini River in Alaska in 1980 and working continuously for decades. She subsequently ran an astonishing 72 trips on the Tat and on the nearby Alsek. Kate and her Sobek-boatman husband Stan Boor later started a successful business outfitting private trips on the Tat and Alsek.

Joy Ungrich helped paddle a boat on our Zambezi exploratory in 1981. Then in early 1982 she ran the Bio Bio, where, like Suzanne two years later, she shared her boat with a male guide, but rowed a fair share of the rapids. She also rowed exploratory trips on the Indus, in Pakistan in 1979, on the Luangwa, an all-woman's trip in Malawi in 1982, and the Alsek, in Alaska, in 1988. Joy died prematurely in 1992.

Jenny Gold was perhaps the most accomplished female whitewater guide for Sobek back then. She was

the first woman to guide and row her own boat on the Bio Bio, in 1986.

The next year she rowed the little-known and crazy-wild Coruh River, in Turkey, again, the first woman to do so. She also guided many trips on the Zambezi starting in 1987. She later rowed exploratories on the Brahmaputra, in India in 1994, and the Tekeze, in Ethiopia in 1996. Following the trend among these women, she continued her life-long success becoming a Board Certified Large Animal Veterinarian.

Kelley Kallifatch also deserves recognition. She ran the Zambezi almost full time for three years, from 1985 to 1988. She was instrumental in exploring that river during its high-water season, a very bold proposition. During that time she worked with Jim Fowler on two *Wild Kingdom* shows on the Zambezi and on the Shire River, in Malawi, and she was Meryl Streep's stunt double in *The River Wild*. She was also part of an all-female paddle crew on the first descent of the Boh River, in Borneo in 1988. In 1992 she guided her own boat on the Rio Roosevelt exploratory in Brazil.

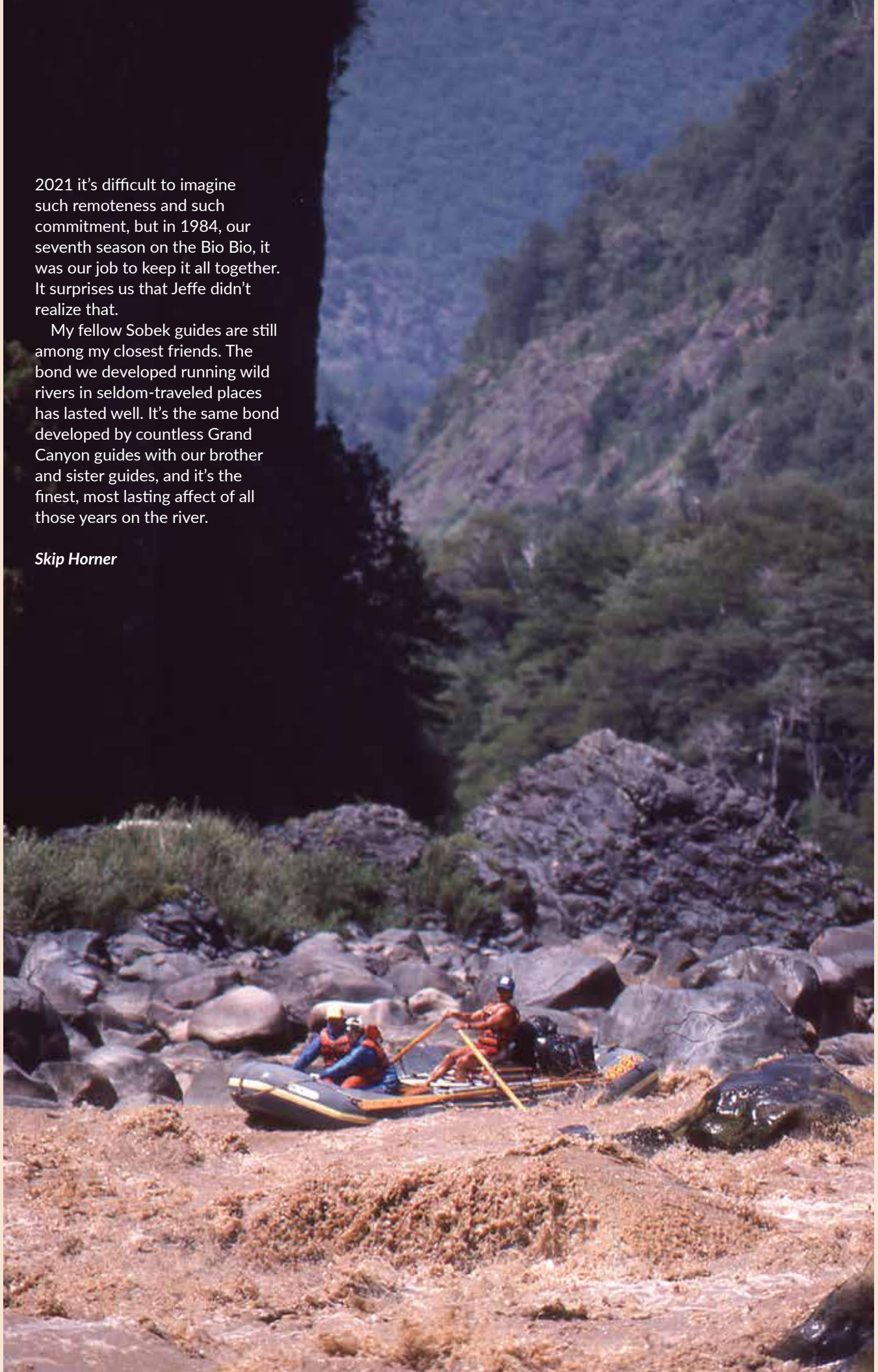
And there were others: Julie Munger, Renee Goddard, and more. But not many more.

Finally, because obituaries are fertile grounds for hyperbole, we'll try to forgive the author for his misguided rant on us Sobek guides at Milky Way Rapid on the Bio Bio, in Chile in 1984. I'm pretty sure I was one of those guides who expressed some concern about Suzanne's ability. We were concerned about everyone's rowing ability down there, even our own at times. That was extremely consequential whitewater. There were no safety nets other than our own wits, no rescue other than self-rescue, no sat-phones, no way out, other than downstream through increasingly threatening rapids. In

2021 it's difficult to imagine such remoteness and such commitment, but in 1984, our seventh season on the Bio Bio, it was our job to keep it all together. It surprises us that Jeffe didn't realize that.

My fellow Sobek guides are still among my closest friends. The bond we developed running wild rivers in seldom-traveled places has lasted well. It's the same bond developed by countless Grand Canyon guides with our brother and sister guides, and it's the finest, most lasting affect of all those years on the river.

Skip Horner



Jim Slade part way through Milky Way Rapid on the Bio Bio. Photo: Bart Henderson



FAREWELL

Ryan ("Rynam") Seumtewa – August 12, 1983 – December 1, 2020

Ryan ("Rynam") Seumtewa, the funniest guy I ever did know, died on December 1, 2020 in Flagstaff, AZ. What a year.

Yet Rynam embraced it in his singular way: full moon bike rides, pride in his FedEx work and excitement to return to river guiding, respite and healing in the grandest of canyons. He did it all with a laugh, a social-distance high-five, and his classic non-sequitur text messages.

My first memory of Rynam was on a Grand Canyon Youth (GCY) Partners in Science trip in Grand Canyon. I hiked in with a slew of youth for the lower half. He and I developed a quirky bond, jamming out to real and imaginary metal music, chugging coffee all day long, and being the kind of cool nonsensical fools that GCY trips give you a space to be.

Like many river folks, we spent a lot of time laughing.

As friend and fellow guide Bec Kates said, "You could be in a crowded room and just hear it and know who it's coming from." He'd

bring you into these moments, holding it acutely and inclusively.

Rynam and I solidified our friendship on a training trip on the Verde River, bumper-boating sit-on-top kayaks through a slalom course of our own making. I just remember laughing the entire time, without either of us saying a complete sentence. We were buds.

He could have fun doing anything—to him, anything was fun. Another friend and fellow guide, Justin Gallen, shared how he taught Rynam to drink a seltzer water (fondly called "fuzzy waters" in GCY cadence) through a sand stake.

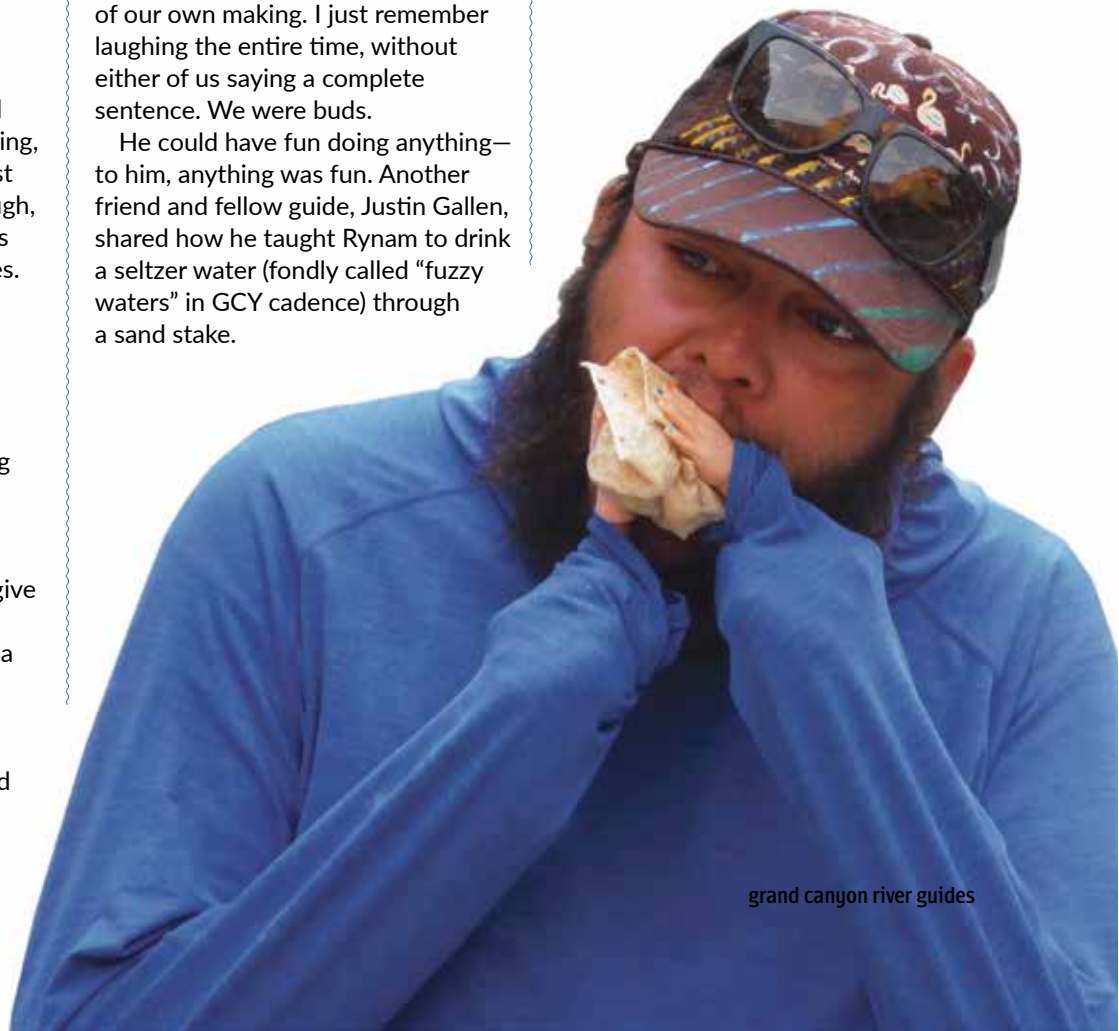
"You would just luge the seltzer water down the sand stake and into your mouth," Gallen said.

Good-natured hijinks and cheer-you-up dance parties were his calling card. Once, Gallen shared, after a "particularly long, hard, and exhausting commercial trip," they came down the straightaway to Diamond Creek, ready for the slodge of take-out. Rynam, Bec, and a GCY crew were there for a Diamond Down trip, having a dance party on the snout. Instant joy.

He was a teddy bear of a pendulum for us guides. Each one of us felt precious to him: we were. He loved himself and we loved him. He was proud of himself.

"I always feel very in the moment with Rynam, because that's how he lives his life," Kates said. "I have looked up to him for the past four years."

May we live each day in the deep-rooted joy of choosing each day to step forward and heal with humor and clarity.



Rynam is survived by his family, his friends, his youth mentees, his fellow NAMDORs, his crew, his coworkers, his partner, but also by the glint of red rock, the introspective joy, the thrash-the-quads bike ride, the slamming big waves, the celebratory Sour Patch Kids, the burritos as big as your face, the absurd jokes you text to your friends, and through all the hope and love of building a better life.

What a guy.

Madeline Friend



A scholarship fund in Rynam's name has been established at Grand Canyon Youth. This fund will connect indigenous youth with GCY's river programs. You can donate at www.gcyouth.org/donate (where you can choose the option to make a donation in memory of Ryan Seumptewa) or by check to: Grand Canyon Youth, 2131 N First St, Flagstaff, AZ, 86001. Please be sure to include Ryan's name in the memo line. Thank you.

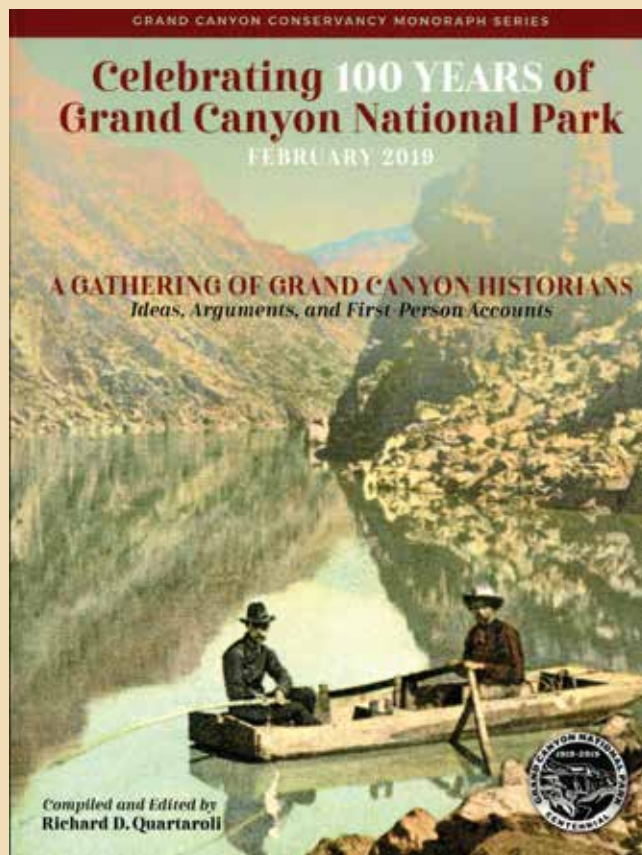
Books

Celebrating 100 Years of Grand Canyon National Park: A Gathering of Grand Canyon Historians; Ideas, Arguments, and First-Person Accounts, Richard D. Quartaroli editor, Grand Canyon Conservancy, 2020, 200 pages, ISBN: 978-1-934656-08-2, \$19.95. (Sold out already! but a 2nd printing may be in the works.)

Theodore Roosevelt, John Hance, Mary Colter, Buzz Belknap. The Dunn and Howland boys leave John Wesley Powell behind (again). Ho hum. Haven't we been here before? Well, no!

For a century and a half (where does the time go?) we've been reading about Grand Canyon's characters. Just when you think there's not a bunch left to write about, out come historians of all bents. Canyon-besotted symposium attendees defied a monumental snowstorm in February 2019 to pull off another successful "Gathering" on the South Rim. Thirty-three of the presentations are rounded up in these 200 pages. And, gosh...

Something for everyone. Overflights; trips overland, downriver, and roundabout—hails, fails, mails, rails—knick-knacks and saddlepacks—rocks, more rocks, rocketry!—science as religion, religion as art, rock art, routine art and digital art—ferry tales—bunkmates and



debunkers—even suspense (well, a suspension bridge anyway) and a little Razzle Dazzle.

Here we soar over and *through* Grand Canyon with Charles Lindbergh, dash the river rapids with the Belknap family, clippity clop over slickrock to Rainbow Bridge and with world-renowned mules into the depths, browse and nudge with half-breed bison, walk beside the first man on the moon (before he knew he would be, an aeronautical engineer–astronaut told to go study rocks), listen to Carl Hayden push for the national park on Capitol Hill (TR [Teddy Roosevelt] echoing in his ears), float with the immortal Kennedys from the Ferry to Phantom, crunch on lost trails between here and nowhere, munch through the archive boxes of the grand champion of canyon and river historians Dock Marston (he continues to surprise

us), reprise with Cap'n Hance the beginnings of canyon tourism, restore and reimagine Mary Colter's Desert View Watchtower (but did she *really* design Hopi House??), watch Grand Canyon Lodge rise from the ashes and the Grand Canyon Conservancy burst out with vigor from its decades as a plain-'ole reliable agent of interpretation and park support, look over the shoulders of artists and cartographers, wonder with "Gramps" alongside the grandkids of meticulous park naturalist Louis Schellbach III—and so on!

A *tour de force*; but then, so are the proceedings from earlier gatherings. So, how much farther can we drive on this same old highway? We know all the bends in the river, too. What's the point in proceedings volumes like this? For one thing, we've reached a limit where it's nigh impossible for one publication to deliver a single, comprehensive, history of Grand Canyon happenings; whole subject areas tend to be edited out when someone tries that. We rely on the more concise, though scattered, contributions of individually focused historians and those who reminisce from personal and family experiences. These successive *Gatherings* are like campsites, reinvigorating waysides where future readers and writers of canyon and river history can lay over.

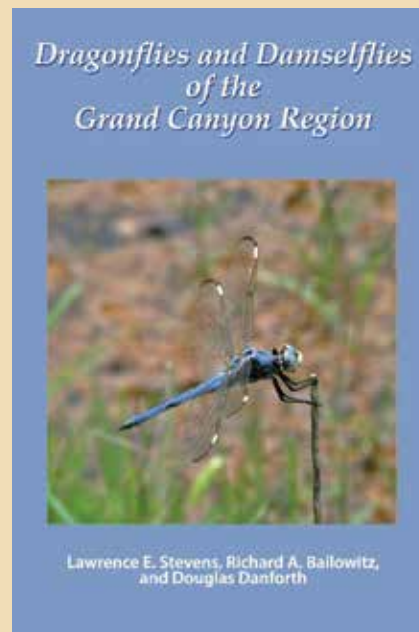
This latest contribution shares with us the fundamental importance not only of these *Gatherings*, but of publishing the proceedings of these conferences. They preserve a record; they convey bits of information that might have been lost; they give us ideas for more work. Authors, symposia and *publishers* are key; without them it would be like a genealogist having to stop short at an elder's remark, "You know, my grandmother could have told you, but..."

It's really important to capture these stories; even more important to turn them into something tangible—ink on paper, in numerous identical copies—that will survive as findable

source material for future edification and as indulgent reading matter for fun. We all drive the same highway and follow the same river, though once in a while someone pipes up, "Hm. I never noticed that before."

I have to confess: my favorite item in this volume is—"The representative's time has expired."

Earle Spamer



Dragonflies and Damselflies of the Grand Canyon Region, Lawrence E. Stevens, Richard A. Bailowitz, and Douglas Danforth, 2020, 128 pages, ISBN: 8-1-7923-5225-6, \$24.95.

The ancestors of dragonflies have been flying across the region we now call Grand Canyon for more than 300 million years. Odonata, the order of insects to which dragonflies and damselflies, their generally smaller relatives, belong are among most widely recognized non-pest insects. However, the Grand Canyon assemblage has not previously been described and presented to

the river running community and the public. Here, long-time river runner Larry Stevens teams up with odonatologists Rich Bailowitz and Doug Danforth to provide a unique and superbly illustrated reference to the 69 dragonfly and damselfly species that occur in and immediately around Grand Canyon. This guidebook relates the evolutionary history of this ancient order to the Canyon's spectacular geology and wide array of ecosystems, providing baseline information and insights into the relatively high biodiversity of the assemblage in the world's most renown large, deep canyon.

The book will be available by March 1, 2021 through the Springs Stewardship Institute website (www.SpringStewardshipInstitute.org), the Museum of Northern Arizona Bookstore, and Wild Arizona—Grand Canyon Wildlands Council. While profits will go to the Museum of Northern Arizona, we recommend that readers contribute to GCRG and GCWC, as well as MNA.

Larry Stevens



Boreal Bluet (*Enallagma boreale*) male — Snow Flat, Pinaleno Mountains.

The Roaring Twenties

There must be something mystical about the twenties. 2020 the year of Covid-19, I moved out of my home, 2020 Broderick St., and it was my 20th year rafting the river. During the move I came across some old photos and negatives (yes, twenty years ago we were still using film). One stack I discovered was from the first time my wife and I went down the canyon in 2000. I was invited by Robby Pitagora as a passenger to join a 17-day hiker's special launching in April. Robby and I had rafted the Tuolumne and upper Sacramento together and always had a good time, so I thought,

Fantastic meals followed by endless humorous river stories and, of course, beautiful music. It slowly began to dawn on me that this crew was not just a bunch of river rats out for a good time, they were a special breed.

One day Jimi was missing baseball, so he announced an entire baseball game. There we sat two hours into it on the edge of our seats bottom of the ninth score tied, two outs, full count. The pitcher wound up and fired the pitch, a swing and a miss strike three we are headed to extra

I perched on the shoreline with camera in hand and waited for Jimi. Sure enough he was standing on his com boxes! Did he make it all the way through? Well I do not have photographic proof so I will leave it to you to decide.

I was hooked and determined to return. These fantastic people and experiences changed my life. The following year my dear friend Robby offered me the opportunity to work a trip. I was tutored in the ways of swamping by "the Great Gill" and ran Lava for the first time on the oars. Sorry Jimi, I was sitting down.

Fast forward to the summer of 2020, my 20th year of being a swamper and being a small part of this special community.

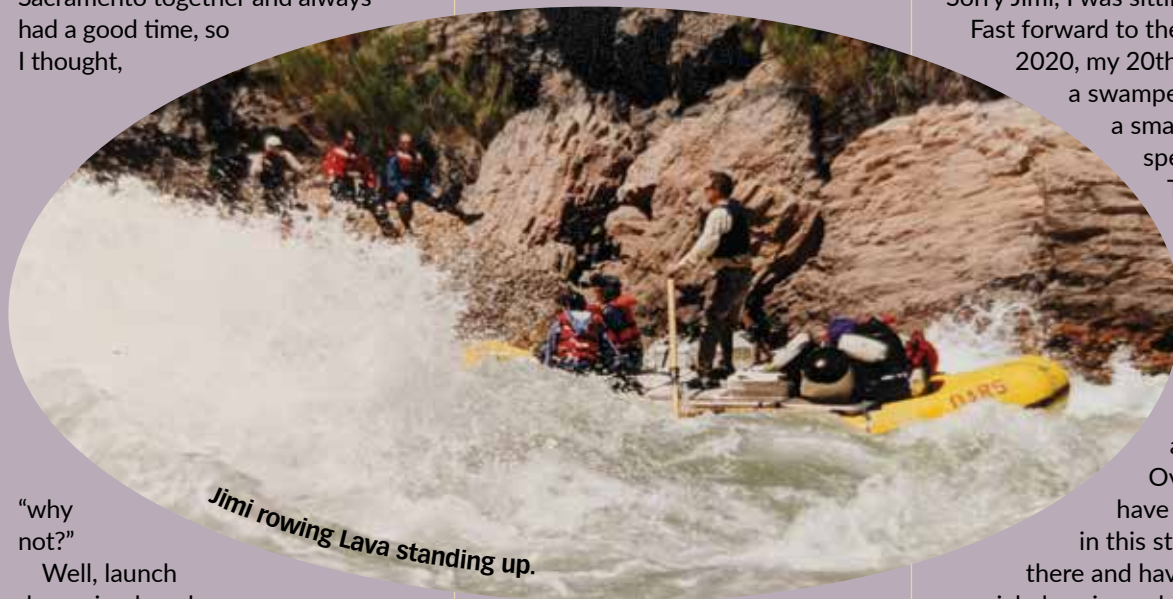
The number of amazing guides I have met and learned from and formed friendships with never ceases to astonish me.

Over the years I have seen the crew in this story here and

there and have always held a special place in my heart as they are the ones who introduced me into this community. Imagine my surprise this summer on a trip with Robby when we came across Bruce and Nancy on a two-boat private, then a few days later Jimi rolls up at Deer Creek.

I know 2020 has been a devastating year for many and my heart goes out to all those who have been negatively affected. Do not lose faith, the magic still exists, there is light at the end of the tunnel.

Jim Kranz



Jimi rowing Lava standing up.

"why not?"

Well, launch day arrived, and we were introduced to the other passengers and the crew: Robby Pitagora, Bruce and Nancy Helin, Jimi Hendrick and Jim Gilovich aka "the Great Gill." Little did we know what we were in for or understand how lucky we were to have these legendary guides introduce us to this magical place.

The group quickly gelled, and we were off. Leisurely days flowing with the river, layover days with bomber hikes to Tabernacle then on to Solomon's Temple interspersed with idyllic waterfalls. University-level knowledge was shared about geology, water rights, and ecology.

innings. When he was not calling a game, he was singing to the Canyon Wrens encouraging them to land on his boat. During one of the commercial breaks that day we started asking questions about the revered Lava Falls. Jimi said it was a fun ride and quite often he rowed it standing up! "No way!" we said, "we will only believe it if we see it."

Lava day arrived, the crew scouted and decided to run Lava right. We broke into two groups. I was in the second group and Jimi was in the first. I reminded him of the conversation and he just smiled.



The Meditation of Riverboarding during Covid-19

In early March of 2020 I was preparing to fly back to the United States via my home in South Africa. I was sitting in the glow of candlelight in a corner of my favorite hole-in-the-wall Indian restaurant in Cape Town when Uncle Jon looked up from his phone and announced that the first Covid-19 case had arrived on the continent via Nigeria. We spoke no more about the virus then, and instead I continued with trying to explain the concept of a riverboard and why I wanted to swim the Grand Canyon on one. Then a local DJ turned up West African beats and my uncle ordered another beer, mumbling in Afrikaans about me getting a real job.

Less than a month later, near the mouth of Pipe Creek, I found

out about the toilet paper shortage and the national shut down. I had nothing else to do but plunge back into the Colorado River, grateful that our group had sufficient TP. I went back to my immediate concerns of staying warm and sticking my lines with a leaky dry suit and mismatched flippers. But the news of the virus continued in whispers around camp from the people who had hiked in, and when it came time to run Crystal, we were all grateful for distraction and were reminded to stay present.

In general, I do not believe in the concept of conquering rivers, mountains or nature. I was definitely not the first, nor the fastest, to riverboard the Grand Canyon. Furthermore, I am leaving the last fifty miles incomplete out of respect

for the Canyon. My intention was to cultivate a deeper relationship with the thalweg and complex currents below the water's surface. I've always been fascinated by the concept of mind-over-matter when observing what's uncomfortable over long periods of time. I have been a student of Ashtanga Yoga for half my life, and I will never forget when one of my teachers in India revealed his opinion that Ashtanga students often have a slightly masochistic side. I considered this while doing upward dog seven hours a day on top of a riverboard in cold water for two weeks.

It's important for everyone to let themselves feel uncomfortable in nature every now and then. In the Yoga Sutras, written by Pantanjali

over 2,000 years ago, it is stated: “*Yogas chitta vritti nirodhah.*” This can be translated as, “Yoga is the cessation of the fluctuations of the mind.” Some reach this state of *Pratyahara* (sense withdrawal) while seated in meditation, through *Pranayama* (breath control), painting, riding fast motorcycles, doing martial arts or while combining breath with movement throughout a *Yoga Asana* (posture) practice. You don’t have to do what that person is doing on the cover of *Yoga Journal* magazine in order to reach a state of Yoga. Even if you have never thought about it before, I bet most of you have been practicing Yoga when you approached the horizon line of large rapids.

Pantanjali also describes the two pillars of Yoga: *Abhyasa* (practice), and *Vairagya* (nonattachment). I often remind students before class to consider “Nonattachment to the practice.” I have been reminded of this when I have been injured, finding myself suddenly unable to row or paddle a raft. It is a curious feeling as we age and learn that, like the river, we must ebb and flow with each new day, not defining ourselves by what we used to be able to do. And

thus, I thought of my personal goal to riverboard the Grand Canyon as a fifteen-day moving meditation. Going into the trip, I figured I’d see how things felt for the first two days and reconsider whether or not I wanted to swim for another thirteen days while holding onto a piece of foam.

* * *

During my inaugural swiftwater rescue course, when I was seventeen, I was first exposed to the concept of riverboards. I recall being the only volunteer when our local canoe slalom champion, Alan Burgmuller, asked for a partner in his tandem whitewater canoe to run Montana’s Alberton Gorge during spring runoff at 38,000 CFS. Of course, I said yes. Probably with an exclamation point. Then, Alan calmly told me we were going to capsize just moments before our canoe flipped bow over stern as it entered the tightest section of the gorge. Aside from the canoe slapping my face, I loved being in the water. I loved the feeling of the currents below the surface and felt momentarily disappointed when Mike Johnston, co-founder of the Whitewater Rescue Institute, swam

up and placed me on the front of his Carlson riverboard. Until that moment, riverboards reminded me of dorky kickboards and the *mindless* laps we had swam in the chlorinated pool during grade school swim team practices. It would take me over two decades to realize the *mindfulness* a small piece of foam could teach.

Then I heard about three women who completed a self-support riverboarding expedition of the Grand Canyon in the dead of winter. The seed was planted, in the same way it had been when I was seventeen and had found out you could be paid to run rivers.

An opportunity to riverboard the Grand Canyon came to me in early 2020 when my company announced a fifteen-day training trip from Lees Ferry to Diamond Creek. This was perhaps the most luxurious way to attempt my swim, with boats carrying warm camp clothes, gear, food, firewood, toilets and rubbish. I knew well the advantage of being part of a team, and the comfort provided by the advancement of river gear in the 21st century. Our fleet of water craft was impressive, everything from hardshell kayaks and shredders to paddle rafts and handmade wooden



Photo: Dawn Kish

dories of varying sizes.

Yet, even the mere notion of peeling on and off frozen neoprene over a fortnight was excruciating. At Lees Ferry, with the weather forecast for cold and snow, I removed the tags from a new dry suit, which then stayed dry-ish for less than a week. The day before we launched, I had dug through bins of unsorted clothing at Goodwill in search of more wool, and happily paid for an ancient, scratchy, white Irish cable knit sweater, which smelled like moth balls, and a fleece ski mask modeled after the mouth guard worn by Hannibal Lecter in the *Silence of the Lambs*. These, along with a stick of anti-chafe balm for my neck gasket, became staple items.

It was snowing when our crew peered over the Lee's Backbone overlook across the river from the Ferry. Compared to the frosty air, the water felt tepid as I slid into the river at mile zero. My biggest fear had been falling behind and holding people up, but because over half my body dragged under the surface, I moved along quickly utilizing the thalweg's undercurrents. I ran the

rapids out in front with the kayakers to be clear of the heavy boats and to feel slightly useful by setting up safety in micro eddies. The first two days I experimented with various forms of cruise control using my flippers like a frog-legged scuba diver. My neck was in agony for 48 hours until I realized I could hold my helmet, with my elbows on the riverboard, and allow my head to hang on the chinstrap. Then, while grasping at wet rocks just below Kwagunt Rapids, one of my flippers broke and I instantly felt my own lack of propulsion. Luckily, we had multiple riverboards on the trip, and the spare flippers weren't buried too deep. From then on, I swam with one long plastic Walmart special and one professional NRS shorty flipper.

Upon reflection, the endless sea of flat water was more of a challenge than any rapid. I worked hard in the flats, and then relaxed within my line in the main flow of the rapids. Almost like running from one gate to another in the airport while resting on the moving walkway in between.

Above the big rapids I would mount the riverboard like a horse,

stretching out my hips as if it were a surfboard, and attempt to stay balanced while peeking like a meerkat above the tipping point in order to confirm my line. Then an ungraceful flop-splash, and quick ferry, before holding onto the board while using small corrective kicks to change position. One highlight was running the left side of Crystal along with a couple safety kayaks. We caught a micro-eddy across from Big Red and then the river surged and I breathed deeply while trying to weasel my frozen fingers securely into a crimp onto the wet granite. While I caught my breath and tried to maintain position, thirteen different water crafts on our trip nailed the right line, and for those moments everyone forgot about Covid-19 and the international shut downs occurring one mile above our smiles.

As expected, everyone inquires about Lava. The hardshell kayaks and I ran first. Upon approach we chatted a little, and it felt like any other rapid on the trip until about ten feet above the V-wave. There, my riverboard and I were sucked down and spun underwater into what felt like a



crocodile death-roll vortex before being launched out of the water like a great white shark breaching. My aim then was to climb onto the lava rock adjacent to the “Cheese Grater” to setup safety for the trip above the Corner Pocket. I swam directly at the right side of the second mountain wave and cleared the Cheese Grater rock before being slammed into what felt like a ten-foot freefall, landing in the eddy right below the small channel of water between the Cheese Grater and shore. I ripped off my flippers and climbed up with a throw-bag, just in time to see the first of the rafts entering the rapid. I know now, that in those moments, we were some of the few humans on earth not thinking about the pandemic.

At each camp I would attempt to dry out damp wool, while I ate as I did in my high school volleyball and long-distance running days. Towards the end of the trip, I recall eating three huge plates of spaghetti after a thirty-mile day. Burning body heat in order to stay warm in the water paired with a full day of swimming left me over ten pounds lighter by the time we returned to the warehouse.

My first encounter with social distancing happened at Diamond Creek. It was when I saw an old friend driving shuttle for another company and I went in for an automatic hug. That was the first of many awkward hugs in 2020. They closed Diamond Creek the day we took off the river, and thus our group was one of the last to run the Colorado before the Canyon was given some breathing room and a break from visitors for over two months.



I struggled with sharing this experience. To me, the completed riverboarding journey was unremarkable even beyond the realization of a personal dream and the breaking down of barriers I had constructed around my own potential to survive for that long in cold water. I hope to continue challenging myself by maneuvering new water crafts in the Grand Canyon, but I am definitely over riverboarding it again any time soon. For now, the board sits in storage, awaiting anyone who wants to borrow it for their next trip. (Personally, I'd recommend kayaking if given a choice.)

I would like to acknowledge everyone who was on the trip and thank a few of my friends who made this entire journey possible. JimMac and West, thank you for endlessly helping me remove and repair broken neck gaskets. Dawn Kish, the incredibly talented photographer who was kind enough to trade drysuits with me half way and share images for this article. Jay, who shared space on his raft for my gear. Marieke, for bringing a fleet of

riverboards and flippers so everyone had the opportunity. Justin, for leading an extraordinary training trip during a sudden national shut down. In closing, I'd like to thank Lynn Hamilton for encouraging me over this past year to write an article and reflect on the experience.

Mandela Leola van Eeden

Mandela is an international adventure guide and Ashtanga Yoga teacher who splits her time between Africa, New Zealand and the U.S.A. She guides for Canyon Explorations/Expeditions and has a basecamp in the mountains outside Missoula, Montana. You can connect with her via www.TrailLessTraveled.net, and listen to her podcast, "The Trail Less Traveled," everywhere.

Photos: Dawn Kish

NEW JOHN WESLEY POWELL MUSEUM DIRECTOR

The John Wesley Powell Museum of River History was conceived in the late 1980s by local community members in Green River, Utah and members of the river running community. Ground was broken for the museum in 1988, and it opened in 1990. The focus of this new museum would be an exploration of the impact that the Green and Colorado rivers had on the history and culture of Southeastern Utah. The museum's mission statement says "*The River Runners Hall of Fame Preserves the passion, spirit, and history of boating on the Colorado Plateau by honoring individuals and groups who have had a significant impact on the river running community.*" Exhibits were designed to explain the pre-history and history of the Green River, as well as local history of transportation, agriculture, and ranching. The Powell museum is also home to the Green River Archives, a surprisingly comprehensive collection of documents, photographs, and memorabilia documenting the history of both the local area and river running on the Green and Colorado, including Nathaniel Galloway's original diary from his 1909 trip with Julius Stone. The Powell museum is the only one in the entire region that is dedicated to the history of river running, so there will be something for everyone who loves the rivers of the Colorado Plateau. It's not the Grand Canyon, but it's all the same river.

The River Runners Hall of Fame was an integral part of the museum from the outset, with the first group of inductees entered into the Hall of Fame in 1990. That initial class was a large one, with twelve members, including such river running icons as John Wesley Powell, of course, Georgie White, Buzz Holmstrom, Norm Nevills, and Bert Loper. Other river runners followed and there are



Candice Cravins, the new JWP Museum director.

currently thirty members, with two to three added every year. In 2008, the museum hired its first full-time professional executive director, Tim Glenn. Under Tim's leadership, the museum began to lay the groundwork for future development and updating of the exhibits. In 2015, the museum partnered with Plateau Restoration of Moab, Utah, to expand the Hall of Fame into a gathering of river runners from all over the country, with a dinner and the induction ceremony. With recent inductees such as Katie Lee, Ron Smith, George Wendt, and Herm Hoops, the parties after the induction ceremony lasted long into the night and featured lots of river stories, laughter, and saying hello to old friends and meeting new ones.

After ten years of stellar service, Tim left the museum in 2019. After a national search, the museum hired Candice Cravins, an experienced museum professional who grew up near Bakersfield, California, and

received a B.A. in Anthropology, Magna Cum Laude, at California State University, Bakersfield, in 2009. She has Utah connections through obtaining an M.S. in Anthropology (Archaeology & Cultural Resource Management), at Utah State University in Logan, Utah, in 2014 (I attended Utah State in the early 1970s, and we agreed that what hadn't changed was the cold winds out of Logan Canyon!)

Candice's first position was as an Educational Specialist at the USTA Institute of Texan Cultures in Austin, Texas. There she developed and managed the Institute's education and outreach programs. From there, Candice moved to Mobile, Alabama, to serve as an Adjunct Instructor at the University of South Alabama, teaching classes in Anthropology and Museum Studies. That led to her last position before coming to Green River, Utah, Assistant Director and Education Curator at the University of South Alabama Archeology Museum in Mobile.

Candice stood out as the top candidate after an extensive national search, and has quickly settled into her role as the director of the museum. She has already greatly increased the museum's social media presence, has integrated into the community along with her dog Bear, and is already taking steps to re-introduce the very popular River Running Hall of Fame event, held each year in September, which was cancelled in 2020 because of the quarantine caused by the Covid pandemic. Green River City and the John Wesley Powell Museum of River History have faced hard times during quarantine, but with Candice at the oars, museum supporters, community members, and those who love the Green River and the history of river running are confident that the museum will be able to run any rapids and come out upright.



We're hoping to be able to have an in-person event in September of 2021, to add more members to the Hall of Fame. Watch for an announcement and be sure and join us; it's the most fun you can have outside of running Hells Half Mile or the Big Drops. The Powell Museum is on the way to many of your favorite rivers; Westwater, Cataract, Desolation, and the San Juan, so if you haven't visited the museum for a while, next time you're traveling on I-70 be sure and stop by and say hello to Candice, the dedicated staff, and Major Powell himself!

Roy Webb

retro profiles guide

Shyanne Yazzie, Age 28

Introducing yourself is more than just telling someone your name. It's about sharing where you come from. Where you "come from" isn't just the location of where you live but more of what defines you. For the Navajo people that comes from their clans.

Yá'át'ééh shí éí Shyanne Yazzie
 yínishyé'.
 Tł 'ízi lánínishítj.
 Kinyaa'áanii 'éí bá shíshchíín.
 Tsé deeshgizhnii 'éí dashicheii.
 Honágháahnii 'éí dashinálí.

Hello my name is Shyanne Yazzie
 I am from the Manygoat Clan (Tł 'ízi lání) born for
 The Towering House clan (Kin Yaa'áanii),
 My Maternal Grandfathers Clan is Rock Gap clan (Tsé deeshgizhnii),
 My Paternal Grandfathers Clan is One-walks-around clan (Honágháahnii).



Where were you born & where did you grow up? I was born on the Navajo Reservation in Tuba City. I have spent my childhood exploring and adventuring in Northern Arizona in a small town called Page.

Who do you work for currently (and in the past)? Wilderness River Adventures.

How long have you been guiding? Four Years.

What kind of boat(s) do you run? 36-foot Motor S-rigs but would love to learn to row a raft someday.

What other rivers have you worked on? The Mighty Colorado River.

What are your hobbies/passions/dreams? My dream and passion is still to work in the medical field. But right now my dream and passion is to work on the Colorado River in Grand Canyon and hopefully to recognize that every interaction you have is an opportunity to make a positive impact. I want to share the love I have for this place. My hobbies include hiking, backpacking, canyoneering, and camping trips with family and friends. Pretty much anything in the outdoors. I also would love to spend more time traveling the world and exploring more cultures and to see all the beauty in the world.

Family/pets? I have such an amazing family! My parents are Raymond and Joanne Yazzie. I also have two older brothers, Jesse and Sonny. We have four dogs; one Toy Poodle name Paris, a Shih Tzu name Boozer, a mixed Blue Heeler name Koda and the newest member to the family a mixed German Shepherd k'aalogii which means butterfly in Navajo.

What made you start guiding? I started guiding because I love spending my summers down in the canyon and seeing how this canyon transforms people and brings out everyone's sense of adventure.

What brought you here? The passion I have to be in the Great Outdoors.

Who have been your mentors and/or role models? My biggest mentors and role models that have made a huge

impact in my life are my parents. My dad always gives me the best advice and is always pushing me in the right direction. My mom shows such unconditional love and for always supporting my biggest adventures. Ahéhee' shizhé'é dóó shimá (Thank-You dad and mom).

There are so many amazing river guides who have taught me so much. Like Richard and Jenny Adkins, Wilbur Metzger, Erica Byerley, Siobhan McCann, Amanda LaRiche, John Napier, Den McCormick and Mickey McKinnon and the whole WRA family. They all have helped with reading water or giving me the best advice when I needed it. Thank you for your guidance, for listening, for your encouragements, and your inspiration!!! I also love hearing all the stories. You all have helped me grow. But one important person at WRA would be our mechanic Jimmy Gamble "Cat." He has definitely been very helpful when it comes to broken equipment. He has taught me so much on how to rebuild an S-rig and motors and trying to teach me to weld. Also driving the forklift. Ahéhee' Cat (Thank-you in Navajo)

What do you do in the winter? I work for Wilderness River Adventures getting all our boats and S-rigs prepped for the upcoming river season like patchwork and checking all river equipment. So it definitely keeps me pretty busy.

Is this your primary way of earning a living or do you combine it with something else? Guiding has been my primary career. I really enjoy interacting with people. I also will occasionally do a few tours guiding in the Upper Antelope Canyon. I absolutely enjoy taking photos and capturing landscape images.

What's the most memorable moment in your guiding career? My most memorable moment is when I got to take my parents down on a river trip for seven days. Once I am off the river I always tell my parents

about my latest river trip. About the places I get to explore like hiking to waterfalls, adventuring into side canyons and seeing all these incredible views. Also how happy it makes me to drive a boat down in one of the seven natural wonders of the world. I am so blessed to have this experience with the two most important people in my life. Also I shared some of my Native Culture with my coworkers and guest. I was so fortunate to be able to make frybread with my mom down in Grand Canyon on the river. It was literally the best meals I've had down in the canyon. I loved seeing my parents faces light up with such excitement and in awe with every corner we've turned. They got to witness the incredible bright stars. While at camp I enjoyed listening to my dad tell stories about the last time he saw stars this bright when he was a kid on the Navajo Reservation herding sheep. It was such a beautiful trip and my most cherished memory while rafting on the river with my parents and taking them and myself on a trip of a lifetime.

What's the craziest question you've ever been asked about the canyon/river? "How did John Wesley Powell get his boat over the Glen Canyon Dam?"

What do you think your future holds? I hope my future holds many more canyoneering, backpacking, hiking trips and more adventures with family and friends! For all my loved ones to stay happy and healthy!

What keeps you here? I feel I have such a strong connection to this place and the river. I feel that it is very important to have more Native representation down on the river. There are eleven tribes who call this place home. I am very fortunate to spend my summers down in the canyon. I feel very blessed to be able to see the petroglyphs and the places where they stored their food

and lived. It is also very important to respect these places. I mostly just observe and try to take myself back to their time. These connections we have to these special places we have to preserve for generations to come. We have to share our spiritual connections to these places that are important to us. Ancestral Land holds meaning beyond claiming ownership. We feel deep, powerful, emotional ties to the spiritual connections to the land. I feel it is very important to share my Native American Heritage.



Shonie Hardeen, Age 26

Where were you born and where did you grow up? Born and raised in good ole' Tuba City, AZ. Back when the cottonwoods still lined Main St. and you could get a good Navajo Taco for \$5 at the flea market. I've lived in Flagstaff since 2008.

Who do you work for currently (and in the past)? I work for Canyoneers and GCMRC.

How long have you been guiding? A whopping three years!

What kind of boat(s) do you run? As I don't currently run my own rig yet, I'd say whatever vessel I'm on. However, I've become handy during motor changes on C-crafts, S-rigs and the occasional sport boat.

What are your hobbies/passions/dreams? I grew up cowgirling on my grandparents' ranch and riding horses has continued to be a hobby of mine. Backpacking with my dad is never not the best time. And if you're looking for me in town, you'll probably find me at Saver's half-off Monday rooting around for great deals on anything from vintage clothes to flippable furniture.

Married/family/pets? I live with two animals, the most demanding cat you'll ever meet, Baby Kat, and my loyal pal, Ozzy Dog.

School/area of study/degrees? I graduated from NAU with a bachelors in Environmental Studies.

What made you start guiding? As a teen I was fortunate to go down the river twice with GCY. That's when I caught the bug. After college I was working in a local liquor store, packing drink orders for passengers heading down stream when I began to yearn for the river once again. One day, as if he could read my mind, Mike Yard comes into the store looking for a six-pack of Heineken and asks me "What the hell are you doing here? I have a job for you." That sent me on my way. After working the nightshift as a fish tech, I decided it was time to start exploring the canyon in the light of day. I gained the courage to strike out and found my job with Canyoneers.

Who have been your mentors and/or role models? I have been lucky to have learned something invaluable from every single person I've worked with in the canyon. That said, Chelsea Arndt has taught me to go with the flow, Mariah Giardina has taught me to be as strong as a rock, and Mike Yard has taught me that in a pinch, you can use a cornhole board as a groover seat.

What do you do in the winter? So far, try to stay fit enough to make it to the next season.

What's the craziest question you've ever been asked about the canyon/river? Now this wasn't a typical question about the geology or the flora and fauna, but it stuck with me and changed my way of guiding. About two days into a seven-day motor trip a passenger asked how I became so tan and followed it up by stating that I should really be wearing more sunscreen. It struck me

that this passenger had no idea that indigenous peoples still inhabited these lands and I was, in fact, one of them. I took no offense but rather saw this as an opportunity to share my culture and teachings with the entire trip. I've since made it my goal to make myself known as a Navajo to passengers and to give them a perspective that is somewhat rare among our guiding community.

What do you think your future holds? Hopefully someday soon I'll be running my own boat. Better start running some rapids on my own. What's that little one? Pearce Ferry Rapid?

What keeps you here? There's so much more to see!



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GCRG Announces the Indigenous Wilderness First Responder Scholarship

With a generous seed grant recommendation from the John P.

Torgenson Donor Advised Fund at SEI Giving Fund, Grand Canyon River Guides is proud to announce an annual scholarship to cover 80-hour Wilderness First Responder (WFR) tuition for individuals from the eleven affiliated tribes of Grand Canyon. Our hope is this Indigenous WFR scholarship can help ease that path for the original stewards of Grand Canyon by facilitating and encouraging much needed diversity, equity, and inclusion in Grand Canyon's outdoor industry workforce.

In order to build in flexibility for applicants, we chose broad parameters so that the scholarship can serve as a springboard for working in any aspect of the outdoor industry (river guide, hiking guide, science

work, etc.) in Grand Canyon and beyond. GCRG will fund up to three full scholarships per year, but applicants can request partial tuition depending upon need. The scholarship program works quite simply—open enrollment throughout the year, on a first come, first served basis until funds are gone. Once accepted, GCRG will pay the first aid class provider directly for the WFR course that works best for the recipient's schedule.

So if you or someone you know might qualify and be interested in applying for this Indigenous Wilderness First Responder Scholarship, you can find more details and the fillable form on the GCRG website (look under Guide Resources). Thanks for helping to spread the word!

Lynn Hamilton

Fire Data Needed

Amigos del Rio Colorado, I am working with NAU Geology grad student, Sara Burch, to try to document the history of fire along the river corridor between Glen Canyon Dam and Lake Mead. Could you please think back about the date and location of fires along the river, and whether they were human-caused or natural? We'll provide this information back through the BQR, as well as providing it to the NPS. Any photos also would be much appreciated! Please email any information to: LStevens@musnaz.org.

Larry Stevens





Stone Creek Camp April 9 and August 12, 2019

Calling All Volunteers!

Hello boatfolks! Just a reminder that the Adopt-A-Beach Repeat Photography project is always looking for volunteers to photograph a beach or two, or three, when you pass them on your trips! Everything you need is contained in the Volunteer Packet which are available by contacting Lynn Hamilton at GCRG [info@gcrg.org or 928-773-1075]. Some beaches have already been requested, but there are plenty remaining to be adopted. With your help we can have a successful 26th year! Hope to see you on the river.

Zeke Lauck

BACK OF THE BOAT

The Whale Foundation News Bulletin

Hello All! I hope you're doing well and looking forward to a fantastic season. I know I've got my fingers crossed.

With vaccines making their way around and case numbers dropping (at least as I write this), we're starting to think seriously about coming out of our shells and starting to reconnect with people in person. Very exciting!

We're also hoping the Whale Foundation can reconnect with all of you. Having the Wing Ding online was a great step—thank you for being part of it—but even at it's best it couldn't be all we would hope for. Here are some ways to be in touch in the coming season:

BECOME A WHALE REP. The pandemic stalled this program out a bit and we want to get it fired up again. We'd like to have a few people at each river company who know the workings of the Whale Foundation and can talk it up to their colleagues and clients. This helps folks who could use our services get the info and helps folks who could support the organization learn the why and the how. Makes a big difference out there. If you're interested, email Sam at whalefoundation@outlook.com. There might even be some schwag involved.

APPLY FOR THE KENTON GRUA MEMORIAL SCHOLARSHIP. If you're a guide who's working to make life better (and maybe the world, too) by improving your education, apply for a scholarship with the WF. We'd love to support you as much as we can. Details at www.whalefoundation.org/scholarships.

APPLY FOR THE HEALTH INSURANCE ASSISTANCE PROGRAM. Tim Whitney was a big proponent of better health care for guides and this program was created in his honor. It's a way to get a little bit of help on your health insurance. Details at www.whalefoundation.org/health-insurance-assistance.

COME TO A CREW MEETING. This is a newfangled WF idea that the pandemic thwarted for a while, but when we get the chance we're going to make it happen. We're going to shoot for an informal monthly gathering somewhere in Flagstaff (and maybe in some other fine towns—see the Whale Rep paragraph above) where folks get together just to get together. Stay tuned for details!

Thank you all for your support in the last year. It was a strange and rough one. Looking forward to seeing you on the river!

Sam Jansen

An Ode to Dirt and River Guides

Even with a shorter season due to the pandemic, at CanX we composted over 3000 pounds of food scraps in 2020. At Outdoors Unlimited (OU), nearly every trip composted for a total of 2000 pounds. At both companies, the program was initiated by guides, the compost is picked up by guides at the end of the trip and brought home by guides. We put a five-gallon bucket under the chopping table then move it to the start of the dish line for guests to fill. The bucket then gets emptied into a 20-mm ammo can on the boat. OU ingeniously uses their charcoal cans for compost, so they don't have to bring anything extra.

The idea of collecting food waste on river trips began many years back with a few individual guides who realized the unique potential to collect compost on their trips to help enrich their home gardens. This potential has grown throughout the last decade to also include a coordinated food waste collection effort involving both Grand Canyon Youth and USGS, Grand Canyon Monitoring and Research Center (GCMRC). Together they have been engaged in a river compost collection program that supports community gardening in Flagstaff at the Museum of Northern Arizona Colton Community Garden (CCG). The CCG is a public educational demonstration garden that is dedicated to sharing stories and knowledge on the cultivation of traditional crops grown on the Colorado Plateau. In recent years AZRA also joined this effort and then in 2020, OARS, who has had a long-standing practice of separating green waste, also began contributing to the

program. It is estimated that OARS was able to fill over 150 signature purple composting buckets this year, for a total of 1500 pounds. Though Grand Canyon Youth wasn't able to run trips in 2020 due to the pandemic,

composting program with the help of the river community. Fritz makes it easy for any river trip to compost, picking up full sealable four-gallon compost buckets and dropping them off empty for the next trip, at no charge.

Just looking at these companies, as a guiding community we are composting more than 10,000 pounds of food waste annually from the Grand Canyon river corridor in one season. These efforts diverted more than 23,000 pounds of CO2 equivalent from the earth's atmosphere, accord to the EPA.

Composting reduces greenhouse gas production by changing the process of decomposition from an anaerobic process that produces methane in the landfill, to an aerobic process that produces a carbon rich soil amendment. It's a common myth that a banana peel tossed in the trash will decompose properly at the landfill, where it is denied everything it needs to do so (oxygen, sunlight, water) buried under layers of waste (Brown, S., 2015).

The organic matter in compost feeds microorganisms in the soil, which in turn provide nitrogen to growing plants. Soil scientists tell us that there are more living

organisms in a teaspoon of good soil that there are people living on planet earth. That's over six billion microbes and little crawlers in one spoonful. As a remedy for climate change, recent studies have found that composting is the key to sequestering huge amounts of carbon in the soil (Tautges et al., 2019). Using compost also reduces our reliance on



Lauren Nord and Jimmy McIntyre composting on a CanX trip. Photo: West Howland

for years they have set an example for integrating environmental ethics into their trips, composting on every overnight trip.

Carol "Fritz" Fritzing, long-time Grand Canyon river guide and retired Logistics Coordinator at GCMRC, now serves as the volunteer manager of CCG. She has worked to organize and implement this evolving

industrial fertilizers, pesticides and herbicides, which have had such a heavy hand in destroying ecosystem integrity, starting with insect life (Goulson, 2019). Adding compost to soil increases the land's ability to retain water, reducing runoff harmful to streams and their aquatic life. It extends the life of our landfill. It helps me eat peaches at my house. It helps the Colton Community Garden grow Hopi blue corn. The effects are local (hooray for our gardens and our lighter trash boxes), they have global consequences, and the work is done with our guests.

Any trip that composts deserves congratulations. This year guides displayed Amazonian and MacGyveresk problem solving skills to find space in and around dories, working with drastically fluctuating boat and cooler numbers, and grumpy river guides.

What all of these efforts have in common, is that they take initiative and work by guides to succeed. And that's why I'm writing this article for you, my fellow river guides. We are composting 10,000 pounds a year, but we could easily be composing 100,000 pounds.

Maybe you are wondering WHY why why in the name of Lava should I spend my precious time and energy thinking about where to put this melon rind when I just stayed up half the night dealing with Chase's scorpion bite, lit coffee *and* made Marci her gluten free pancakes this morning? I'm tired of moving stuff around. I just want to drink my coffee for a Pearce-Ferry-Pickin minute. And right now, I'd rather poke your eyes out than have to lift something in my one free moment!

Good point.

We do so much for our guests. You want a perfectly cooked pork chop? We got you. You want some ice with your gin and tonic on day twelve? We can probably make it happen. You want to be safe rowing through Horn Creek at 8,000 CFS? Hoorah! We do such a good job! But this work is geared towards helping our fellow

humans, not the rest of the natural world. What part of our daily life on the river actually physically gives back to the natural world? Compost!

What about the great work we do in sharing our environmental ethic? This is important too. We teach about water conservation, dams, and human overconsumption. This year I watched Justin Gallen do a fantastic dam talk. He drew the four corners and all the major rivers in the Colorado River watershed on the sand. He talked about the Colorado River Compact, where the water goes, why it peters out before it reaches Mexico. And he talked about just how much water iceberg lettuce and our beef habit costs us, what that could mean for the canyon. We had a trip half filled with missionaries from Texas and I found them nodding and saying how important this is. They thanked us for talking about it.

And then we served iceberg lettuce for lunch and steaks that night at Nankoweap. Of course, we hope that our guests will take to heart what the canyon has to teach. We believe they will take our message about human impact home with them. But I like to see us show our guests, and the canyon, that we have learned to live better on the river, that we've found a way to do good for the environment. We already coach and roll model how to walk and camp in the desert respectfully. Let's show people we've learned how to give back. How do we do that? You guessed it, let's compost!

I won't try to convince you it takes no work at all to compost on a trip. As Ben is fond of telling me, anything worth doing is going to be some work. That's what being an environmentalist is too, being willing to do the work yourself with your hands, that somebody is telling you can be done more efficiently, often with more money and higher technology. That said, our system at CanX is streamlined, so it's just a little work to make it happen. You're carrying that melon rind down the river anyway after all.

Fritz is offering right now to pick up full buckets of compost and drop them off empty for your trip. And if you want to start a cheap, effective and sturdy compost bin on-site, she can help you build a pallet-bin system, similar to the Colton Community Garden bins. Email her at beetbatbadger@gmail.com. If you don't want to deal with it on-site, there's no better place to send your compost than the Colton Community Garden. They are doing amazing things with high altitude, locally adapted heritage and native plants.

At our place out by the Little Colorado, you'll be happy to know we used over 4000 pounds of food scraps from CanX and OU for regenerative gardening, giving life to heritage Hopi peach trees, fig trees, canyon grape, fern bush, nanking cherry, prickly pear, several different kind of sage, curious chipmunks, squirrels, mice, flies and the three sisters. As I reach deep into the compost pile to pick out one more avocado sticker and strands of my hair get pressed into the soppy and now manure-laden mixture, I take a whiff of many months of cast-off deli sandwich parts. It smells like dirt. It smells good.

Lynne Westerfield

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COMMUNITY COMPOSTING



As a long-time gardener and lover of playing in the dirt, I am encouraged by the groundswell of interest by the river community to engage in a food-waste collection effort on river trips. Though I grew up growing a garden in my youth, that passion was put on hold while spending an enormous chunk of my adult life as a river guide in the Grand Canyon. After my daughter, Willa, was born in 1995 and full-time guiding was no longer an option I began to start dabbling with gardening once again. Following the road of return to my youthful passion has brought me back full circle to a life invested in community gardening.

What is compost and what is it good for? Compost is the natural decomposition of organic material in nature. Compost is a nutrient rich organic material alive with beneficial microbes and microorganisms. The process of creating compost recycles

materials otherwise regarded as waste to produce a nutrient rich soil alive with beneficial microbes which can be used to amend soils to benefit plant growth and productivity. Compost is created by combining nitrogen rich materials known as “greens”—food scraps, coffee grounds, grass clippings, manures and vegetation waste with carbon rich materials known as “browns”—dry leaves, garden waste, wood shavings, and shredded paper. When combined with proper levels of water and oxygen these materials interact and produce heat in an aerobic process that, over a period of time turns these waste products into a valuable material used to fertilize gardens. Compost is all about community, from the community of microbes that are working to break down the pile to the community of individuals that are

physically participating in collecting materials, turning the pile, adding the compost to the soil and nurturing a productive organic garden to bring nutritious food to the community. Without a doubt the most important element in growing a productive garden is to nourish a healthy soil ecosystem.

These days if you need to track me down there is a good chance you can find me at the Museum of Northern Arizona (MNA), Colton Community Garden (CCG). The CCG is an educational heritage garden that is dedicated to sharing the stories and knowledge of the cultivation of traditional crops grown on the Colorado Plateau. It is located on MNA grounds across the street



Badger Buckets, Fritz, and Colton Garden bounty.

from the main museum and is run and managed by a dedicated all-volunteer team. The garden serves as a “living exhibition” for visitors to MNA and the local community and is always open to the public; visitors are welcome to tour the grounds at any time.

A few years back while still working as the Logistics Coordinator at GCMRC, I initiated an on-river food scraps collection program with all of our research trips. This effort was also soon enthusiastically adopted by Grand Canyon Youth; the practice is a great fit for stewarding the benefits of sustainability in their message. Rather than including food scraps into the trash system, four-gallon green buckets, known as “Badger Buckets” are provided to all trips to collect organic waste separately. After trips return to town, full buckets are collected and transported to the CCG compost station. Here they are combined with stockpiles of “brown materials” and

turned regularly to produce some amazing compost.

A couple of years ago AZRA guides joined the effort to keep their food scraps out of the landfill and contribute to the compost program at CCG. Though the pandemic in 2020 impacted river operations and reduced the incoming volume of buckets to the garden we were fortunate to also be contacted by OARS and received a huge contribution to the compost program through efforts of the OARS crews. I am deeply humbled by the efforts of all the participating river guides in making the effort to collect and separate green waste and for sharing the message of community building and sustainability with their clients.

While I am grateful for the river community participation in the CCG compost program, I also really appreciate the effort to get the word out to the guiding



community on the relevance and importance of composting no matter where it is being used. Whether you are collecting for the neighborhood community garden, your home garden, or just doing the right thing keeping organic waste out of the landfill your efforts appreciated, your planet thanks you! For more information on the CCG, volunteering opportunities, how to join our effort, tips for starting your own compost program or building community compost programs in your neighborhood please feel free to get in touch with me: beetbatbadger@gmail.com, 928-607-6133.

Carol "Fritz" Fritzinger

Welcome Message from Ed Keable, Grand Canyon National Park Superintendent

Ed Keable, Grand Canyon National Park
Superintendent. Photo courtesy NPS



On a late winter's morning, as I walked to my office on the South Rim, the sun slowly climbed over the eastern horizon and illuminated the uppermost layers of Grand Canyon. Freshly fallen snow crunched beneath my feet when I stepped closer to the edge. As the soft light grew brighter, I watched the Kaibab Limestone shift from pink to yellow to orange—each ray of sunshine gradually waking the Canyon and revealing the fresh color palette of a new day. I snapped a few photos, my breath hanging in gauzy puffs suspended by the cold air.

Such an inspiring sunrise reminded me of the higher calling we serve when we work in the canyon. We are united by our shared sense of stewardship for this incredible landscape. As the ancestral home to eleven traditionally associated Tribes and a spiritual refuge for many, Grand Canyon transforms something inside the hearts of all who visit. I know it has transformed mine.

I want to let you know that I am honored and thrilled to join you in preserving Grand Canyon National Park. We have a great responsibility. We have a great mission! It can be challenging to manage the park in a manner that defends its resources, honors its scientific legacy, engages effectively with Tribal communities and governments as well as state and local governments, and integrates the interests of our public and stakeholders—all

the while providing for recreational experiences. I believe we can meet and exceed these challenges together.

For those who are not yet familiar with me, you might be wondering how a lawyer who had no experience as a National Park Service employee makes sense as the Grand Canyon superintendent. Let me share some things about me that will help to explain why it does.

I grew up in a small town in northern New York about the size of Williams. My six brothers and our sister and I grew up in the outdoors, especially in the summer. After breakfast, my mother would open the door and tell us not to come back inside until lunch. After lunch, she would open the door and tell us not to come back inside until dinner. After dinner, she would open the door and tell us not to come back inside until bedtime.

Not that she needed to tell us not to come back inside. Our back yard included rolling hills and trees. Next to our yard was a large lilac grove that had an interconnecting series of paths that made for great hide-and-seek opportunities and exploring, especially when the lilacs were in bloom. Next to that was a stand of tall pine trees that were surrounded by a thick blanket of needles that were simultaneously crunchy and soft. Looking up while standing next to them as they stretched into the sky, it was easy to imagine yourself as Jack looking up the beanstalk. Next to that was a pasture speckled with wildflowers, where it was easy to imagine yourself riding a horse into the sunset.

I did not fully understand as a child that I was developing a meaningful connection to the land as we played in this great outdoor space, often in our bare feet, but I fully felt it. My love for the practice of law in the Department of Interior for the last 24 years has never been about the law in and of itself. It was about the law in service of the great mission of the Department.

I did not grow up professionally in the National Park Service. I did grow up professionally in the U.S. Army and the DOI Office of the Solicitor (SOL), where I was a manager for seventeen years and where I gave legal advice to NPS leaders for 24 years. I have developed expertise in several important areas for managing the Grand Canyon, including appropriations and budgeting, personnel law, contracting, and information management. I also held several key management positions in SOL and have given legal support to seven Secretaries of the Interior and many other senior leaders in the Department including several NPS Directors and NPS executives in DC and in the parks. I know the NPS and its management challenges and opportunities well.

One of my priorities this season is to finalize the 2021 NPS River Program Framework and bring back a strong NPS presence on the river. My predecessor began this work and I am proud to be able to carry-on the rebuilding of our river programs. Throughout the planning process, Grand Canyon staff have made progress toward aligning the updated river program to the NPS mission and its values. This Framework will require operational accountability, efficiency, and safety, and it will clarify staff roles and responsibilities with an overall emphasis on managerial

transparency. Most importantly, the Framework of 2021 will ensure best practices for a professional, collaborative, safe, and inclusive work environment for all NPS river mission participants. I know many of you are familiar with NPS river programs and hope you will continue to work with us as we continually strive for improvements.

Before I worked at DOI, I developed a list of the top ten leadership lessons I learned when I served in the Army. I apply these lessons daily as I make management decisions that affect the park, and I would like to share these lessons with you:

1. It is better to make a poor decision than no decision because we can fix poor decisions. Corollary: It is important to admit mistakes; fix them.
2. Professional and technical competence are critical to the success of every employee; we must all know our stuff.
3. Good process helps to support good decisions and actions.
4. Communication must go up and down the chain of command.
5. Training is critical to success [train like you fight and fight like you train].
6. Leaders have a responsibility to develop subordinates: support sound succession planning.
7. Every individual is responsible to manage his/her own career.
8. Although all of us are valued, none of us is irreplaceable.
9. Everyone has an opportunity to be a leader.
10. It is important to remember to have fun.

My first river trip through the canyon will be this spring, in March of 2021. Over eight days, I will participate in an upper half rowing mission and experience the intricacies of the inner canyon that the readers of *Boatman's Quarterly Review* know so well. I am thrilled that I will soon join the ranks of those who have run the river.

When the Secretary asked me to take on the awesome responsibility of working to manage the Grand Canyon, I told him that I would consider it a great honor. I have traveled extensively around the world and I have long believed that the Grand Canyon is the most beautiful place on earth.

I very much look forward to getting to know you over the next few years. I intend to foster conversations between our organizations, and I hope to work closely with you to conserve the Grand Canyon for the enjoyment, education, and inspiration of the American people and world.

Ed Keable

Grand Canyon National Park Superintendent



A wintery morning in Grand Canyon. Photo: Ed Keable

Mark Your Calendars - Guides Training Seminar 2021!

Whether you're a canyon and river aficionado who simply loves learning, or a river guide who needs training, we've got something for all of you!

Virtual Guides Training Seminar— aka V-GTS March 27 & 28, 2021 (open to the public)

Since a large in-person gathering is still not in the cards this spring, we are focusing our energies on putting together an outstanding Virtual Guides Training Seminar (V-GTS). What this means for anyone and everyone (you don't have to be a guide to attend) is that if you've been curious about learning more about Grand Canyon, the Colorado River and all that makes it unique, but could never make it to the remote blip on a map called Marble Canyon, this is your chance to participate virtually!

As well as fascinating talks on both mornings, the GTS weekend will include two important virtual workshops in the afternoons:

Saturday, March 27, Afternoon (2.5 hours)

Point Positive workshop: "What's in Your Rig Bag?" Tools and Info on Inclusion and Interruption.

This optional workshop for guides and new leaders will get us to understand the relevance of topics like identity, inclusion, power, and intervening when issues come up within our crews and communities. This workshop is FREE, ALL are welcome, sponsored jointly by the Whale Foundation and GCRG.

More info at: www.gcr.org/guide_resources_pointpositive.php

Sunday, March 28, 2021, Afternoon (2.5 hours)

A-DASH workshop: "Where's My Line?" Reading the Waters of Sexism & Sexual Harassment.

In this training, we work to understand the issues of sexism and sexual harassment, hear direct accounts of experiences from a river perspective, and acquire actual skills which can be utilized to address situations in the moment and after the fact. The workshop will seek to provide a space to learn and understand about these important topics through an intersectional framework (we'll explain!) We look forward to seeing you there. More info at: www.A-DASH.org.

Details and registration are found on the GCRG website! See you on Zoom!!

Backcountry Food Manager's Class

Coconino County Environmental Health is helping river guides to get the certifications they need even during this pandemic. They will be putting the booklet for the Backcountry Food Manager's Class *online* so you can study up, and they plan to have the Backcountry Food Manager's test available online in March so you'll be able to register, pay, and take the test in the comfort and safety of your own home. We extend our sincerest thanks to Wendy Maurer and the other kind folks at Coconino County Environmental Health for all of their assistance in making this happen. Contact Lynn at info@gcr.org for more information.



Photo: Shyanne Yazzie

GTS River Session
Upper half—April 1-7
Lower half —April 7-16

This year's training trip will be AMAZING! Awesome speakers will cover everything from tribal perspectives to geology, protection issues and much more. Now we need enthusiastic guides like YOU to sign up!! Whether you're a new guide or a more experienced one, there is *always* more to learn. You'll spend lots of time hiking in places you normally don't get to go (SO FUN!!), learn the intangibles of guiding (or mentor others), participate in a stewardship project, and build positive relationships with guides from other companies, tribal partners and NPS. Invaluable training and an experience you will never forget! All GTS river trip participants must be current members of GCRG. Contact Lynn at info@gcrg.org to sign up!

Lynn Hamilton

Let's Go!

DAVE WEGNER

Dave Wegner is a biologist/engineer/water specialist who—working for the Bureau of Reclamation—generally oversaw the more than fifteen years of intensive study on Glen Canyon Dam’s impact on the Colorado River in Grand Canyon (Glen Canyon Environmental Studies I and II, and the subsequent EIS that was mandated by the relatively new National Environmental Policy Act (NEPA) of 1971).

This interview encompassed two sessions at Dave’s office in Flagstaff in 1998, with Brad Dimock and Lew Steiger; and also a follow-up session with Lew at Dave’s house in Tucson in 2020.

For a little backstory on NEPA, see the last issue of the BQR, Volume 33 No. 4.

—Lew Steiger

Wegner: When the dam was built, there was no such thing as NEPA. So there never was an EIS [Environmental Impact Statement] done on Glen Canyon Dam. Today it would never be built. It would never pass muster, even the first scoping session, it would never last beyond that. But Glen Canyon issues were coming to a head, just because of the fact that the Bureau had proposed to do at least the rewinds on the eight generators at the dam, because they were literally falling apart. The copper wiring on the generators was—from 1964 to 1980—I mean, they were just disintegrating, as copper wire will do if it spins around all day very fast...

Steiger: What year [did you really start on this]?

Wegner: We are talking about 1981, which is when I finished my master’s degree. I started working then on the Glen Canyon issues. While I was working for the Fish and Wildlife Service [previously], the very first studies below Glen Canyon Dam were starting up, and they were done in cooperation with Fish and Wildlife Service out of Phoenix: Frank Baucom, and some of the Instream Flow Group people out of Fort Collins. I was sent down there to start looking at the insects and the bugs and the fish,

because I kind of knew the area, had done water quality studies on Lake Powell and knew how to apply instream flow models to big rivers. One thing led to another, and I’ve graduated [with my masters], the Bureau of Reclamation calls up.

“We’ll offer you a full-time job in Salt Lake



City. Come back, we want you to be part of the limnology program looking at all the reservoirs in the Upper Colorado River Basin, and doing in-stream flow work and so on." Peripherally, I was already starting to get involved with the Glen Canyon stuff, because the engineers in Salt Lake were—just absolutely...you know, their philosophy was...they were not prepared to understand public involvement concerns regarding the dam and the river.

It was reported that at a meeting in Page one of the Bureau engineers said, "If you don't like what we're doing, the Bureau buildeth and the Bureau can goddamn take away anything we've given you in the past." That was the philosophy the Bureau engineers had out of Salt Lake City. Well, that wasn't going to fly.

I would often get sent to these meetings to try to help interpret for the engineers what people were saying in terms of biology and environmental issues. I went to Salt Lake January 1981 working in the regional office on water quality studies in the Upper Colorado River Basin. I worked a lot on Lake Powell, trying to figure out where all the sediment was, what the water quality was. "What's going on there?" I worked on a study on Flaming Gorge, on nutrient dynamics and sediments, with the Utah State University. Did a lot of work on Jordanelle Reservoir that just was built several years ago. It's the reservoir that collects all the water coming off the Uinta Mountains before it goes down into the Salt Lake Valley. It's kind of a re-regulation reservoir. It's up there by Heber City, Utah, right outside of Salt Lake. In 1982 the Glen Canyon issues were coming to a head, because the Bureau had to do the uprate and rewinds of the eight generators. I started to get peripherally involved with an engineer who had been in charge. His name was John Newman...John

was a real nice guy. He was an engineer through and through. He lived and died the Bureau of Reclamation

engineer colors. "Well, [Dave] what should we do, how should we look at this? How can we try to placate the environmentalists but still keep our dam operating?" Another advocate for the Glen Canyon studies was Harold Sersland, who knew Kim Crumbo well and had run the rivers for Dee Holiday.

Well, about this same time, Congress was starting to poke a little around the edges of Reclamation about Glen Canyon Dam, largely because of the river community here in Flagstaff. You guys had started to mobilize your clients who were on the river, and they started to send letters. This began to create a groundswell that Reclamation didn't know how to deal with, because here they had a dam that had historically—you know, everybody looked upon it as the greatest thing since sliced bread. It created this huge reservoir that all those recreationists loved. A lot of the concessionaires were now happy because there was consistent water, and they could always sell their trips. Reclamation, though, wanted to keep building more and more electrical capacity at the dam.

Basically the whole Reagan administration came in with the philosophy to sell off, give away, get rid of...and expand the federal energy program. I mean, that was their philosophy, and [Secretary of Interior James] Watt didn't know how to handle the environmental community.

Well, as all this was percolating, the uprate and rewind program at Glen Canyon started up. But the Bureau had to do some sort of NEPA compliance now. [Originally the plan was to put two additional generators in the outlet tubes, and increase power production capacity to about 33,000 CFS; then fluctuate daily flows from 3,000 CFS to 33,000 CFS—which set off howls of protest from the river community.]

Watt and Reagan eventually decided to cut their losses. They knew they had to address the environmental concerns to avoid getting sued, and that was the bottom line. If they wanted to do any uprate and rewind, they needed to do studies to satisfy the NEPA requirement. People were now becoming [aware]. They said, "Okay, we're not going to put more generators in the outlet

tubes at Glen Canyon Dam. But what we are going to do—because we still need to do an EA [Environmental Assessment] to uprate the generators, and to fix some of the things that

First time on the motor. At lake cabin in Northern Minnesota, 1958.

need to be upgraded—we'll start some environmental studies." The Bureau was in a time crunch, so they said, "Sign the EA, and we'll start up these studies concurrently, to see if there's any truth to what the environmental and conservation community is saying, that the dam is having an impact on the Grand Canyon." The Environmental Assessment approved the rewind on the eight generators and the initiation of the Glen Canyon Studies," because it's Glen Canyon Dam, even though most of the study area is in Grand Canyon.

Steiger: They didn't want to say Grand Canyon?

Wegner: They didn't want to say *that*. They had learned from the 1968 debacle when [David] Brower and Martin [Litton] were involved in that fight—to stop the dams being built at Marble Canyon or Bridge Canyon. The Bureau was at least smart enough to say, (in a hushed tone) "Don't bring Grand Canyon into this discussion."

Steiger: Too big of a buzz word?

Wegner: Well, yeah, because the public dials into it. And so, "We'll call it Glen Canyon something—you can put a name on it. But we're only going to look at three areas. We're going to look at sediment, because people have said there's some problems with the sediment down there. We're going to look at recreation. And we're going to look at biology. Those are the three areas we're going to look at. We're going to pay for it with power revenues." Well, that document was signed on December 6, 1982. Prior to that, they started to think about, "Well, how are we going to run these studies?" because this was being done out of the Upper Colorado Regional Office in Salt Lake City.

Towards that end they put out a job announcement, and there were two of us who applied. One of them was an engineer and one of them was a biologist. As Cliff Barrett, the regional director of the Bureau of Reclamation later on, was to tell me, "We had a choice. We could either put an engineer in charge," (Which if you're an engineer in the Bureau of Reclamation, you're God.) "Or we could put a biologist in charge...and everybody knows biologists never finish anything they start. It's cheaper for us to do some studies than it is to change the operations of Glen Canyon Dam. So it's simple."

Steiger: This is what he told you before he hired you?

Wegner: No, he wasn't regional director then. He told me this in later years, because I asked him what the background was.

At this time, the commissioner of the Bureau of Reclamation was Bob Broadbent, and Bob collaborated on this, too. Bob subsequently was appointed as the Assistant Secretary of Interior. Bob Broadbent was formerly a dentist from Boulder City, Nevada, who ran the Reagan Nevada organization for the presidential election. And so Bob was appointed the Commissioner of the Bureau of Reclamation. Bob said, "Well, let's just go out there and start some studies and keep 'em quiet. We want to get this thing done, and in the great glory of the Bureau of Reclamation, we'll just push forward." The Bureau of

Reclamation is like the Marine Corps, if you get into it. I mean, that is the philosophy you live with. And if you want a project done, the Bureau of Reclamation has probably some of the finest managers and engineers, in giving them a project to do and gettin' it done. They *will* get there, if you give them enough resources to do it. They're also the big dog of the Department of Interior—they always have been. They always have more clout, more money, more strength, more connections, than Park Service or Fish and Wildlife Service, or Bureau of Indian Affairs, or Bureau of Mines, or any of the other entities that make up the Department of Interior family. Reclamation set the tone and everybody followed. It's just the way things were done back then: the Bureau talks, and away you go. The Bureau has always had a straight line into the Secretary of Interior's office. I think [Floyd] Dominy [*former head of Reclamation, who built Glen Canyon dam*] is the one that, more than anything, focused on that, and got it running that way. The Bureau has the best network of politicians, the best network of lobbyists.

Well, I got hired to do the job. Actually, I think two days after I was hired, officially, that's when I met you [Steiger], because you and Owen Baynham [*working for Arizona River Runners, which had the logistics contract then*] were running the first trip for the study team through the Grand Canyon [*which launched in September 1983*].

Steiger: And that was your first trip? I was just talking to [Tom] Moody about that...

Wegner: That was the first full trip I did. See, I had been working in Glen Canyon prior to that, but I didn't officially get hired as study manager until two days before I met you...I had been to Lees Ferry, worked in the Glen Canyon reach, and gazed downstream from Lees Ferry but I had never—I didn't have money to go take a river trip. It costs a lot of money to do that, and I just didn't ever do that. I did a lot of boating from Flaming Gorge all the way down to Vernal. And prior to even getting this job, I had worked a lot in the Green River from Vernal downstream to the confluence, on the original Colorado River fisheries projects. I had worked in the Browns Park, Gray's Canyon and Mineral Bottom area, down to the confluence. We had fish in there that we tagged and were tracking and doing instream flow studies. I've worked up in the Colorado Basin, all the way through it, when I was working for the Fish and Wildlife Service. So I know the area well, and I've boated a lot, but never in the Grand Canyon.

So as it came to pass...you were there. We bring this team together that was assembled, literally, within two days.

Steiger: The details of that trip are pretty fuzzy for me. I was trying to think of it this morning—what-all we did on that trip.

Wegner: We went fast downstream. (chuckles)

Steiger: Really fast, didn't we?

Wegner: We did.

Steiger: And there were quite a lot of people talking and

jockeying. [Steve] Carothers? He was on there?

Wegner: Carothers hiked out at Havasu. Yeah, he came in for a little bit. We had a lot of folks on that trip, but it was almost everybody's first trip in the Grand Canyon, except Carothers and you guys, the boatmen.

Let's go back a little bit, though, because this all needs to be put in context—this whole issue of what I was directed to do. In 1982, I had begun working already on the Glen Canyon issue, trying to pull together the data for the endangered species concerns because of the congressional inquiries and everything else that was going on. As the snowpack and runoff rose in the fall of 1982, I was working right above Cataract Canyon. Bob Williams and I were doing a study on squawfish migration. We were both commenting on how the lake is really high and here we are in October and it's pouring down rain. The ground is just super-saturated.

Steiger: "Is this a good idea?"

Wegner: Yeah, "Should the Bureau really be keeping the reservoir this high this time of year?" Here it is October and early November. Well, lo and behold, we know what happens. But in the spring of '83 then, the Bureau started to think that we might have to release some water, and if we do, we might have some thermal issues downstream. "So why don't you, Wegner, go down there and start sampling, to get the baseline data?" So I had started taking water quality samples in the reservoir, immediately below the dam, and then down at Lees Ferry in 1982. We continued that through 1983, and then as the water rose—well, Memorial Day of 1983, water was running down the streets of Salt Lake City, and the rest is kind of history, we know what happened. I spent most of May and June down in Page, doing basic science, collecting data as the water continued to rise in the reservoir. Tom Gamble was the manager of the dam then, and he and I had gotten to be good friends, and so he would let me have access to the dam. So I was able to run around down there and collect samples, while all this excitement was going on. I was at the dam the day they opened the spillways, because they had to, and everything was shaking.

Steiger: That was the day it went up to 90 [90,000 CFS]?

Wegner: Yeah, went up to 90, and we knew there was going to be a problem, because all of a sudden, you have this surge that comes out of the spillway tunnels, and it's usually real clean. If the hydraulics are good, you've got a nice clean flow that comes out, hits the end of the flip bucket and is thrown way in the air. But all of a sudden, this thing started to surge. (imitates sound of surging water)

Steiger: So you knew there was cavitation in there?

Wegner: Well, you knew something was going on that wasn't right. You started seeing chunks of stuff flying out in the water.

Steiger: Right away? As soon as they opened it up?

Wegner: And then the water started to turn red!

Dimock: It didn't go to 90 right off the bat.

Wegner: No, it didn't, because they were trying to deal with it by just opening the hollow jet tubes. And so it was ramping up slowly.

Steiger: But these are tubes that had never been...

(**Wegner:** Tested.) They'd never even opened them before?

Wegner: And see, the Bureau knew the spillways were going to be a problem. I mean, Yellowtail Dam [*in Montana*] had the same design of spillways...And it had a problem the year before. So they knew that Glen Canyon was going to have a problem—they just didn't know how big and for how long.

Dimock: What level had you gotten to when that problem [*started*]?

Wegner: Oh, I think it was around 50, somewhere in there. I wasn't down in the control room, but...

Steiger: Oh, it *wasn't* at 90 when the spillway started eating out?

Wegner: No, it started before then.

Dimock: There was almost a week of build-up, getting to 90.

Wegner: The problem was that the lake was coming up. (imitates sound of surging water) And so you had to do something. And the gates that we have at Glen Canyon spillways are radial arm gates, they open from the bottom up, so once the lake gets up high, it's gonna go over it, and that would even cause *more* problems, because you lose the hydraulic control if you disrupt the flow pattern. So as all this was going on, I kept wondering, "Why do they want me to go below the dam and keep sampling water?!" (laughter) But I did that. I went down and sampled plankton and water, and I'd come upstream from Lees Ferry, and you'd get to the corner there, and just...(imitates sound of rushing water) because the waves were...

Steiger: Huge!

Wegner: Big waves. I couldn't get up there in the johnboat they gave me, so I just basically stayed down around the corner there. But still, the mist was just—it was like a rainstorm, all the time, coming downstream. But you go up on top and look down and the surge is going on. Then they made the decision to close the spillways and send somebody down in there. They brought these guys out from Denver, they put 'em on a little track car and they dropped 'em off from the top and into the spillway with a flashlight and a hard hat. Those guys had balls. Here you are, you've got the lake backed all the way against the spillways, you're on this little go-cart sort of thing, they lower you down on this steel cable, you don't know what's down there, there's no lights. So they're lowering you down into this chasm, and you don't know what you're going to find.

Steiger: You know that something's been goin' on...

Wegner: You know something's happening there. Well, the story you see pictures of, is there was a *huge* hole—huge hole—big as a schoolbus at that point. It had gone through the eleven feet of concrete—that's the tunnel

lining—and it was into the Navajo sandstone. Reclamation is so lucky—and actually Floyd Dominy has already told us this. He said, “The concrete will hold in the dam. The weakest part of the Glen Canyon Dam is the Navajo sandstone.” And he’s exactly right, because the erosion went into the abutment, it didn’t go into the dam. If it had gone into the dam, we would have a whole different story to talk about today. But the erosion went into the abutments, and as the story goes, I was there the day they put the marine plywood on the spillway gates and eventually...

Steiger: You just happened to be there?

Wegner: I was working. I was just hanging around, watching this stuff go on. It was kind of interesting to see what the hell you’re gonna do. And then they put the steel gates on over the July Fourth weekend. They fabricated these steel gates to be thrown up there and hold back the lake, and the lake went up above its 37,000-foot full level, and they saved it. I mean, you gotta give the Bureau engineers a lot of credit. They saved that facility. Lesser engineers probably wouldn’t have been able to do that. But those guys, they reacted quickly. They really are like the Marines. They saw a problem and they dealt with it.

Steiger: Why did they keep the lake so full, though? They were loathe to part with all that extra water if they didn’t have to?

Wegner: Right. Bob Broadbent’s philosophy was, “If it doesn’t go through the generators, it doesn’t make us any

money. We don’t want to just open the jet tubes, ’cause that’s wasted money, by God! We can’t do that!”

Memorial Day weekend, I remember the weekend before I was up in Yellowstone National Park, and there was still snow all over the place. And you’d go to Salt Lake City and water was just pouring down State Street from City Creek. You know, they had it sandbagged up. My office in the regional office looked over State Street. The State of Utah went out and planted fish in it! They thought it was a real river, so people were out there fishing and the whole nine yards. But the Bureau just got caught. Over the course of the summer they were able to save the dam and hold it back. Actually, 1984 was a higher water year than 1983 was. The Bureau just learned from the 1983 event, and brought the reservoir down lower during the winter, but they had run high water all summer.

So out of all that effort, the Bureau, I think, didn’t really deal with the Glen Canyon Environmental Studies as they probably would have if they hadn’t been in an emergency situation—that is: in selecting me and letting me just go and start this stuff up.

Steiger: They had other things to worry about.

Wegner: They were worried about their dam, and repairs, and everything else. The day before I met you, I was in Wayne Cook’s office in Salt Lake City. Wayne said, “I don’t know what you’re going to do. All I can tell you is, just go *do it*.” And that was the sum total of the direction that I was given to start the Glen Canyon Environmental



Crews work to raise the top of the spillways on Glen Canyon Dam. Plywood flash boards are visible on the right gate. Photo: Bureau of Reclamation



Salt Lake City flooding, 1983 – State Street looking south. Photo: Utah State Historical Society

Studies. “We’ve assembled a group of people to go on a river trip with you. Just go down and meet ‘em and...figure it out.” So that’s essentially what that trip was. That was the trip to try to figure it out. And here most people had never been on the river before.

Steiger: And that was like a five-day trip, wasn’t it?

Wegner: I think it was seven, because we went down to Pearce’s.

Steiger: I remember we didn’t have much time.

Wegner: We didn’t. We didn’t hardly stop anywhere. But it was *enough* time for me to immediately realize that this is more important than...

Steiger: ...these guys had been lettin’ on.

Wegner: Right.

* * *

Wegner: That trip kind of set the stage on where we would go from there. I went back to Salt Lake City and basically I asked for direction. They said, “Well, we just hired you to figure out direction. Go do your job.” And so it was me, I was a staff of one. I had no staff, zero, nothing. Just, “Go figure out how to do it.”

When I got back from that river trip, I was handed an

invoice of \$849,000 that the USGS from Tucson had just submitted to the Bureau of Reclamation for installing the gaging stations at National Canyon, at Diamond Creek, and at (**Dimock:** Little Colorado).

Steiger: They charged the Bureau of Reclamation \$849,000?!!

Wegner: And the regional director told me at that point, “Here, you don’t have a budget, go figure out how you’re going to pay for this.” I mean, that was almost like the second day I was back from the river trip.

Dimock: Who ordered those gages?

Wegner: There were deals being cut left and right in the spring of 1983 to get these studies started up, because the December 6, 1982 EA committed the Bureau to them and the Bureau had asked the USGS to install the gages.

Steiger: Yeah, there was a pork barrel kind of deal.

Wegner: Oh! *huge* pork barrel thing. But nobody ever put a budget on GS, so they took off and put ‘em in.

Steiger: I remember being involved with that, and going, “Well, now, what exactly are you going to do with these cable cars?” (chuckles) And what does this have to do with fluctuating flows anyway? [*In 1984 the river almost never fluctuated at all.*]

Wegner: Yeah, it was a detail. You never want to worry

about those details.

So anyway, we got started on that, and I went down to Tucson and figured it out some way or another—I can't recall the circumstances anymore. That's kind of how it started. I had no budget, I had no staff, they said, "You're not going to get a staff, so don't plan on it. You're going to figure this all out alone. Just go contract it all out." And I had never done this before. I mean, it was like, "Here, go do it." I honestly believe they wanted this to fail. I don't think the Bureau ever had any great expectations.

Now, immediately thereafter, I got called to Washington, D.C., by Bob Broadbent, who I've since—you know, we got to be kind of good friends over the years. He now runs McCarran Airport over in Las Vegas, he's got a big fancy office at the airport. But he called me back and we were talking about these studies, and how we needed to get going on this stuff, we needed to have something good for the Bureau happen now, since we had just gotten all this bad publicity, and we needed to do some right things. He said, "Oh, by the way, let's go walk down the hall. The Secretary wants to say something to you." So I walked down the hall, and we walked into the Secretary of Interior's office, and there's the big fireplace there. James Watt starts babbling on about the Grand Canyon, the river and how we need to take care of these resources for the American public, and this, that, and the other thing—and then he turned to me. He said, "There is no way on God's green earth this will ever get to be any sort of EIS on changing the way we run Glen Canyon Dam, and I want to make that very clear. Do you understand me?" And so what do you say when the Secretary of Interior is staring at you and basically giving you an order? I said, "Sure." I probably did say, "Sure."

Steiger: So you're going to do these studies, but you're *not* going to find out anything that's going to rock the boat?

Wegner: You are here to keep the environmental community *off our backs*. You know, after that point, Mr. Watt ran into a little trouble with Nancy Reagan over the Beach Boys on the Washington Mall, and he made a few improper statements. He ended up resigning in October 1983.

Steiger: Why wouldn't he want the Beach Boys on the Mall?

Wegner: He didn't want the Beach Boys to play on the Washington Mall on the Fourth of July because they, I don't know, represented all that was bad in the youth of the United States, or some darned thing. Then he made some really bad comment—something to somebody on an airplane, and he eventually got ixnay'd out of there. But he was a character. He and [former GCNP superintendent] Dick Marks were on a river trip together once in the Grand Canyon and Watt got helicoptered out after two days or so, because he didn't want... (**Dimock:** Too bored.). Too bored in the Grand Canyon. That was his philosophy. He just was not into the rivers or the...The resources were

there to be used, in his mind. He was giving everything away. He was giving away all of our public treasures to whoever the highest bidder was. In some cases they weren't even bidders, they were buddies.

Steiger: Well, what would he have called it?

Wegner: "Wise use." He started the sagebrush rebellion and all that stuff. So anyway, out of that trip to Washington, D.C., I kind of got my marching orders, and we started off the studies. We started as a shotgun approach, because there was limited data. The Park Service didn't want anything to do with this. Dick Marks—I would go up and talk to Dick and I tried to bring him work. I said, "Well, let's run all the river trips through the River Subdistrict Office. I can guarantee you "X" number of trips per year." He said, "Why would I do that?!" He didn't want to have the studies *in* the Park Service; while I was looking for a place where they would be protected from the politics of the Bureau of Reclamation. But Dick didn't want 'em. And we were gonna give them to him on a silver platter. He wouldn't even find me a place to live at the South Rim, to run these studies. If I was in the superintendent's position, and I was handed this silver platter that said "We'll pay for all these science projects, we'll pay to support your staff, this is for the Grand Canyon," I think I would have jumped on it and said, "Let's go to work!" I would have even taken a trailer out there, but Marks wouldn't have anything to do with it...But out of that whole thing, I decided that, well, you know, the Bureau does control the budget, the Bureau *does* control the contracting, let's just make the best of it. And so I did.

* * *

Steiger: Now, at that time were you thinking of a life-long career with the Bureau?

Wegner: No, I wasn't. I mean, the whole Glen Canyon Studies, all fourteen years (snaps fingers), went by like that. To me it was "the best of times and sometimes the worst of times," but I never intended it to be that long. Their original intent was it would be a two-year study. But the key was that we were to study fluctuating flows.

Steiger: Which there were none!!

Wegner: Which in 1983 and 1984 and 1985, there were no fluctuating flows. So we get to the middle of 1985, and there's a lot of stuff that goes on in between there, but the basic conclusion was, "You know, we really haven't seen fluctuating flows, and if you want answers to [*how fluctuating flows impact the Canyon*], we need to spend some time doing this." The Bureau said, "Okay, we'll spend a couple more years studying it." And at that point I had already moved down to Flagstaff. We had gotten money to the Park Service, they'd hired Martha Hahn, who was then Martha Hahn O'Neill, and we had brought her on board to assist on the recreation studies, and she was my liaison at the South Rim...But the fact is that we didn't achieve our original goals, because there were no fluctuating flows

to study. We had done a couple of weekend fluctuating flows, but there was no way we were going to conclude anything scientifically supported out of that process.

So about that time, we had an assistant secretary by the name of Rich Atwater, who now runs one of the big irrigation districts down in Southern California. We—the Bureau of Reclamation and the Department of Interior—had just, in cooperation with several other agencies, funded a new board in the National Research Council: The Water Science and Technology Board. And Reclamation was giving \$200,000 a year to this new National Research Council, National Academy of Science group. Everybody was wondering, “What are we going to get for our money?” So I raised my hand and said, “I could use some advice.” My logic then, which has held true to today, is that I wanted somebody to come on board who could review what the Glen Canyon Environmental Studies had done, what we were *going* to do, and give us some advice on how to do it scientifically the right way. When I came on board, a deal had already been cut with the [US]GS; a deal had already been cut with Arizona Game and Fish; a deal had already been cut with Park Service and Fish and Wildlife Service; that they would always be given their money to support their work in the Grand Canyon. The USGS still goes back to that agreement, whenever they get threatened that somebody else might come in and do their work. So I had to work within those boundaries. I needed somebody from the outside that had a high enough stature that could at least critique what we were doing.

Steiger: Did you have misgivings about some of the work that had been going on?

Wegner: Oh, yeah: gaging station stuff...I just saw money being literally wasted, left, right, and center. Stuff was just being bought and sold. All that was just going crazy. We didn't have much monetary control over it, because nobody in Reclamation had kept track of it. I got it, and the books were lousy. I mean, they were just totally lousy. You couldn't track a penny that had been spent on this program. And Western Area Power Administration and the power contractors, since they were paying for it through power revenues, they started to get a little hot under the collar about this, and rightfully so.

Steiger: They wanted to see where their money was going?

Wegner: Well, they wanted to make sure the money was being spent appropriately. They never wanted this to happen either. They got pushed into this.

Steiger: They didn't want any studies at all, probably.

Wegner: (phhhh!) Why? I mean, they want to keep a powerplant that is always going to maximize generation capacities. So they got pushed into it. We worked a deal with the National Research Council that I would come back and make a presentation to them about why I thought it was important that they should get involved in the Glen Canyon Environmental Studies. The week that

happened was the week the *Challenger* spacecraft blew up when it was launched from the Kennedy Space Center. I remember going back there. Our keynote talk for the evening dinner was an astronaut who was supposed to come, and she got called back to Kennedy to deal with the aftermath of that tragedy. Martha Hahn and I made a presentation to the National Academy of Science. Harold Sersland (Bureau of Reclamation) was also there. Nobody had prepared me for what to do or how to do it. You walk into this big huge building, that's right down on Pennsylvania Avenue in Washington, D.C. There's the White House literally right across the street. You walk in, and it is all oak paneling with huge, tall ceilings, and this portrait of Abraham Lincoln, who started the National Academy of Sciences, hanging over you. Then you've got all these, literally, experts from all around the country: Luna Leopold was there, and all these folks who are kind of staring down at you as you make this presentation. I just said, “Well, you know, what have you got to lose?” So I just went out there, and started talking about the value of the Grand Canyon and why we needed somebody to come in and give us a different perspective, to critique our science. I said, “I know you're gonna hammer us. I'll be the first to admit this is not the best science that's going on here. But the only way we can change what we do, and effectively get to a better operation of Glen Canyon Dam is if we get some outside expertise.” For whatever reason, they asked me to step outside, and about ten minutes later somebody came out and got me. They said, “We've decided we'll take on your study.” I remember it was a *freezing* cold night in Washington, D.C. It was one of those nights where the vagrants are all sleeping over the grates, and it was just the mist and the steam. But I remember going out and havin' a few “beverages” that evening at some Irish bar...

That was one of the most important turning points for the Bureau, I think, and for the Studies, because we started to finally turn this huge juggernaut of bureaucracy towards making actual changes at Glen Canyon Dam.

Steiger: Well, now, your superiors, would they have wanted the National Science...?

Wegner: Well, nobody knew what they were gonna do. The Department of the Interior were spending \$200,000 a year. They wanted to see something come out of it. So none of them went there. I mean, any of them could have come down. Hell, the Interior Building is two blocks away. They could have come down, but nobody cared enough to do that, within Reclamation or Interior. I mean...if they're not going to tell me no, it's easier to get forgiveness than it is to get permission.

Dimock: Were some of the motives to maybe protect the data you were getting from a Bureau whitewash?

Wegner: I think the Bureau wanted this all to go away. And they were convinced it would.

Dimock: I mean, your motives.

Wegner: My motives, yeah. I definitely wanted to

make sure the data got out, whatever way possible. And I knew that the way it was going within Interior and in Reclamation—there was no intent to make a change at the dam. The only way we could make, literally, a change at the dam, was to have a higher level decision happen. And so the Academy was the first step in moving in that direction. At that point, Ed Norton had started up the Grand Canyon Trust, and he and I had been talking about, “Well, what if we get some sort of protection act bill going?” It took three years, three tries before the Grand Canyon Protection Act was passed, but it eventually got through. I got to spend some time with John McCain on a river trip, and he liked to go down with Dick Marks a lot, and there were times when I was able to steal him for a few minutes and talk about the Grand Canyon. So I got to know a lot of people in Washington.

I got to know, in the mid-eighties, a gentleman by the name of Dan Beard. Dan was the head of Congressman George Miller’s [D. Ca.] Natural Resources Committee, and Dan was the staff Director of the Water and Power Subcommittee. Steve Lanich worked for Dan Beard. And so I got to know these guys and they were really focused on trying to reform how the Bureau of Reclamation did its job. My first meeting with Dan Beard, I was back in Washington. I used to go back a lot to give briefings on what we were doing to various Congressional Committees and to Administration staff. I was sitting there talking with Lanich or something, and Beard runs in the door, he’s carrying papers, George Miller’s yelling at him for something or other. Dan says, “All right, tell me everything that you want me to do in sixty seconds.” That’s just the way Dan was back then. Washington runs by a different time clock.

Steiger: Stuff to do.

Wegner: So I gave him some song and dance and he ran off and I sat and talked to Lanich. But it started to forge this bond between Dan Beard and myself, and Steve Lanich and George Miller, that continues today. I mean, we still call each other up and talk.

Steiger: At what point in time did you personally begin to believe that maybe dam operations should be changed? When did that hit you?

Wegner: I think really, in terms of the way the Bureau operated the dam and the impacts, was after the 1983 flood when the water came down. J. T.— John Thomas, and Nancy Brian had done the campsite survey immediately after the high water of 1983. They had gone down and counted all the beaches that were useable. Then the next year we did it again, and already so many of those beaches had been lost. The sand had been thrown up _____ and eroded away. Even by the 33,000 or the 40,000 CFS that was running downstream. I think then it really started to click that you guys *weren’t* kidding. There was a lot of truth to what was being said. The prevailing wisdom in Salt Lake City up to that point had been that it was just a bunch of boatmen down here, who wanted to

create a playground for themselves; didn’t want to have to push the boats in and out all the time; and they were just making stuff up. I mean, that was their belief. They also believed that the Fish and Wildlife Service was making up the fact that there were no more of our native fish down below the dam. And that’s just the way they were.

Steiger: Did [Steve] Carothers have an influence?

Wegner: Carothers did have an influence. I had met Steve two years prior. I had given a talk in Las Vegas at a Colorado River symposium, and I met Roy Johnson and Steve Carothers then, and we started to communicate back and forth. I had been sent the Minkley-Carothers project report to review. Everything started to click into place. It really started to click in about 1985. Again, I don’t think we would have gotten an EIS on Glen Canyon Dam if we had not gotten the National Academy of Science involved, because that raised the bar. The Bureau quickly realized that they could not take on the National Academy of Sciences, because it’d be political suicide if the Academy of Sciences came out with a report that said one thing, and the Bureau came out and said another thing.

Steiger: You mean, like if you hadn’t gotten their oversight, the Bureau could have just said, “You’re full of shit, Wegner. You’re fired!”

Dimock: Exactly. Because there was no outside critical review, and there was no *requirement* to have that.

Literally, when I started, nobody cared what we did down here. When I moved down here, I was in Lower Colorado Region, but I was an Upper Colorado Region employee. They wouldn’t even let me put my phone number in the phone book. They wouldn’t pay for an office down here. I was lucky enough to come into town and the very first two people I met were Sue Keiffer, who worked up at the GS. She was doing all of the hydrology studies. We hadn’t contracted for them yet, but she was interested in doing those. And the other guy was Gene Shoemaker...Gene said, “I *know* we can find a place to stick you up here at the GS. “ And he did. I got in the room that was Sue Keiffer’s old lab that she wasn’t using. It had Barry Goldwater’s blue carpet, that they had acquired, on the floor. And that’s where I set up my office. And so I was down here running an office, basically because it needed to be done from here. I told ’em, “You can’t run a project of this magnitude from Salt Lake City. I have to be down here. If we’re contracting all this stuff out, I have to be down where the people are.” And so, by hook or by crook, I got them to allow me to move to Flagstaff. You know, that started a trend that once we got established... It was hard. I mean, they pulled me back to Salt Lake City once during that, and I came back down a year later, after George Miller threw a hissy fit. You know, it’s been a long process, it still goes on today. I think the legacy that we started has spun off a lot of good things and a lot of not-so-good things.

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Helicopter support for the GCES research program, 1989.



On the old helipad at the confluence of the Little Colorado River, 1986.

We did the studies from 1983 up through 1986 or so. That's what we refer to as Phase One studies. We got enough information out there to prove that the dam was having an impact, and by God, there was something we could do operationally about it. That was enough to get the Academy of Science to agree with us, even though they said, "Your science is not that hot, but we agree with your results. We don't agree with how you got there, but we agree with your results." More importantly, Dan Beard and George Miller started to get interested. Morris Udall was going down in health at that point, and George had assumed a bigger leadership role on the House Resource Committee, and George came on some river trips. He got bitten by the bug of Grand Canyon. And he and Lanich and Beard and I—I mean, every time I went to Washington, it was standing orders: "You go right to George Miller. They want to talk." I'd go in there and Dan Beard and Steve Lanich and George Miller and I would just sit down and crack open a beer and talk about the Grand Canyon. It's just like all these things came together. The Bureau [could have] cared less what was going on, because all of a sudden, we started to get them a little *good* press. We had a commissioner back then...Dale Duvall. He had me come back to Washington periodically to assist in writing environmental speeches.

Steiger: You'd write a speech for him?

Wegner: Yeah. And I'd go talk.

Steiger: How did he get that idea? Did he see you speak somewhere?

Wegner: Oh, he came on a Grand Canyon trip. This is a cool story. Cliff Barrett was regional director at this time. The commissioner, Dale Duvall—Cliff did not like Dale, because Cliff believed *he* should have been commissioner. So there was this big tug of war. Cliff would give me directions, "He wants a river trip. (disgustedly) He's commissioner, we gotta do this. So get him a river trip." So I would arrange for a river trip for him, but Cliff would say, "You're only allowed to be on the river with him twenty-four hours. And wherever you're at in the canyon after twenty-four hours, *you* gotta get out."

Steiger: He didn't want you next to this guy?

Wegner: Well, he didn't want Dale Duvall doing river trips, I guess, for whatever reason. You know, this was the commissioner of the Bureau of Reclamation, you don't tell the commissioner "No." So I remember I hiked out. Dale Duvall did three or four Grand Canyon trips. The worst, though, was they dropped me off at Eminence Break at like 6:30 p.m. at night, and I had to hike out at night to get out, because Cliff had arranged for me to be in Salt Lake City the next day. But Dale Duvall loved the Grand Canyon. Kathy Marion was his assistant. She is now a law professor in Wyoming. I think she works in Jackson Hole. So all these strange things just started to click together and move in the right direction. You know, Dan Beard was a big part of all that—still is a big part of all that.

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They had a conference in Washington, D.C., that I spoke at, about the Glen Canyon Environmental Studies, and Dale Duvall was there, listening to it. He thought it would be really neat if the Bureau started to push this conservation ethic more. Of course that flew like a lead balloon in the hierarchy of Reclamation. Dale's replacement was head of the Colorado River Board for California—Dennis Underwood.

Steiger: Well the subtext of what I'm hearing you say is that it doesn't really matter so much who's the commissioner, but that a little ways lower down in the agency and the Bureau, you have these guys that are lifers who really have the juice. Is that true?

Wegner: It really doesn't, unless you've got a visionary who's willing to stick his neck out, like Dan Beard was. Dan Beard, who became commissioner in the first Clinton term, is kind of the antithesis to Floyd Dominy, in that as Dominy was so big on building and developing and managing this great empire; Dan was equally enthusiastic about reshaping the vision of the Bureau of Reclamation. You know, he went out there and he said things and got people riled up. "You can't tell me no, I'm the commissioner!" And he had enough balls and backbone to make it happen. He had enough political clout all the way to the White House, too. He still *does* have a lot of clout with those folks in the White House—Dan Beard was able to get things accomplished.

There's been a *lot* of reorganization within Reclamation over the last ten years—some of it started by Dennis Underwood when he was commissioner—but the fact is that the regional directors are the power brokers within the Bureau of Reclamation, and they manage it.

Steiger: What was Dan Beard's vision?

Wegner: His vision was that we needed to transform Reclamation from a dam-building agency to a resource management agency—water and the natural and cultural resources that are affected by the way Reclamation manages those water flows. But Dan, you know, he came at this from a whole different perspective than any previous commissioner.

Steiger: With their engineering and construction backgrounds?

Wegner: Dan, by training, is a geographer. That's what he's been trained in. Historic geography. He's got a Ph.D. in this from Western Washington University— But his real claim to fame is that he went and worked in Washington, for Senator Baucus, the White House, and then for Congressman George Miller on the House Resources Committee; and dealt with water issues. Dan came at this from a much different perspective on where the Congress was heading, what Reclamation's future really *did* look like, in terms of funding and political support. And he brought to that a tremendous energy that he still has today. It's

just unfortunate that Reclamation didn't support him more in regards to implementing a lot of the innovative ideas that he was coming up with. I think if he and [Interior Secretary] Bruce Babbitt had gotten along better, and if Dan would have gotten more support from some of the regional directors, he could have done the reshaping that he really intended to do.

Steiger: But as it stands now, he just kind of nudged 'em a little ways in that direction?

Wegner: He did a tremendous job, yeah.

Steiger: But now they've backed off?

Wegner: Well, you don't see Reclamation out there doing the vision that Dan had laid the foundation for.

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Steiger: Okay, to finish wrapping this overview up, you went through GCES-1, GCES-2...then the Grand Canyon Protection Act was conceived of and....

Wegner: In the late 1980s the Bureau decided that they needed to do an EIS on the operation of Glen Canyon Dam. That's prior to the Grand Canyon Protection Act coming into play. This was because George Miller and Bill Bradley and a few folks in Washington were putting pressure on the Bureau to do an EIS on the operation of the dam based on the impacts that were identified by GCES and the resulting National Academy of Sciences study. Grand Canyon Trust, Trout Unlimited and others filed a law suit against Western Area Power Administration regarding the impact that the power contracts and resulting operation of Glen Canyon Dam was having on the resources in the Grand Canyon. The decision that Judge Green made, "It's not Western [Western Area Power Authority] that's hands on the throttle, it's the Bureau of Reclamation guys' hands on the throttle. WAPA markets what is given to them." And so it's always been this incestuous relationship between WAPA and the Bureau. The Bureau knew that this decision plus the interest of Congress would force additional environmental review at Glen Canyon Dam. In July 1989 I got a phone call from Joe Hall who was the acting commissioner for the Bureau. He said, "We're going to start an EIS on the operation of the dam. But we're going to appoint somebody to do the EIS so that the science [GCES] is independent of the EIS." So GCES would continue. The NEPA process was going. They went through a variety of NEPA chiefs. Initially they hired Steve Ericson, whose claim to fame, he had been working in the department at some level, he was the boyfriend of Paul Laxalt's daughter. He moved out to Salt Lake, so they moved me back to Salt Lake again, because they wanted me under Steve's thumb.

Steiger: Okay, and you're not in charge of the EIS.

Wegner: No, I'm not directly, but I keep getting drawn into—because they need all the science for the EIS, so I am intimately involved in this. We're pushing that the EIS be science based. And this is where Carothers comes back in

because he and I were now writing papers about adaptive management, and how adaptive management needs to be part of any—whether it's the Columbia River System or whichever river system that's dam impacted, you can't assume you can make a decision that can address all of the variability that is possible in the management of the dam...

Steiger: And that's going to be fine forever.

Wegner: ...and that's going to be fine. We need to have a new paradigm of how we manage dams, and the environments downstream. That's where Steve and I started writing about adaptive management, and it got into several white papers, we gave some talks on it, and so it was starting to gain its own momentum. The Bureau had a succession of four different people running the NEPA process—all of them flamed out—either it's too complicated or they just don't get it, what we're trying to do. Eventually George Miller who was then Chairman of the House Resource Committee wanted to make sure the EIS was completed in a timely manner. George was convinced that the Bureau wasn't getting how much this issue meant to Congress in Washington, D.C. So they decide that they're going to do some legislation. So Dan Beard calls me up and says, "We're writing some language here." So I knew this language was being written. Ed Norton, who was then running the Grand Canyon Trust was involved and wanted to know if the language would work. "Does this say what we need it to say?" sort of thing. They were doing their vetting. In the spring of 1991 the Act shows up in language. And this is—again, timing is everything—there was another bill moving through Congress that they could hook it onto, a Reclamation Projects Authorization and Adjustment Act, that needed passage. If the Grand Canyon Protection Act had gone up on its own, it probably wouldn't have passed, because the Bureau would have asked all the western states to vote against it. But it was attached inside of another bill that had a whole bunch of things they needed. And so it was by its association in a very large bill that it got passed by Congress. You know, it moved forward, and it basically said to the Bureau, "You are to implement this EIS, you're to incorporate long term monitoring and be science based, you're to pay for it through revenues, and we want it done by the end of 1993." So that put the force of Congress behind getting the EIS done. We were able to concurrently move the NEPA forward with the Glen Canyon studies. The legislation became law on October 30, 1992. Secretary Babbitt said, "We want to really implement the adaptive management program, and at the end of this we're going to establish the Grand Canyon Monitoring and Research Center."

Steiger: That came from you and Carothers lobbying for that?

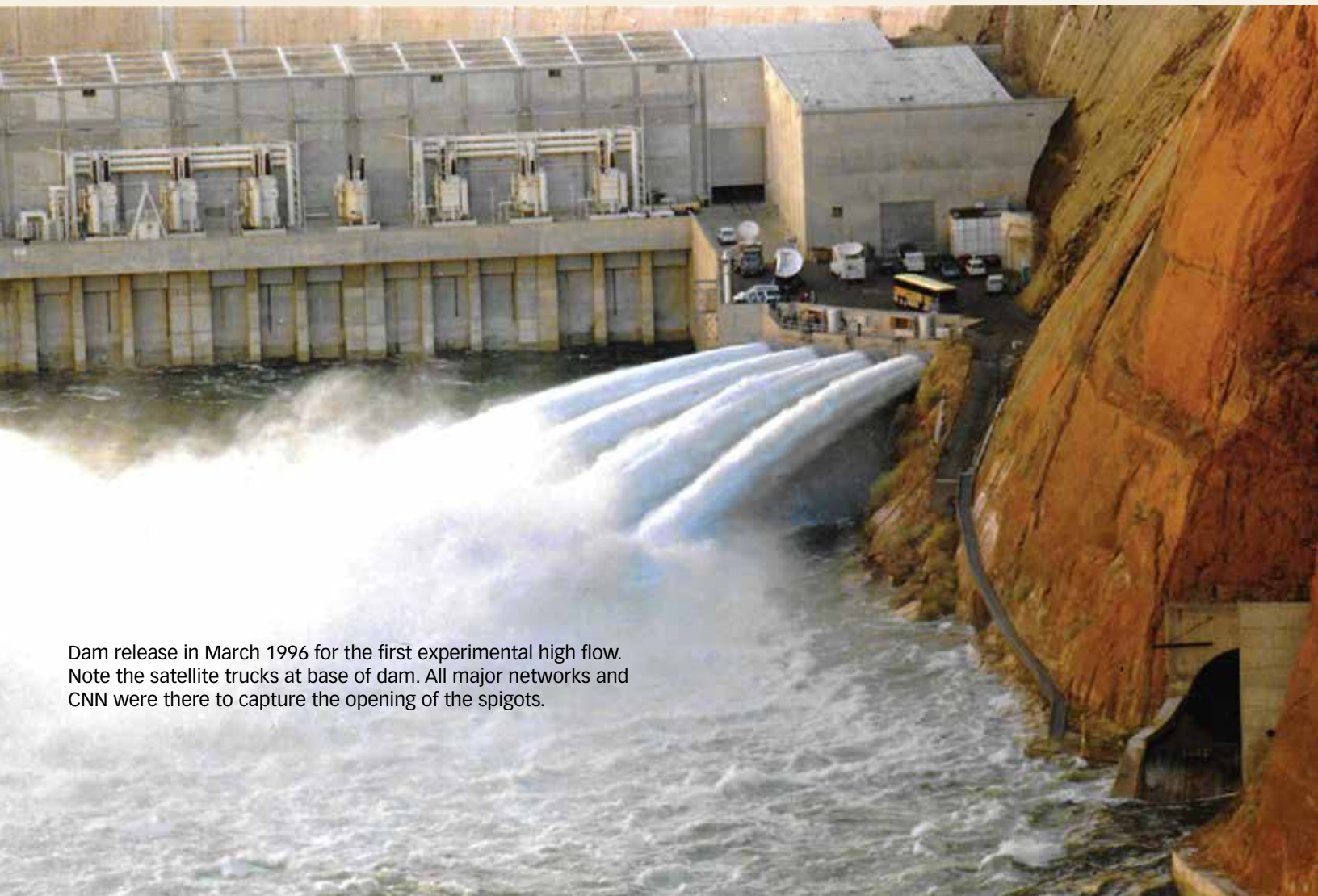
Wegner: Well, it came from several people.

Steiger: Would you say that was an offshoot of GCES-2?

Wegner: Yeah, it was built on the preceding years of work [GCES I, II, interim flows]. We had done the research

flows where we fluctuated every eleven days, because we needed to gather all this data. If we were going to make a timeline...We had a time crunch to get NEPA done, we had to do this to get the data, to analyze these things. At that point we'd increased the GCES program to include cultural resources, economic studies, hydropower studies and expanded recreation studies. We did the nationwide non-use economic value study, so we had all this innovative science. Our program morphed into—scientists all over the country, all over the world, were coming in to do integrated science with us. And it was *great*, because we were really bringing together the best of the best at this point. And it was moving forward. But the problem is that as the NEPA was going forward, GCES was moving forward, there was this kind of rainbow at the end that Babbitt wanted to do, set up the Grand Canyon Monitoring Center—which was great, that's exactly where we all agreed it needed to go at the end. Secretary Babbitt was setting up the National Biological Survey, which was to be the sister to the U.S. Geological Survey. So what Bruce had done is he had forced the National Park Service, the Bureau of Rec, Fish and Wildlife Service, to take all their career scientists and move them over to the NBS, National Biological Survey. They had two years of dedicated agency funding that would follow them, but after two years they had to be self-supporting. And that

was okay, but at this point President Clinton had upset—he was going through some issues—and Newt Gingrich who had been elected as the Speaker of the House of Representatives—Newt had it out for Clinton, didn't like Clinton, didn't like Bruce Babbitt, and so Newt said, "Well, I'm gonna fix this!" So he took the funding capacity away for the NBS. So now Babbitt, who had already set up these regions for the NBS around the country—eight of them; he had selected senior executive service folks to become the leaders of those. Dave Garrett had been selected to run the region out of Flagstaff. That was what he wanted. He had come out of the Forest Service family to do that—Forest Service side and NAU side. Bruce was left with these regional directors who didn't have jobs or funding. Newt Gingrich had gotten the National Biological Survey initiative stopped because he was now Speaker, he had a lot of power in the House of Representatives. Secretary Babbitt decided that Dave Garrett would take over the Grand Canyon Monitoring program. They asked Garrett—this is the story I was told—what he would like to do. He said, "Well, I want to stay in Flagstaff. There's really only one job that interests me." And that was running the Grand Canyon Monitoring [*and Research Center*]. So that was fine, I get that. It took me a few years to get over that, but the point is that Garrett became the head of that, and I was offered options, shall we say. One was Fresno,



Dam release in March 1996 for the first experimental high flow. Note the satellite trucks at base of dam. All major networks and CNN were there to capture the opening of the spigots.

California, and the other was Guam, and I didn't want either of those. So that's when I left. I retired at that time.

Steiger: The way I had it in my mind was...I guess I saw all that stuff kind of evolving, and it did seem to me like you would be the logical head of that. And then it just seemed like they pulled the rug out from under you.

Wegner: Well, they did. And as Garrett explained to me—his politics were bigger than mine and he was right.

Steiger: But I had the sense it was kind of long-term animosity of all those old guys.

Wegner: Oh, it was. You know, I was not...

Steiger: All those old, kind of right-wingers that were in there.

Wegner: They didn't like me and what we had done.

Steiger: You caused them a lot of trouble.

Wegner: Apparently so, because now they've had to do NEPA compliance on the other dams, and Glen Canyon is what kicked that off, the domino in the basin, in the West.

But anyway, the end of that story is that Newt Gingrich is a part of what happened at the end. I had dinner with Newt a couple of different times over the years. One of them was at the Museum of Northern Arizona with Superintendent [Rob] Arnberger; Ferrell Secakuku, the then-alive chairman of the Hopi; myself; and Mike Fox, who was head of the Museum of Northern Arizona. It was one of those weird, weird evenings where Newt and

company perhaps consumed a little bit. The conversation was primarily between Rob Arnberger and the Speaker and ranged from Star Trek to Harley Motorcycles. The Hopi Chairman and I did not fit into the discussion very well.

Steiger: I can totally see it!

Wegner: The next thing I know, I'm getting called back to Washington, D.C., to go talk to Newt Gingrich about what's going on in the Grand Canyon, and why, why do we need to change operations of the dam?

Steiger: How did *that* go?

Wegner: Well, it went fine, because at that point he realized that the science showed that the dam was having a big impact, and that we needed to implement the first experimental release in '96. It took two years to get the first experimental flood approved because of various threats of litigation, permits and planning.

Steiger: Because for those guys, that's [*flows exceeding powerplant capacity*] just money and power down the drain?

Wegner: Oh it is. To this day, WAPA magnanimously will allow water to be changed. If you really look at it, they don't lose money by re-operating. They always make money by generating power. They have people under contract to buy the power and any excess power generated they can sell at premium rates. The point is

Former Secretary of the Interior, Bruce Babbitt, with the press in the Glen Canyon reach prior to the first experimental high flow in March, 1996.



that you had the EIS moving forward, and then we get to the signing of the EIS, the record of decision, by Babbitt, up at Grand Canyon National Park. You had the studies coming to a spot where they could then transition into the Grand Canyon Monitoring and Research Center. You had the Government Accountability Office (GAO) coming in as required by the Grand Canyon Protection Act, to do a review, to make sure what we had done, that from a fiscal point of view it made sense. So all of these things coalesced together, so that beginning January 1, 1997, the whole next thing took off. That's the Grand Canyon Monitoring and Research Center.

Steiger: I feel like, (as we sit here in March of 2020), that all that is really in jeopardy. And I'm a little fuzzy...I know these guys are trying to water down NEPA too.

Wegner: Yeah, and all the rules and regulations.

Steiger: Am I just being paranoid?

Wegner: No. I think we all have to be diligent, and vigilant maybe is a better word, over making sure everything that we worked so hard on for those years is not dumped to the side because of somebody or some agency that doesn't want to abide by it. I'll go back to what I said when we started: As long as the dam is there, that dam is having impacts downstream. You just mentioned looking from the overlook at Deer Creek and watching the sand boils move downstream when the water comes up. As long as you're not letting sediment get past the dam downstream, sediment that's being trapped in the reservoir, that's going to continue. So yes, the dam has a long-term, forever impact. It's having impacts on the temperature, on the biology, on the riparian area. So do I think that the American public and government has a responsibility? Absolutely yes—absolutely—to do this. And if you want to follow adaptive management through, if the science is showing that the dam needs to be modified, operations need to be modified further, I feel that the Grand Canyon Protection Act gives you the authority to go back and look at that again. Now, that being said, can the folks at the Grand Canyon Monitoring and Research Center, can their science stand up to the politics? That's a whole different story.

Steiger: I know that they kind of beat us back on the ramping rates and the fluctuations a few years ago, because they did a model—I heard it was down here [Tucson]—I don't know if you know about that...

Wegner: I know of it.

Steiger: They did a computer study and it said, "Oh, well, we can soften [restrictions on ramping rates] a little bit." But yeah. That was the whole reason I wanted to talk to you, is like I said, I can't remember if I was running this recorder when I said it—my comment on Deer Creek was when you stand at the overlook, after going into the Narrows, we come out of there in the afternoon, and the water is coming up. When you start seeing these higher flows, whenever it's up over about 13 [13,000 CFS], I just see clouds of sediment out there in the current on the highs.

Wegner: That's why the Monitoring Center was established, was to do adaptive management. It's not just to do science forever, it's to use science to make better management decisions.

Steiger: Because things keep changing!

Wegner: They do, and they are going to keep changing.

So I have a personal belief that the monitoring needs to be more than just collecting data. That data has got to go into the decision environment.

Steiger: Well, it's funny...for me now, being an old guy on his last legs down there, I'm just stunned by how fast it's all happening. To me it was all hypothetical back in the day: we talked when we weren't recording, I told you that you don't see camps now, from Havasu on down. There's a reach where we used to have several more camps, and now it's just a dog fight if you're there at the wrong time of the year when it's busy. You have to leave early, you don't spend any time at Havasu, per se, because you've got to find a home for these people.

* * *

Wegner: I don't know if I told you before, but when I first got let loose from Interior, the very first phone call to me was from David Brower.

Steiger: Really?

Wegner: He said, "I want you to come out to Berkeley, to 40 Stevenson Avenue," the place where he lived—he and Anne—"and I want—you're going to start the next chapter of your life. So I'm sending you an airplane ticket." He sent me an airplane ticket, because you had to send them in those days, we didn't have the electronic ability. So I went out and spent two weeks with David Brower at 40 Stevenson, being educated on that history of Glen Canyon, the Echo Park, that whole dam issue there.

* * *

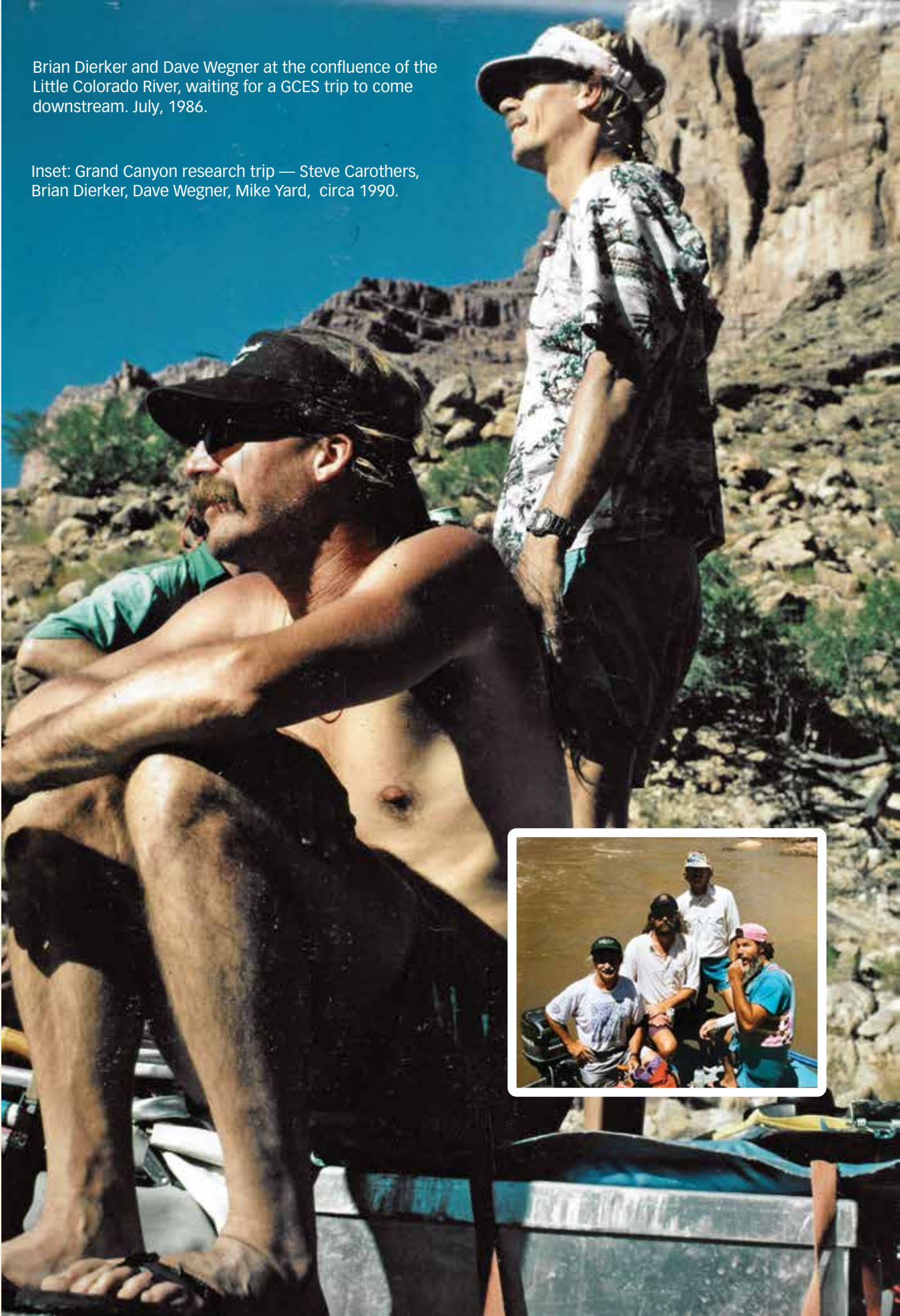
Steiger: Now here we are [1998], here's Glen Canyon Institute! The premise is, "We need to bypass the dam altogether."

[In 1998, Wegner, in alignment with the Glen Canyon Institute, was working on a "Citizens EIS, which considered bypassing the dam.]

Wegner: The real issue, to me, is that we have to look for long-term solutions. Reoperating the dam is not a long-term solution. We need to start thinking beyond just today and start looking at the future. What became clear to me through all the process of GCES is that the Grand Canyon is this remarkable ecosystem that people today who aren't knowledgeable of what it was, look at it and think it's great. But the fact is that it can be so much more again. And I look at all the people who make money off of Glen Canyon Dam—the power users, the water users—I doubt they really think about the consequences of their lawns and their swimming pools and their fountains, in respect

Brian Dierker and Dave Wegner at the confluence of the Little Colorado River, waiting for a GCES trip to come downstream. July, 1986.

Inset: Grand Canyon research trip — Steve Carothers, Brian Dierker, Dave Wegner, Mike Yard, circa 1990.



to this tremendous ecosystem. Getting to know David Brower has been one of the highlights of my life, because it encapsulated this man and his passion for Glen Canyon with the passion of a Martin Litton for the Grand Canyon, and for *all* the boating community and all the people who along this journey have educated me to the *value* of this place—not from an economic perspective, but from an ecological, sociological perspective. It came to me that we need to try to do something else. Here comes Rich Ingebretsen [*founder of Glen Canyon Institute*], this brilliant, passionate man, who has an idea. And I thought, “Well, why can’t we start linking the science to his passion?” And getting David Brower involved in this, it all just started to say, “Well, why *can’t* we ask the question?” *Why* can’t the government step back and say, “We’ve done this EIS. Let’s look at what we’re gonna do with this piece of concrete and steel in fifty, a hundred, whatever years down the road where eventually something’s gonna happen to it.” We were getting stonewalled. And so the point then is, “Well, if they don’t want to ask the question, there must be a good reason. Let’s push the issue.”

* * *

Steiger: I had one more note here. In a way, you could say that you were the father of sport boats. Brian [*Dierker*] told me this great story about how he’d just gotten the [*logistics*] contract, and you guys are down there at the Little Colorado. Or I don’t know if you were down there, or you were on the rim, but he was down there and you had found a little [*Avon*] Redshank for him, with an outboard motor, and you sent it down there on the helicopter. Did he ever tell you this story?

Wegner: Well, I know this story, but I don’t know if he has told me this story. I would say that both Mike Yard and Brian were more important to using sport boats in the Canyon than I was.

Steiger: Well, Brian told it to me, and I’ll get it wrong, but the way that I remember it is he’s down there amongst all these scientists, everybody’s coming and going, and here comes this little boat that you’ve sent down in pieces on the helicopter. And so Brian takes all the pieces down to the water, and he puts it together. Carothers is down there doing whatever, and suddenly Carothers hops into this little boat. “C’mon, Brian, fire this thing up, let’s go, let’s take it for a spin.” Brian is like, “What?” Carothers is like, “Come on man. Just act natural. Act like you know what you’re doing here.”

Wegner: And away they go!

Steiger: Yeah. They putt out of there slowly but as soon as they’re clear of the mouth they go roaring upstream. Talk about wind in the hair! You have to run—you have to actually deal with these sport boats, and you have to appreciate how science was before the sport boats, to really appreciate what a...

Wegner: It was a game-changer in my view.

Steiger: OMG! For doing good science, because logistically now, you can run up and down these reaches. I did some fishing, working for Lynn Kaeding and those USFWS guys, where we had the Havasus with the oar stations and all, where it was all downstream.

Wegner: Yeah, you couldn’t go back up if you missed something.

Steiger: It was so much harder to collect the least little bit of data. I think just when you look at the history of boats in the canyon, the sport boats were such a sea change for all that.

Wegner: The only thing I would add to that is that it was that unique combination of Brian Dierker, who really, in my mind, has always thought outside the box—at least outside of his “mind box,” and Carothers. And Steve’s an entrepreneur guy, and I love him to death on this.

Steiger: I love him too.

Wegner: “Let’s try this! Let’s try that!” I mean, Steve self-funded Norm Sharber for a while there, for all the electrofishing new technology, when Norm was doing stuff that was uniquely different to what the big dogs in electrofishing had been doing, in terms of the sine waves and the instrumentation. It was Norm and Steve and Brian. They would come with these ideas, and I would just help manifest their ideas. They’re the ones. And Brian, of course, he’s always out there on the leading edge of anything and everything. I talk to Steve fairly often, and all of our careers have kind of done this intricate weave in and out of each other’s lives, and it’s just been really amazing. What a trip! Then to have Brian physically kind of take me under his wing gave me some credibility with you guys. (Steiger begins to protest) No, no, it was true! Brian would introduce me to various people on the river, because Brian was Humphrey’s Summit for the first two years.

Steiger: Yeah, but your credibility didn’t come from Brian.

Wegner: No, but he got me to talk with you guys.

Steiger: Okay.

Wegner: He would introduce me, and I will say the same for Martin and Georgie. Those first... You know, they used to have the winter meetings up at the South Rim and so on. You know, the first one in the fall of ’83—or was it ’84?—I think it was ’83—up at the South Rim, Dick Marks was there. But Georgie and Martin—and there *might* have been some alcohol involved... They came up to me, because I was there talking about what was starting up with the Glen Canyon studies and such, to the group of outfitters, and basically those two took me under their wing and said, “Well, you’ve got to come to the El Tovar bar and talk.”

Steiger: Martin and Georgie?

Wegner: And Georgie! So they’re already fairly well down the road of having... They got a head start on me.

Martin kind of said, "Okay, you need to have an in. We will help you talk to the other owners," is essentially what they said. And they did, and I appreciated that.

* * *

Steiger: My impetus for talking to you again [*here in 2020*] was a conversation that I had with the brand new regional director of the Bureau last summer, where he told me, "These [*power*] guys don't see why they can't fluctuate it all they want to." And we'll see what happens politically, but this administration is undoing so much. I look at here we are, we're all old, and we went through all this...

Wegner: All this effort.

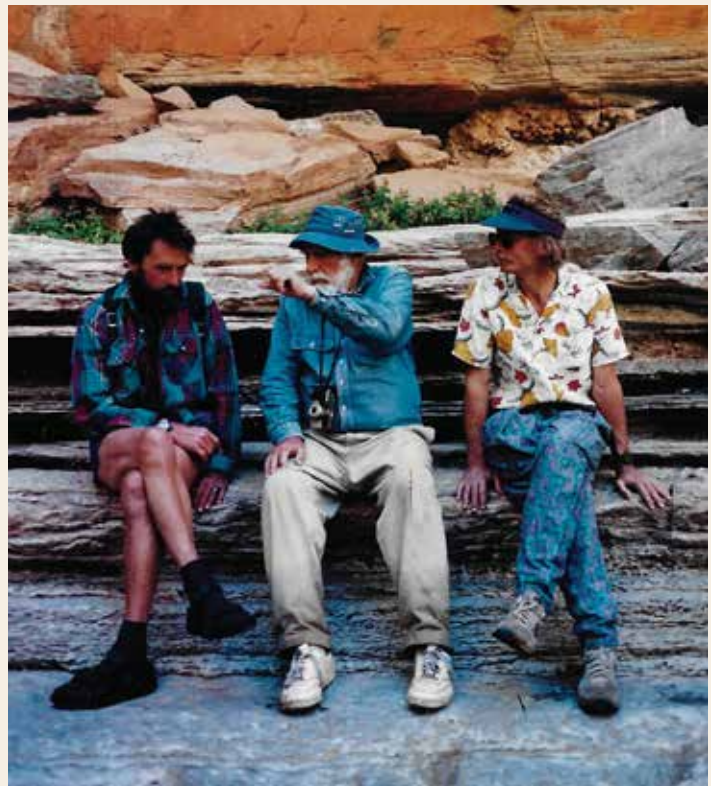
Steiger: Thirty years of stuff. It struck *me*—and I thought this last summer, "Boy, you know, we're going to have to go back and read over the Grand Canyon Protection Act. Because somebody is going to have to sue these guys."

Wegner: Interesting you would say that, because I was in a hearing yesterday in Los Angeles, with eleven members of Congress. A member I used to work with a lot in D.C. when I was back there, publicly pointed me out and said, "If you need to ever talk to anybody about what's going on in the Grand Canyon or the Colorado River, there's Dave, he's over along the wall, he will answer your questions." So it's kind of like my career with the Grand Canyon keeps evolving, because as I left GCES and I started my own firm, I took the lessons of adaptive management and spread it around the world. So we took the lessons learned at Glen Canyon and we took it to Japan, took it to Siberia in Russia; took it to China; took it to Europe. And so now the clones of GCES are spread around the world and are being implemented in the Danube River Commission, are being implemented in water flows. We're removing dams in Japan now, and changing the way they operate. So *that* piece of it moved on. Fast Forward to the Obama administration and I get asked to work as Staff Director for the Water and Power Subcommittee in the House of Representatives in Washington, D.C.. I am appointed to Dan Beard's old job. So ultimately my job ends up being Dan Beard's old job in the Natural Resources Committee on water and power issues in the Western United States. So now I'm working with George Miller! And I would talk with George often on water issues... So he's continually pushing me on, "What's going on? What needs to be done? What's going on in the Grand Canyon?" Floyd Dominy came into my life as...A little bit of history—Floyd was fired as the Commissioner of Reclamation by John Erlichman. That's who Nixon sent down to get rid of Floyd Dominy, was John Erlichman. Fast forward, you understand John Erlichman, what happened to him [*embroiled in the Watergate scandal*]. But Floyd and I, somehow we kept running into each other, and being on panels together to talk about what Floyd's view of Glen Canyon Dam and the Colorado

River was...We're the two viewpoints, because now I've done the Glen Canyon studies. I've been involved in looking at should we keep Glen Canyon Dam or not? You know, looking at it from a different...So he and I end up... And the classic was—two classics...One, he and I ended up doing this kind of talking debate format at Colorado College in Colorado Springs the night of the shooting at Columbine High School. Floyd and I ended up at the bar at the end of that night, and we decided we had a lot in common, in spite of our different polar positions on Glen Canyon Dam. We are interested in water, and we're interested in how to make the West especially sustainable in terms of water. His world view—and he was raised literally in a sod hut in Nebraska, he went through World War II as a quartermaster—he's into building stuff, he wants to build stuff. So his world view is built around that: the importance of a drop of water. My world view is built around kind of David Brower, the environmental side of the impact of dams, and that...Katie [*Lee*] is a big part of that.

Steiger: Martin too.

Wegner: Martin, Katie, that cohort of our friends was critical, because they saw what it was before. And then *you guys* came along: the guides, and you educated me on what's been happening with the canyon as a result of the dam: the loss of beaches, the loss of recreation areas, the life-changing importance. I guess now to go back to one of your questions about what I feel about the canyon, I've seen the canyon change people's lives, as you guys



Martin Litton "educating" — 1997 trip.

do. I mean, it's a whole awakening of sorts. Some people just, wow, they get it. So Floyd and I have this thing. It ends up I'm working on the Hill, it's his hundredth-year birthday. The Department of Interior doesn't want to recognize him at all. I mean, he was a womanizer, he was not a nice guy...*But*, I thought he deserves—he's made it to a hundred years, he shaped the Bureau and we should do a celebration. So I ended up sponsoring a celebration on the Hill for Floyd Dominy's hundredth birthday. And so eventually the Department of Interior did send somebody up to be there to shake his hand, sort of thing. But, you know, it's Floyd, it's David Brower, it's Martin, who have taken these issues on. So now I'm in Washington, and every time I see George, he's walking in the halls with members: "Oh, this guy, he'll talk to you about the Colorado River. He needs to come talk to you about it." So I continue to educate people on issues of the Colorado. Then I get appointed to the National Academy of Sciences. I'm there to address issues related to river management, dam management, on programs around the world and around the country. So now I find myself as, you know, we both have a few more gray hairs than we started out with, but now we're playing different roles in this dialog, but the Grand Canyon and the Colorado River through the Grand Canyon, continues to be the heart that drives me. I don't have the relationship you and the guides do to the Grand Canyon, but I have my own relationship, and the importance of what that place not only taught me, humbled me, in a big sense of the word—but also the importance of science, the importance of networking and listening to people, and then really the importance of not sitting on your hands and just figuring you can't do something. Figure out a way to do something! That's the Katie [Lee] in me, that's the Martin Litton in me, and the David Brower.

Steiger: Well now more than ever, too, because you have these guys that all I can figure is—not to speak ill of



Present day press shot for National Academy of Science, Water Science and Technology Board.

the current administration ad infinitum—but these guys think God's going to sort it all out for us. Mankind doesn't have to worry about global warming because if God didn't want the earth to get hotter, he'd take care of it—or she, or whatever.

Wegner: I would disagree with that—*heartily* disagree with that. I mean, I think science is more important now than ever. It's more important in the Grand Canyon, and you could apply that to the whole world.





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A young Bill Skinner at the (18-foot) oars, 1978. Olo Canyon sand bar. Photo: Ken "Hawk" Harper