

THE GRAND CANYON River Runner

Number Seventeen

Preserving Public Access to the Colorado River

Summer, 2014



"CANYON REFLECTIONS" © BILL WOOLAM

LONG TERM EXPERIMENTAL AND MANAGEMENT PLAN FOR GLEN CANYON DAM

THE EIS ALTERNATIVES ARE OUT: SAY GOODBYE TO SAND?

Hey Grand Canyon Lovers,

Have you seen the beaches this Spring? Stone Creek? 118 Mile? Olo? Refreshed. Rebuilt. Amazing! We haven't seen them looking this good for a long time. Last year the Paria River gave us loads of sand, and the November high flow did a great job of putting it up high.

But unless you're ready to do some fighting, don't get used to them.

The future of Grand Canyon flows and floods will soon be chosen from one of six alternatives. They're complex. They're confusingly named. And there's a lot of power rallied behind the ones that take as much as possible from the Grand Canyon, and do as little as the law will allow to take care of it.

For the latest details, including interesting hydrographs (Hydropower improvement flows?), take a look at http://ltempeis.anl.gov/documents/docs/LTEMP_Alternatives_April_2014.pdf.

I can quickly tell you this: While the public has been waiting quietly for this first glimpse of the possibilities, water and power interests have poured huge resources into setting the stage. They created two of the alternatives--the "Balanced Resource" and the "Resource Targeted Condition-Dependent" (you might be interested in what they mean by "Balanced" and what resources are targeted)--and have been working hard to have one of them selected as the final "preferred alternative."

A big feature of these two alternatives is restrictions on high flows. Ideas like no more than one high flow every other year, or no Spring HFEs, or even no high flows at all.

A long fight and a huge amount of effort went into creating the high flow protocol, and it's just gotten started. These are the flows that put the sand up where we can use it – sediment that is crucial for the health of multiple resources in Grand Canyon. High flows help keep that rejuvenating sediment in the canyon as long as possible, instead of slowly flushing it all into

(CONT. PG. 2)

In this Issue

"LTEMP UPDATE".....	1
WOUNDED WARRIOR RAFTING TRIP	1
PRESIDENT'S MESSAGE.....	3
"A CRACK THAT LEADS TO THE RIVER"	4
"EVOLUTION OF GRAND CANYON PASSENGERS"	7
"GOOD MORNING GRAND"	9
"ANGEL ASCENDING"	10
"HOW DO YOU WATER GRANITE?"	12
"GREAT BLUE HERON"	14
GCCRRA DIRECTORS	16
JOIN GCCRRA	16

WOUNDED WARRIOR RAFTING TRIP

August 2015, Sponsored by GCRRA

"On this trip active-duty Marines will experience moments of pure thrill, times of absolute serenity, and a deep connection with nature -- all of which combine to create a truly life-changing experience -- for these disabled veterans who face a long and difficult road to recovery after serving and sacrificing for our country."

Please go to www.gccra.org for details and fund-raising opportunities.

Lake Mead. They're the best tool we have for moving sand, but they do cut down a little on the water available for generating power revenues.

When the LTEMP draft EIS comes out for public comment, the agencies creating it will have already chosen a "preferred alternative." It's an important choice that has a lot of influence on the final decision. And that decision will be in effect for twenty years or more. The water and power folks know this—that's why they're so involved behind the scenes.

That's why the LTEMP folks need to hear from you now, and all summer long. They need to hear from your passengers, and your friends, and everybody who cares about the future of the Grand Canyon. They need to know that we want the preferred alternative to focus on protecting the canyon and the river, not the revenues extracted from it. We want a healthy environment, built on big beaches, and we want the high flows that create and renew those beaches.

So, sign up on that LTEMP website. Send them your comments. And while you're out there with your toes in the brand new sand, take a moment to talk to your clients about where it came from, what's at stake, and what they can do.

I hope you'll tell them that we want lots of beach building high flows, as many as the Paria and LCR give us the sand for. We want the potential for two floods each year, as intended in the HFE protocols, and we want them to run as high and as long as it takes to make maximum use of the available sand.

The demands of power generation dominated the river for 30 years. High fluctuations and clear water flows stripped sand out of the canyon.

Now it's time to build beaches back up. It's time to take care of the canyon for its own sake. This is our best shot at having beautiful beaches and a healthy riverine ecosystem in years to come, and we need to take that shot.

Tell those folks what you care about.

And enjoy the beaches this summer. That Grand Canyon is a glorious place. Thank you for being part of keeping it that way!

Sam Jansen

Reprinted from The Boatman's Quarterly Review, Vol. 27, Number 2, Summer 2014.

SUGGESTED COMMENTS, AND WHERE TO SEND THEM:

You can send comments, right now, to: Ltempeiswebmaster@anl.gov

You might say things along these lines:

The preferred alternative should focus on conserving sediment and building beaches.

Don't restrict HFEs. Run them Spring and Fall, and make maximum use of the sand that's available.

Focus on protecting the canyon and the river, not the revenues extracted from it.

The preferred alternative should not only protect, but improve downstream resources.

THEY NEED TO HEAR FROM YOU, AND EVERY COMMENT MATTERS. THANK YOU FOR DOING YOUR PART!

Grand Canyon: World Heritage Site, Crown Jewel of the National Park System, Perpetual Target?

By Mari Carlos

A Los Angeles Times article published on July 6, 2014, has put a magnifying glass on two potential developments poised to irrevocably alter the Grand Canyon landscape. The article by Julie Cart has been picked up by national and international news outlets and is engendering growing concern worldwide.

The first of the development proposals involves Tusayan, the small town immediately south of Grand Canyon Village. Developers have gained political influence in the town that has enabled plans for 2,200 homes and 3 million square feet of commercial space to proceed. The Italian developers of the project have not explained how they plan to procure water for the resulting influx of residents and visitors. The fear is that if ground wells are used, it will have a devastating effect on seeps and springs within the Canyon. Please see The River Runner, Issue 14, "Springs Ecosystems of Grand Canyon" by Larry Stevens, at www.gcrra.org.

Escalade, a rim resort, airport and gondola to the river currently proposed by Confluence Partners, a group of Arizona-based developers working with some within the Navajo tribe, has also been much in the national news recently. GCRRA members were sent an email alert on this project, urging members to take all steps necessary to oppose this affront to all that Grand Canyon stands for. In case you missed it, Save the Confluence is the organization currently leading the effort in opposition to Escalade. They can be contacted on the web at savetheconfluence.com. Please sign up for news updates on this website, sign the petition and read the "About" section for an overview of the opposition effort to date.

Canyon's future. Sam also contributed the lead article in our issue number 15, in which he explained clearly why getting the LTEMP right is so vitally important.



GCRRA's two biggest projects of the past couple of years are both fully implemented and we ask for your continued support.

The Wildlife Census Program has been very well received by the scientists who put up the first counting projects for the program. All that is required in order for you to participate is to keep notes while you are on your river trip. The forms can be downloaded from our website. The Census is ongoing, with all involved scientists interested in long-term input from river passengers. Remember that photographs are especially prized, so please include them when returning your forms to the scientists.

The Grand Canyon Trust has been fighting both these development proposals from the beginning. The Trust keeps a vigilant eye on the entire Colorado Plateau and offers well-proven solutions or solid opposition when warranted. You can read more about Escalade and Tusayan on the Trust's website at: <http://www.grandcanyontrust.org/news/2014/07/developments-doom-grand-canyon/>.

This is a graphic photograph taken in May of this year. It shows cut bank erosion, one of the most obvious effects of the fluctuating flows emanating from Glen Canyon Dam. That, and the many more insidious downstream effects of the dam could be mitigated and damage to the riparian ecosystem at least partially reversed, if the correct decisions are made in the LTEMP.

Unarguably the most critical issue facing Grand Canyon right now is the Glen Canyon Dam LTEMP EIS, or Long-Term Experimental and Management Plan (LTEMP) Environmental Impact Statement (EIS). When finalized, this plan will define how Glen Canyon Dam is operated for the next 15 to 20 years. From our lead article by Sam Jansen, former president of Grand Canyon River Guides, you will begin to understand why this is a critical step in Grand

There are many ways to get informed and to get involved, so don't think that your voice does not count. As a GCRRA member your interests will be represented by this organization, but you can also add your individual comments when the time comes. The best place to start is at the LTEMP website, <http://ltempeis.anl.gov/>, where you can find all the latest information, download documents related to the LTEMP EIS, and sign up for email notices. PLEASE - Sign up and let your voice be heard on this issue.

Finally, the Wounded Warrior river trip sponsored by GCRRA is moving forward with tremendous support from our members, military organizations and the public at large. It seems we all recognize a good cause when we see one, and so the contributions to date have already brought us more than a third of the way to our fund raising goal leading up to the August, 2015 river trip. We encourage all GCRRA members to share information about this trip with friends and businesses alike. Rarely are we given an opportunity to contribute knowing that every penny of our donation goes to the cause. This is such an opportunity. Visit our Wounded Warrior page for more information at: http://www.gcriverrunners.org/pdfs/Wounded_Warrior_Flyer.pdf

See you downstream!



"NANKOWEEP" © NATE LOPER

A Crack That Leads To The River

By Wayne Ranney

For some would-be river runners in Grand Canyon, a partial trip that begins or ends near Phantom Ranch is the only way that makes it possible. Various modern-day constraints whether parental, occupational, or financial may necessitate a half-journey on the mighty Colorado, which flows through the canyon for 225 miles without any vehicle access whatsoever. For the overworked, overbooked, or underpaid individuals who want to experience the grandeur and excitement of one of our planet's greatest natural spectacles, a half trip in the canyon is better than no trip at all. To put a kind of 'Wizard-of-Oz-spin' on it, these half-trippers get one thing that full-trippers do not get - a chance to walk from rim to river on a Grand Canyon trail! For me, it's as exciting as the run through the rapids and one that need not be as frightening. Believe me, it is not as horrible as it may at first seem. (Note that some half-trippers hike out from a river trip, while others hike in. This article is written from the perspective of hiking in toward the river).

Since most Grand Canyon river trips are taken between April and October, the shorter but exposed South Kaibab Trail is deemed too hot and dry as a proper choice. Besides, it is situated away from the convenience of Grand Canyon Village where the restaurants and hotels are located. That leaves what may be the most famous footpath in all of America, the Bright Angel Trail. This winding, dusty link between the outer and inner worlds of Grand Canyon is full of history, lore, scenery, and geology. It's that last bit I'd like to draw your attention to, since the trail owes its very existence to geologic events that transpired many millions of years ago. It's a story worth hearing since the primary purpose of your trip is to learn about the geology, right? Okay, maybe part of the reason. I'd be happy with, 'It's an added bonus I was not aware of.'

Some people might have misgivings about thoughts of hiking in or out of Grand

Canyon and for those who are not in the best of physical shape, there's no getting around it - it will be a hard trip, even if you are hiking down. But pay close attention to those rocks. They bear witness to the extreme dissection that the Colorado River accomplished in making this canyon so grand. You can think of the rocks as wise old friends that watch over you as you descend almost a mile down into Mother Earth, letting go to the ever-present lessons of endurance that these rocks whisper to you. You are bound to be impressed.



THE VIEW OF THE FAULT PLANE (LEFT) AS IT PROJECTS NORTH INTO THE CANYON AND ACROSS THE COLORADO RIVER TO BRIGHT ANGEL CANYON © WAYNE RANNEY

Beginning at just under 7,000 feet in elevation, trailhead mornings are cool and fresh even in summer. Start as early as you possibly can using a flashlight if necessary. Know that any trip here 270 million years ago would have found you in a warm, shallow sea teeming with all kinds of shelled animals,



THE ANGLED TRACE OF THE BRIGHT ANGEL TRAIL AT THE SECOND TUNNELL © WAYNE RANNEY

weird-looking sponges, and primitive sharks. Such is the evidence found in the Kaibab Limestone, Grand Canyon's rim rock extraordinaire. It's durable layers of limestone and silica-rich chert are what "hold up" the rocks below. Without the Kaibab Limestone, this place would just be an ordinary western valley filled with cattle and horses.

About three-fourths of a mile down the trail you arrive at the slightly misnamed Second Tunnel (a dynamited archway, with the First Tunnel located back up near the trailhead). This easily located feature is a place where you can see and touch evidence showing why the trail could be built here - the Bright Angel fault. This crack in the Earth's crust was last active between five and ten million years ago, when the region was stretched such that the rocks to the east of the archway were dropped 200 feet relative to the rocks on the west. It happened gradually, earthquake by ancient earthquake, displacing the rocks only a few inches or feet at a time, and occurring before the canyon was widened to its present profile. Later erosion exposed what is actually seen here.

As you enter the archway look to the left where you'll see the angled fault plane that breaks the rock layers. The fault places the Toroweap Formation on the left (east) next to the Coconino Sandstone on the right



SWITCHBACKS ON JACOB'S LADDER THROUGH THE REDWALL LIMESTONE © WAYNE RANNEY

(west). Also observe the solution cavities that formed adjacent to the fault, some of which are filled with small growths resembling



BRIGHT ANGEL TRAIL SCENE © WAYNE RANNEY

stalactites. These features formed when groundwater found the fault to be an easily traveled "highway." Faults often block or trap the lateral movement of subsurface water and many springs issue from along faults. Now turn around to face the canyon where the angled fault plane can also be touched. If you allow your gaze to extend outward into the thin air, you'll notice a long linear canyon cut way back into the North Rim. This is Bright Angel Canyon and it, too, owes its existence

to the Bright Angel fault (although, curiously, the fault was named for the canyon). The lesson here is that faults create lines of weakness in rocks, where groundwater is preferentially channeled ultimately causing side canyons to form along these weakened, linear zones. On this trail you will switchback nearly 100 times on your way to the river, crossing the Bright Angel fault numerous times.

The trail also uses the fault to pass through two cliff-forming layers that tend to be "deal-breakers" in the placement of any footpath. The first is the aforementioned Coconino Sandstone, a deposit laid down in a Sahara-like desert, with the other being the Redwall Limestone, the detritus left from a shallow sea. Since these layers form massive cliffs hundreds of feet high in the walls of the canyon, the Bright Angel Trail would not be possible were it not for the fault breaking them up. The Coconino section of trail is known simply as the White Switchbacks, with the Redwall section called Jacob's Ladder. Indian Garden Springs is the modern-day groundwater system that utilizes the fault and is located where the lush growth of cottonwood trees is found some 4.5 miles below the trailhead.

Arriving at Indian Garden is always a welcome break but it can be busy here on summer mornings. And since it is another 3.5 miles to the river at Pipe Creek (five more miles if you are meeting your group near Phantom Ranch), it's best to keep moving before it gets too hot in the canyon's deep interior. After leaving Indian Garden, you might be lulled into thinking that the steep

descent is over as the trail passes gently and gracefully through a narrow gorge with a couple of elfin-like waterfalls cut into the Tapeats Sandstone. This lovely layer of coarse beach sand is a favorite among canyoneers since it often forms shady ledges or cool, protective cliffs. When hikers arrive near the base of the Tapeats Sandstone, just a little more than one mile below Indian Garden, they enter the Inner Gorge of Grand Canyon, carved into the Vishnu Schist and Zoroaster Granite.

These resistant layers of crystalline rock are the oldest in the canyon and present one of the more significant obstacles on the Bright Angel Trail - the Devil's Corkscrew! Before 1935 when the trail received a major realignment more in tune with the stride of hikers than that of stock riders, the trail was one mile shorter and much steeper. The original Corkscrew was so steep that riders were forced to dismount and lead their mules on foot. Today it has nine or ten sinuous switchbacks that lead to the floor of Pipe Creek (dry). Sections of the old trail are faintly visible to the left as you descend, but



BRIGHT ANGEL FAULT THROUGH JACOB'S LADDER © WAYNE RANNEY

most folks are beginning to feel the effects of gravity on their lower extremities (thighs, knees, calves, ankles and feet). Oh, and if you are carrying a pack of any kind, your back and shoulders are likely starting to talk

(CONT. FROM PG. 5)

to you as well. I've found that most people are pretty satisfied with the geology they've already learned by this time, so I tend to keep any geo-lessons brief, offering only words of encouragement, "Only 1.5 miles from the bottom of the Devil's Corkscrew to the Colorado River!"



END OF TRAIL AT PIPE CREEK BEACH © WAYNE RANNEY

Arriving at the river gives a sense of accomplishment. Eight miles down the trail in the bottom of the Grand Canyon - wow! The river moves fast here so it is wise to resist the urge for a plunge. Remember that

the Colorado carved the canyon through a mile thick stack of solid rock, so it is nothing for it to sweep a tired hiker downstream in a nano-second. Hopefully, your pre-trip training has paid off and you are eager to see the canyon from along the river corridor. But as the Colorado takes you merrily downstream through the wonders of Grand Canyon, do not forget the Bright Angel fault that facilitated your arrival here. And try to remember all of the fantastic geology that you saw along the way.

Wayne Ranney took his first hike in Grand Canyon in 1972 and still works as a trail and river guide, leading people on geologically themed adventures with the Grand Canyon Field Institute (www.grandcanyon.org). He received his Bachelor's and Master's degrees from Northern Arizona University and is the author of numerous award-winning books, including "Carving Grand Canyon," "Ancient Landscapes of the Colorado Plateau," and "Sedona Through Time." He lives with his wife Helen in Flagstaff but they can often be found on a Grand Canyon trail. Follow him at: www.wayneranney.com and at: <http://earthly-musings.blogspot.com>.



THE DEVIL'S CORKSCREW © WAYNE RANNEY

Evolution of Grand Canyon Passengers - A Warped 45-year History

An Interview with Alan Fisk-Williams

My first river trip with guide Alan Fisk-Williams was in 2002. At that time, he was what some of his fellow AzRA boatmen called a 'celebrity guide,' living abroad and returning to guide on just one Grand Canyon trip per year. Even commuting from his teaching job on an American base in Germany could not keep him away from the river completely though. Now retired from teaching, Alan finds himself a full-time guide once more. I thought him a good choice for a quick interview about those early trips and how things have evolved. -Mari Carlos

A 14-year old would definitely remember if they left him hungry at the end of the day. What was your most memorable hike from that first trip?

We only did one hike - the Nankoweap granaries - and I just ran across an old photo of my sister leaning on the wall of one and my little brother crawling out of another. We can talk about resource conservation another time... The granaries had many original corn cobs inside, about the size of your thumb, but those were gone by my second trip in 1977.

And from Phantom Ranch you hiked out the Bright Angel Trail?

When we stopped at the boat beach we walked up to Phantom, where we spent the day in the old swimming pool there, diving for rocks. Dinner was gorp before we plopped ourselves down on the boat beach and slept in the sand until 2 a.m., when we got up and started our hike out. It turned out to be a pretty easy hike since we really didn't have to carry anything out at all because we didn't bring much of anything on the trip in the first place.

Once you became a professional guide, what was your perspective on the passenger experience?

I started my commercial guide life in 1974 out in California, moved up to Idaho in 1976, and then, a dream worth dropping out of college for, the Grand Canyon in 1978. We gave the passengers two old army surplus "black bags" for all their camp stuff and an ammo can for any gear they needed during the day.

I remember those black bags. They sure didn't hold much - about as much as a paper grocery bag.

In those days we didn't provide much of anything for our passengers. If they wanted a sleeping pad, they brought it and put it in the black bag. If they wanted a chair, they brought it and it went into their black bag. If they wanted a tent, they brought it and it had to fit in the black bag. If they wanted beer, they were allowed to bring 12 - one per night. If they brought the strong stuff, it was put in a plastic bottle and - you guessed it - into their black bag.

How was it running the river with these early prototypes of today's commercial passengers?

My gosh, our boats were light and maneuverable, and we would regularly go behind Randy's Rock and down the left at Bedrock because we could. The passengers loved the heightened sense of adventure, and we could pull into camp late because we just didn't have that much crap to deal with. Hikes to Hance's mine - now prohibited. Up Hakatai Canyon to Bass's mine - now prohibited. Playing on the south side of the Little Colorado River - now prohibited. We definitely turned that place into a playground and all our passengers were our willing accomplices. It helped that we traveled light and fast and ate simple meals.

"Less stuff" resonates a bit with me. It seems like the bags passed up and down the bag lines morning and night have definitely gotten heavier through the years. You really seem to long for the simplicity of those days.

I got to participate in a really special trip at the end of the season of '79. My friend Lou called and asked if I wanted to kayak the canyon - 16 days starting the NEXT day. You bet! So we went to the store and bought Raisin Bran cereal and powdered milk for EVERY breakfast, AkMak crackers, Swiss cheese and honey for EVERY lunch and rice and canned beans for every dinner. Simple. Off we went - three kayaks, two rafts and six dudes. With no women and no good food to look forward to - the two main motivators for

(CONT. PG. 8)



"DEER CREEK FALLS" © ROBIN HEGEMIER



"EPHEMERAL HYDROGRAPH" © JUDITH WARRINGTON



"CAMP" © DON PAULSON

(CONT. FROM PG. 7)

a 24-year old – all attention turned to the canyon. And we hiked our asses off since breakfast took five minutes and dinner not too much longer than that. So much looking, walking, climbing, pondering, and wondering --so easy to do with virtually no gear at all and no real reason to hang around camp.

That sounds idyllic, and you really make that trip sound so uncomplicated. So what are the biggest differences you see now between your passengers of 2014 vs. your passengers of several decades ago?

Fast forward to my last trip – just got off three days ago. Cooking was kind of a nightmare. We had the vegetarians – no problem there as I sort of get disgusted with myself for not being one. Naturally, the gluten-free passengers. Then there was the dairy free guy. There was the no cucumber guy. There was the no nitrates or nitrites gal. And the no fish people.....so we sort of had to pull into camp early so that we could prepare the four different unique dinners. Good to get in early anyway to help put up all those tents that the company provides now. So cozy with the big sleeping pads and thick sleeping bags that the company provides. Unload the three CPAP machines and associated batteries that one guide has to stay behind on all hikes to recharge during the day. In fact, lots of solar recharges for the batteries for the IPODS and the cameras. The hikes were sort of slow as people used the motor drive on their cameras to take THOUSANDS of pictures in the hopes of getting one good one. Actually hard to even get the hikes started as people fiddled with all their gear options – wet shoes or dry? Shorts or long pants? Filling the Camelbacks. Short sleeves or long? Rain suit? Really, more fiddling around than at a bluegrass concert, I swear.

All you have to do is look around REI to understand the urge we feel to bring ever more gear. But you make a good point. Perhaps we are missing a lot by being so acutely focused on covering every contingency. How would you sum it up?

So, besides identifying myself as an old, impatient curmudgeon of a guide, what lessons do we have here for the commercial passenger? It isn't really in your best interest to fill your waterproof bags to the brim, your day bag packed to capacity and then have to deal with it. Thoreau had it right when he said, "Simplify, simplify, simplify," except he used two too many "simplifies." In fact, more is more hassle, more organization, more to lose, more to break and more to never use during a trip. Maybe Mike Yard took it to extremes back in the seventies when he went on a trip with one pair of shorts and a buffalo robe. But he was on the right track. What do you really need on a river trip?

Long shorts, long sleeve shirt, hat and sturdy shoes for the day. A pair of dry shorts or pants and shirt for the evening. A journal to write and draw in. Twelve beers for a 12 day trip. Throw in a sarong for good measure and a rain jacket. Hot? Get wet. Cold? Keep your life jacket on. Simple.

Don't let all the stuff get in the way of you and your canyon experience. Leave the electronics at home. Make memories, don't try to record them.

Georgie White said in 1983, when she lost a passenger in that humongous hole in Crystal when it was running 94,000, "they don't make passengers the way they used to." I disagree. I see the same wonderful people coming on down the river with open hearts and eyes. It is just that now they carry so much more gear!

Thanks Alan. Simplification is the key.

Alan Fisk-Williams has worked for Wilderness World, Grand Canyon Expeditions and AzRA Discovery since 1977. He earned a Bachelor's degree in marine biology from UC Berkeley, and a Master's degree in Ecology from Northern Arizona University. He has taught school on American bases in Japan, Korea and Germany. He and his wife Dayna live in New Mexico.



Good Morning, Grand!

*Any morning on the Grand's
A grand Good Morning!
You rivulets, you tributaries*

*Rise, swell up, come together,
Release your sweet music!
Salsa our discombobulations*

*Get ready your swells
Your flagrant vitalities
Your powerful abilities*

*Rattle our fixtures
Unhook our discomfutures
Unscramble our attitudes*

*Light your signal beacons
Sing your day and night chants
Let all our voices loose*

*In praise of water holes
and every sprig and spring.
We're launching your way!*

Greg Hobbs



"IN THE TAILS OF SERPENTINE" COURTESY OF JAN TAYLOR



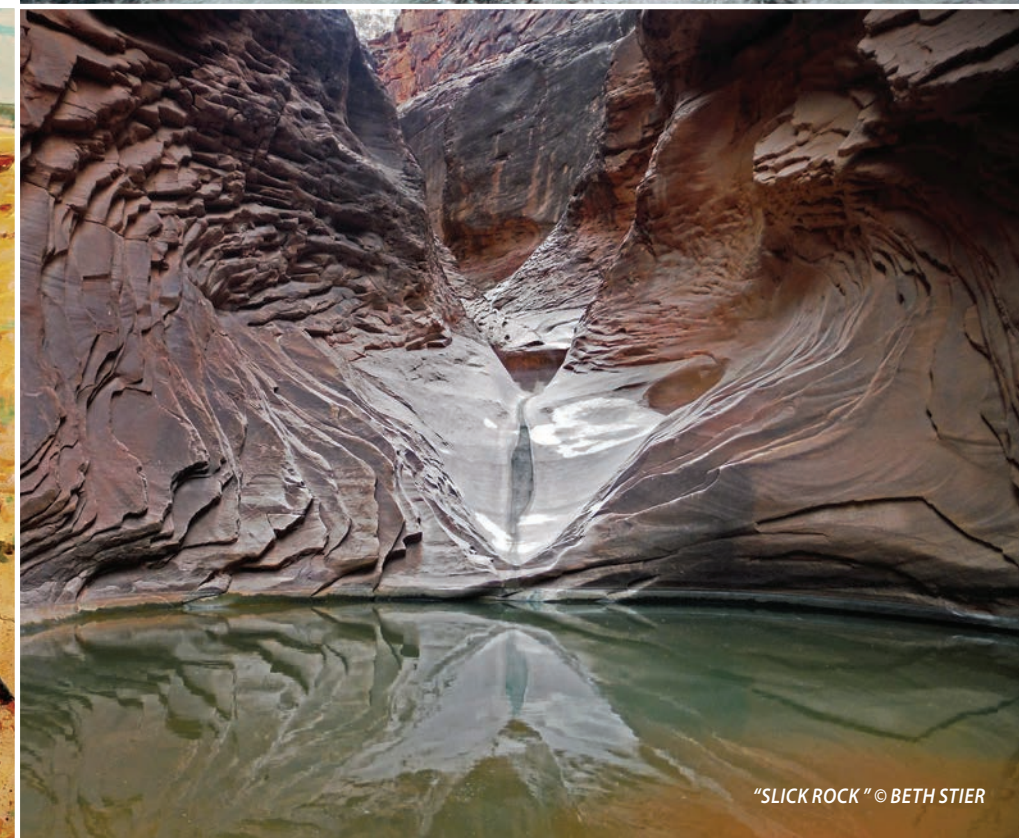
"YOUNG SWAMPER TAKES A HIT" © BILL WOOLAM

In 1927 Clyde Eddy sent the following note to the collegians who would comprise his crew for their successful run down the length of Grand Canyon:

"Concerning clothes. Take a complete change of clothing. You will be wet a good part of every day and will need dry clothes to put on in the evening. Full length trousers probably will be best to wear during the day and special wading shoes will be found good and serviceable. Khaki laced reinforced breeches, to be worn with leggings are suitable for wear in the evening and on days when we explore the side canyons or climb up to the rim. You need not adhere strictly to the clothing list that I sent you but be certain that you provide a complete change, and that you have a pair of shoes for river work and another for climbing out. Mocassins or soft shoes may be included." (From Clyde Eddy's papers, the Otis "Dock" Marston Collection, Box 57, Folder 3, The Huntington Library.)



"NAVAJO BRIDGE" © KRISTIN MARKHAM



"SLICK ROCK" © BETH STIER



HIKERS MOVE ALONG THE BRIGHT ANGEL TRAIL SHORTLY AFTER DAWN, AS SEEN HERE AROUND A MILE DOWN FROM THE RIM. © SETH MULLER

GARDEN CREEK AT INDIAN GARDEN, LOCATED A FEW HUNDRED FEET WEST OF THE BRIGHT ANGEL TRAIL, ADDS TO THE LUSH FEEL OF THE LOCALE AND OFFERS A CHANCE FOR A SUMMERTIME SPLASH TO COOL OFF DURING A HIKE. © SETH MULLER

ANGEL ASCENDING BASKING IN THE WONDER OF THE GRAND CANYON'S GREAT BRIGHT ANGEL TRAIL

By Seth Muller

Over the years, both commercial and private Grand Canyon river trips have evolved to present three itineraries—an upper river trip, a lower river trip and full-length journey that takes people from Lees Ferry to Diamond Creek. Sometimes the pressures of time and money draw people into traveling only half the river. For those that do a half-trip, they often forget the one big challenge of not running the whole thing: lower-river runners must hike to the river and upper-river runners must hike out.

The river trip is the gem adventure of the Grand. So, people might only see the hike-ins and hike-outs as inconveniences—or some people might even dread them. But the ones who get to put boots on the ground *and* dip a paddle in the river are getting to understand the Grand Canyon's two great realms. And the main route out from Phantom Ranch on the Bright Angel Trail presents a monumental hiking experience on a world-class trail.

Following the route from the bottom up, the journey begins by walking west from Phantom Ranch and crossing what's known as the Silver Bridge. Constructed in 1970, this bridge's primary purpose is to bring the Grand Canyon's water pipeline over the river from its source at Roaring Springs up to the South Rim. The route reaches the other side to the Colorado River Trail—usually known only as the River Trail. This path exists as an incredible feat of trail-building by the Civilian Conservation Corps. Its members blasted much of the trail out of the Vishnu Schist and Zoroaster Granite.

For a mile-and-a-half after the river crossing, the River Trail follows the river to the Pipe Creek Canyon. Here, at the confluence

of Pipe Creek and the Colorado River, the Bright Angel Trail starts its eight-mile ascent. The trail winds about a mile up this gorge until it reaches the first big climb hikers encounter: The Devil's Corkscrew. So, it's the Devil's Corkscrew on the Bright Angel Trail—which sounds like the title of a country song.

Ascending this section offers hikers their first chance to put in some serious work, to begin clear work on the ascent from Phantom Ranch to the South Rim. Eight major switchbacks carry the trail from the bottom of Pipe Creek Canyon. The canyon floor serves as the point of liftoff. Progress is measured by how thin the trail running through Pipe Creek becomes. Water bars and stabilizers create small steps along the switchbacks and add to the challenge of the climb.

The corkscrew represents a little more than half of the 1,800-foot elevation gain from the river to Indian Garden. A half-mile of level hiking from there moves through an intimate and serene little canyon through which Garden Creek flows and—after four miles and change—the trail reaches Indian Garden.

Into the garden

Few places along a Grand Canyon trail can draw people into a perfect lull the way Indian Garden does. Towering walls of Redwall Limestone and the rock layers stacked above them cradle this halfway place between top and bottom. Cottonwood trees shade the campground, the picnic tables for day visitors, the mule corrals, and the small buildings that dot this oasis. In the understory, all manner of small trees and shrubs, even patches of grass, create a lush and

pastoral realm. This Eden-like spot is home to mule deer, canyon wrens, summertime hummingbirds, Grand Canyon rattlesnakes, and desert bighorn that climb down into the Garden for a drink.

To the west of the developed area Garden Creek emerges from springs. It runs a few inches deep and five feet across as it heads down-canyon. A small dam of stacked rocks holds back the creek, forming a two-foot-deep soaking pool. On the other side of the creek, the Plateau Point Trail picks up and heads a mile and a half to the edge of the Tonto Platform. Another trail breaks from the Plateau Point Trail, the west Tonto Trail. The East Tonto trail connects with Bright Angel a few hundred yards south of Indian Garden.

For day hikers going down to or coming up from the river, Indian Garden is a perfect layover spot. On a hot day, it is best to hunker down at Indian Garden in the shade and near drinking water available at spigots and soaking water at the creek. A small ranger house near the trail bathrooms offers books and card games to check out and help pass the time. The long rest here offers a chance for ascending hikers to relax before the big climb to the top—and descending hikers time to rest their jarred knees.

Punishment, reward

For exiting river-trip passengers, the upper section of the Bright Angel serves as both a punishment and a reward. The work against gravity, step after step, mile after mile, with the rim looming above and only getting fractionally closer with each step, brings pain. It is 4.5 miles up from Indian Garden and is 3,060 feet in elevation gain. Two resthouses at the three-mile and 1.5 mile markers on the Bright Angel Trail offer great places to break and get water in the summer months.

With this climb, even healthy people feel it in their leg muscles, in the creak of joints and the work of the heart and the lungs. Climbing out of the Grand Canyon—against the grade—to an elevation that well exceeds a mile above sea level, can be a torment. Only by selecting a comfortable pace, where one can breathe and talk and stay upright, does the hike out not resemble torture.

The great reward arrives with the end of the journey. "I would say most people's reactions are a sense of accomplishment, when we talk about people doing this endeavor for the first time," notes Wayne Ranney, who has guided many rim-to-rim hikes. "Their greatest emotive response is they can't believe they did it. . . . They are very jazzed when they get to the top of the Bright Angel Trail. I have pictures of people at the top, and their smiles are as big as the canyon. The next thing is they are so glad they got to see it from the bottom and understand in a real way what it looks like from the bottom."

With the sense of accomplishment aside, there remains the pure wonder of the natural scenery along the trail. "I had an opportunity to hike the Bright Angel Trail when the trail was closed because of a landslide," explains canyon historian Mike Anderson. "Hiking it all on my own, I was struck by how that is the most beautiful trail corridor in the whole park. Why it struck me so forcibly then was because I had never been able to concentrate on it. There are always a million-and-a-half people on it . . . When I could just take in the views and hike down to Indian Garden and be at Indian Garden with no one else there, it was such a lovely, lovely trail corridor to be hiking on."

On most days and in most people's experiences, the visitors

along the Bright Angel Trail in the upper section become a part of the experience. The true number of people who set foot on the Bright Angel Trail cannot be measured. The National Park Service is able to keep statistics on the number of backpackers who camp, the number of guests at Phantom Ranch, and the number of people who depart from or meet up with a river trip. But no one knows for certain how many people step on the trail, if only to walk for five minutes in order to say they hiked the Grand Canyon.

For this reason, the top mile of the Bright Angel Trail turns into a parade of humanity. The parade features people from all over the world, speaking multiple languages—from Mandarin to German to Arabic. Those speaking English have multiple accents and dialects: British, Scottish and Irish; Boston accents, New Jersey accents, southern accents, and Midwestern accents among them. Some of the day hikers make it as far down as two or three miles, drawn into the canyon in search of more scenery.

River trippers topping out at the South Rim—after the remote adventure through the heart of the Grand Canyon—will walk into the busiest place in this national park. But this is a chance to understand that the Grand Canyon is a natural wonder that attracts people from all across the globe by the millions to bask in its wonder and connect to its beauty.

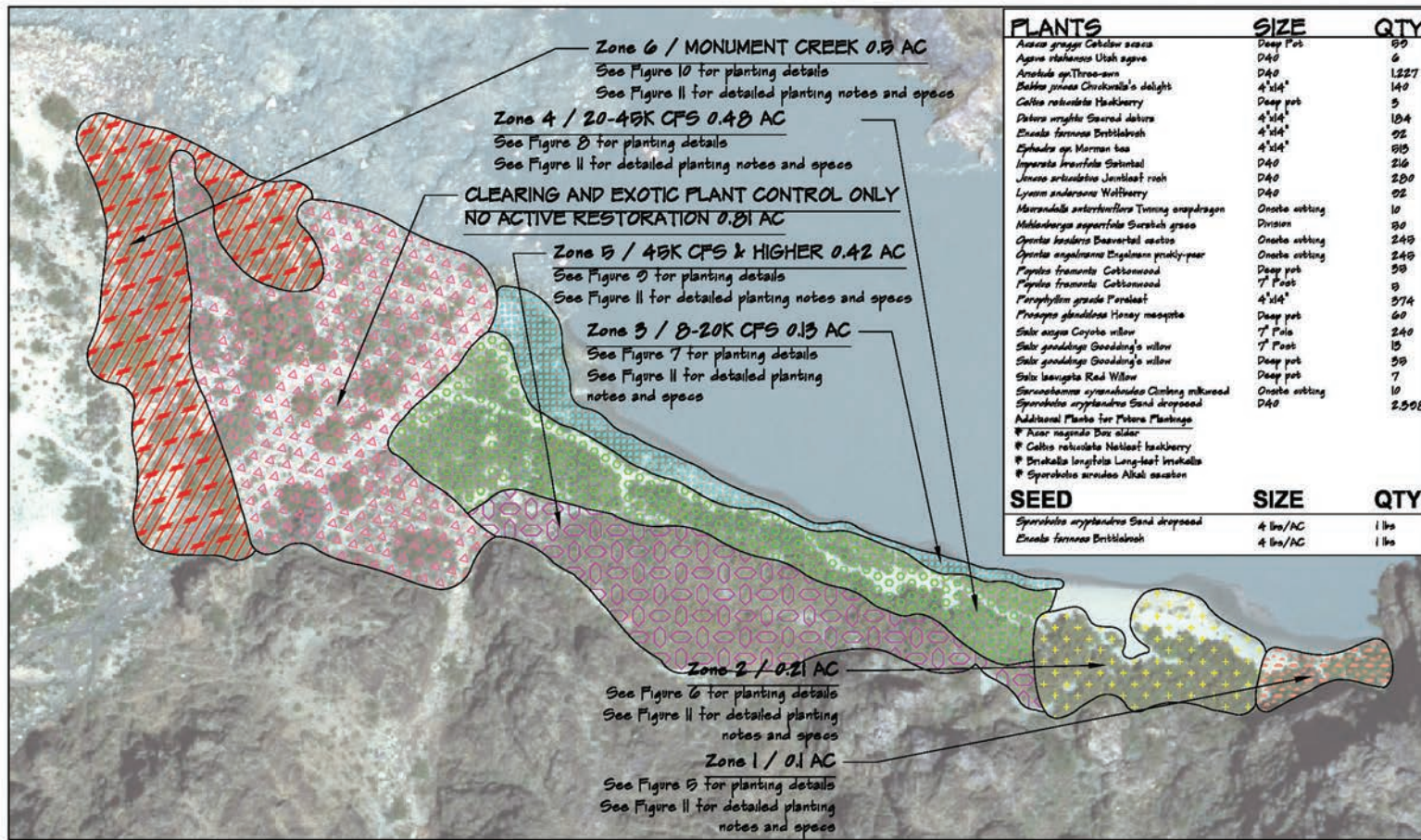
Seth Muller is the author of Canyon Crossing: Stories from Grand Canyon Rim to Rim, which is a book about the history, places, and experiences of the Corridor Trails. He also has a canyon poetry book, Heart in the Bony Middle. Learn more at www.sethmuller.com. He lives in Flagstaff, Arizona.



THE VIEW OF THE GRAND CANYON NORTH FROM INDIAN GARDEN. A BREAK AT INDIAN GARDEN DURING THE HIKE UP IS A CHANCE TO ENJOY SHADE, VIEWS AND A CHANCE TO BASK IN THE CANYON'S WONDERS BEFORE THE FINAL LEG OF THE BIG ASCENT. © SETH MULLER

How Do You Water Granite? Answer: With a Bucket

By Mari Carlos



GRANITE CAMP REHABILITATION PROJECT

Designed By: FPC/NPS
Drawn By: FPC

90% PLANTING PLAN

Figure 4
Date 1/28/13



Many of us commercial boaters know Granite, having either lunched or camped there. The camp lies just above Granite Rapids on the left, and most of us know it primarily for the anxiety produced by its proximity to the rapid.

According to the Grand Canyon National Park website, Granite "is a very popular area for backcountry and river users, but like many areas within the Colorado River corridor it has been adversely impacted by operations of Glen Canyon Dam, high recreational use, and the introduction of non-native plant species, particularly tamarisk." (See <http://www.nps.gov/grca/naturescience/granite.htm>) In March, 2013, I first heard Melissa McMaster, a Grand Canyon National Park plant biologist, describing an ambitious revegetation project taking place at Granite Camp. Partnering with Fred Phillips Consulting, a Flagstaff-based ecological restoration specialist, in 2012 the revegetation team completed a site assessment and design plan for the project.

In November and December of that year, groups of volunteers backpacked down to the camp and began removing non-native tamarisk from the site. In all, over 700 trees were removed in those first two trips using only hand tools in keeping with wilderness management guidelines. The pervasive tamarisk was the primary impediment to successful revegetation of the area, so teams returned again in February and March, 2013, to remove any remaining trees and saplings, and even the smallest tammies hiding in the ground cover. According to McMaster, "The total number of tamarisk removed from the camp was 1,667!" Planting began in February.

McMaster described the collection of key tree poles and coyote willow poles for the first plantings as follows: "We launched on a 16 day river trip in early February with five boatmen from Canyon Explorations to continue collecting willow and cottonwood poles and then plant everything at Granite Camp. We collected cottonwood poles from Nankoweap Creek and Kwagunt Canyon and Goodding's

willow poles along the river from just below Basalt to right above Unkar. Then we made a quick stop at Phantom Ranch to pick up our coyote willow from a couple of weeks before, ran Horn Creek and parked it at Granite Camp for six days.

The cottonwood and Goodding's willow "poles" were just that: healthy branches of a similar diameter, cut from dormant trees to seven foot lengths and stripped of their small branches and leaves, leaving only a long pole for planting downstream. Bundled together in burlap and soaked for days in the river or tributaries, the cottonwood, coyote willow and Goodding's willow poles had absorbed enough water to give them a headstart in the sandy soils of Granite Camp. Other trees planted that February included hackberry, 45 mesquites and 35 acacias.

In their March backpack down to Granite the team began planting numerous low-growing natives throughout the camp. Datura, brittlebush, chuckwalla's delight, Mormon tea and wolfberry were dug into nursery nests. Grasses and rushes were placed around



COMMERCIAL TRIP CREW AND PASSENGERS WATERING GRANITE © MARI CARLOS

the site as well, and more diverse plantings lay ahead.

The 12-mile backpack presented a logistical challenge for the team so intent on giving the new plantings a healthy start. Weekly waterings were needed, but finding enough volunteer backpackers would have been impossible. Instead McMaster coordinated an outreach to the river community. Every day of the year river trips pass Granite, so why not tap into that wealth of Canyon stewardship?

I was scheduled to participate in the AzRA Natural History Discovery trip just weeks after Melissa McMaster spoke about the revegetation project at the 2013 Guides Training Seminar. To me it seemed a good fit, so I emailed the trip leader. Jack Nichols knew of the project and immediately embraced the chance to participate. I

emailed Melissa with our date of arrival at Granite, and she put us on the watering schedule.

Her communications back to me included all the logistical information we needed, such as location of the watering cans, buckets and anything else we might need to complete the task. She meticulously described the location of the plants in relation to camp landmarks, and described bamboo 'funnels' that aided watering for some. She informed us that many of the plants were in wire cages to discourage the beaver who live just across the river. We were warned that some of the new plantings were in deceptive locations and that we would have to look hard to find them.

When the day came we were 17 folks eager to water the garden. Melissa was right about some of the plantings being well hidden, but we think we found them all. We also noted the cages around the coyote willow on the banks, and around many of the other plantings around the entire site, exactly as described by Melissa. One of the best rewards of lugging buckets of water around on a very warm day was to find that most of the poles were leafing out. The shrubs all appeared to be doing well also. The promise of a mature garden not too many years down the road was easy to visualize.

2014 Update: Many of the original plants are thriving, although there have been setbacks as well. With lessons learned, new grasses, trees and shrubs have been brought to Granite Camp and are now part of the weekly watering regimen. If your river trip has the opportunity to stop, you will be amazed at the extent of the garden that has replaced the former tamarisk jungle. And if your inner canyon steward calls out to you, get your trip on Melissa's list to do a watering stop!

Researched using materials provided by Melissa McMaster, the National Park Service and Fred Phillips Consulting. For additional information on the site assessment and planning, please go to: http://www.fredphillipsconsulting.com/projects/granite_camp.htm



BJ JAMES OF WAUKESHA, WISCONSIN, HELPING TO WATER GRANITE © MARI CARLOS



PHOTOS COURTESY OF FRED PHILLIPS CONSULTING

Great Blue Heron, Grand Canyon, 2014

By Olivia Hefler Bantz



Great Blue Heron floats on the still warm air alongside our raft. We, on the still waters as we push away from Lee's Ferry; Heron, on the still air. A great adventure begins. Up a lazy river...

Great Blue Heron leads the way downriver, turns and checks our path, turns again downriver. We float on the green chill water, so clear the rocky bottom is close. We say hello to new friends, adjust our positions, all in anticipation of the adventure.

A beaver, only eyes visible, swims silently along the shoreline. Bighorn sheep graze in peace, a few lambs bound among the rocks on shore. Tamarisk salt-cedar dot the small beaches, not native but determined to root there. Pink touches show their bloom.

House Rock, Roaring 20's, rapids excite the blood, awaken joy and energy. We are alive, yes, so alive.

Great Blue Heron leads us past ever higher hills, river elevation lowering, of Marble Canyon sandstone and a verdant rock spring

flowing down summer green Vasey's Paradise to Redwall Cavern where we set foot on soft fine sand in the needed deep shade of plain curved stone. Quiet, we assemble then walk our own way in the silent huge space.

Split twig animal shapes found in ancient people's caves, closed now. Native American Richard is the modern 'respect' for a rocky tower and the Bridge of Sighs reminds of other places and times. Tawahatso's sand and rock beach comes soon and ends our first river adventure day.

But fun begins with introductions and Lucky remembers us all. Alex, Stephen, Parker. One plate, one fork, one spoon and one bag presages our evening meal, steak for hearty souls and bodies. Deep in the canyon, sun sets early. We find our places, settle into our cots and watch the stars brighten. ISS moves through Big Dipper, the earth revolves and the stars seem to move across the sky, brighter and brighter into the darkest of night, third layer revealing itself as we cannot sleep for all its beauty.

Day 2 - By the dawn's early light, grey light, 4:30, Lucky, Larry, Dave and groover. Cowboy coffee's ready at 5AM. Conch shell horn announces the new day's adventure. Ringtails go home, the nocturne over, lizards, red ants, birds awaken. Sleeping bags slither with dressing bodies.

Great Blue Heron awakens hungry. River level is lower overnight; upstream Glen Canyon dam releases water, drives turbines, electricity for a different world from ours now. We quickly love our day-night rhythm, refreshed.

Great Blue Heron leads the way downriver, turns and checks our path, turns again downriver. We float on the green chill water, still clear though rocky bottom is farther deeper now.

A cave beckons, abandoned from a bad scheme to dam the river. Blessedly the river flows on and on. Time, generations, almost eons, we climb to granaries from civilizations past that exist no longer yet preserved their precious seeds for later times. Over scabble

and scree, boulders and branches, roots and rocks, we climb, rewarded by history and view. Magnificent! Onward we go. Hiking along soft blue glacial milk, rock flour, silt flour of quartz and feldspar. Laughing we ride the soft blue warmer Little Colorado River, each on our back, over rocks and pools, feeling clean and free, refreshed.

The wind picks up and we camp among windy willows. Sand and silt blow, we seek shelter and wait until the earth begins its sundown cooling for relief. It comes. We sleep, awakening often to see the immense universe of stars which we touch by heart not by hand. Our view is different tonight, smaller with the canyon walls closer. What else is out there?

Day 3 - By the dawn's early light, grey light, 4:30, Lucky, Larry, Dave and groover. Cowboy coffee's ready at 5AM. Conch shell horn announces the new day's adventure. Energy within moves us.

Great Blue Heron companion again leads the way downriver, turns and checks our path, turns again downriver. We follow, floating on the green chill water, less clear, colorful in its morning reflection of towering canyon walls.

Unkar Delta, once populous and busy, is silent now, holding its history. We pass through Conquistador Aisle, the long straight stretch. Fins of stone, fluted and worn by eons of river passing by hide walks and waterfalls but we find them. Rapids of joy and fun and cold water fill the afternoon, Nevills, Hance, Sockdolager, then a floating hot break along Phantom Ranch, then energy mounts for Granite, Hermit, Crystal, Tuna Creek and the gems. Three shoes are lost, three shoes returned. Alex writes acronym for Agate, Sapphire, Turquoise, Emerald, Ruby and, no one guesses, Serpentine.

Before each rapid the air seems to still and warm, the river seems to disappear and our excitement heightens. We approach in calm and drop over the edge, crashing down and flying high, wave after wave, into the V of the rapids. Water, cold water crashes over the pontoons, we laugh and hold tight. Then it stills again, we've made it, adrenalin rushing though us. Camp conversation on the beach recounts the day. Our canyon walls are even closer tonight and the river roars nearby. The Great Blue Heron slumbers as do we.

Day 4 - By the dawn's early light, grey light, 4:30, Lucky, Larry, Dave and groover. Cowboy coffee's ready at 5AM. Conch shell horn announces the new day's adventure. Energy and excitement within awaken us to new adventures. We are comfortable now with our cots and sand.

We follow the Great Blue Heron until we tie up and hike to Elves Chasm. Shower waterfall is welcome. Are we kidding ourselves that the waterfall water has less sand and silt than the river - nevertheless we feel cleaner. We frolic and play, take many photos, enjoy welcome shade, rare on the river. We glide on and on, watch peregrine soar and dive. Watch sheep graze. Slot canyon walk at lunch, a few rapids, the day grows very very hot. We pull up on a beach and put chairs in the chill river water to cool us. Cocktails in the water, our only good choice. Black devil ravens hunt in our bags for shiny things. Huge boulders frame our beach room and retain heat well into the night. Heat-tired, we fall asleep slowly fascinated by stars and see the ISS again, moving with determination. Finally the evening cools and we slumber.

Day 5 - By the dawn's early light, grey light, 4:30, Lucky, Larry, Dave and groover. Cowboy coffee's ready at 5AM. Conch shell horn announces the new day's adventure. We drag ourselves awake. Fun is ahead, again.

Where is the Great Blue Heron? He comes later, he comes. We float through Granite Narrows, The River Runs Through It, wash in windy waterfall at Deer Creek Falls, admire barefoot Inga's dress and hat, wonder why the others never chat. To our private party the world has arrived so we leave a crowded raft parking beach - glad to be away and on our own again. Stories, history, geology - it is all here and alive. Vishnu Schist, Shorty Burton, Randy's Rock. Granite Narrows, Granite Gorge, Granite rapid, Kanab Creek, we camp at Upper Ledges, hot rock shelf makes dormitory sleeping all in a row. Surprise, hot night with ice cream! Perfection in food.

Day 6 - By the dawn's early light, grey light, 4:30, Lucky, Larry, Dave and groover. Cowboy coffee's ready at 5AM. Conch shell horn announces the new day's adventure. Appreciating the cool morning, comfortable in our sandy skins, we expect the day's heat soon.

Havasas Falls, glacial milk, a rugged hike to the beautiful pools. We rest, swim, walk on, love the cool of water and air. We float on, walk the slot canyon of centuries to Fern Glen and welcome the shade. No, we don't want to go back into the hot hot sun, the relentless hot sun - but we do. Lucky warns no boarding until you are all wet; we dutifully and happily dunk in the chill river. We cruise Vulcan's Anvil basalt plug signaling the ancient lava flows and dams that blocked the river's flow. On past black rocks and lava spaghetti forms, fanned as they cooled.

On to Lava Falls, the big daddy rapid, braced and ready, we await. We approach in calm and drop over the edge, crashing down and flying high, into the V of the rapids. Water, cold water crashes over the pontoons, we laugh and hold tight. Then it stills again, we've made it, less drama than expected. Victory is ours again.

The Great Blue Heron glides by to bid farewell. The ringtails await their nocturnal ventures.

Our camp in the huge hot rocks, our final night, is special. We wash in the silty chill green river, slipping on the slick rocks at shore where we stay as the current is fast. We are not clean, but clean enough. Formal, trip leader and crew in black tie, Lucky, Alex, Stephen and Parker - and shorts, of course, - we, all smiling, in all manner of costume or not. Dinner's delicious. Music, stories, laughter and a late night. We sleep but fight it wanting to remember the depth of the stars, the clear sky, the night quiet, the warm and fresh air. We do not want it to end.

Day 7 - By the dawn's early light, grey light, 4:30, Lucky, Larry, Dave and groover. Cowboy coffee's ready at 5AM. Conch shell horn announces the new day, sad day as the adventure is almost over. Larry's frog hops away; we awaken and slither into sandy silty clothes. The final bucket brigade 'fire line' loads the rafts; we are good at it now, but it is over. Hugs and fond farewells and we begin the trek back to real life. Or was this real life and the other, our next week, just an illusion.

Good bye, Great Blue Heron. Until we meet again ...



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