THE GRAND CANYON
river runner

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PHOTO @ CATHARINE COOPER

In this Issue

A Cathedral Under Siege

Two Development Projects Threaten the Grand Canyon

By KEVIN FEDARKO

When I worked as a white-water guide at the bottom of the Grand Canyon, I was often struck by how many passengers concluded their odyssey through the most iconic landscape in the United States by invoking the very same epiphany. At the end of each two-week, 277-mile journey down the Colorado River, someone would often come up to me and declare that the canyon was "America's cathedral — a church without a roof."

That image never failed to strike me with the indelible force of poetry and truth, because if there is a space of worship in this country that qualifies as both national and natural, surely it is the Grand Canyon.

Unfortunately, this idea of a tabernacle that is marvelously open, but also precariously vulnerable, is also a useful metaphor to capture what is unfolding this summer as the canyon's custodians confront a challenge that some are calling one of the most serious threats in the 95-year history of Grand Canyon National Park.

To be precise, there is not one menace but two. And many of the people who know this place best find it almost impossible to decide which is worse, given that both would desecrate one of the country's most beloved wilderness shrines.

On the South Rim plateau, less than two miles from the park's entrance, the gateway community of Tusayan, a town just a few blocks long, has approved plans to construct 2,200 homes and three million square feet of commercial space that will include shops and hotels, a spa and a dude ranch.

Among its many demands, the development requires water, and tapping new wells would deplete the aquifer that drives many of the springs deep inside the canyon – delicate oases with names like Elves Chasm and Mystic Spring. These pockets of life, tucked amid a searing expanse of bare rock, are among the park's most exquisite gems.

It's a terrible plan, but an even deeper affront resides in the story of how the project came about.

In the early 1990s, the Stilo Group, based in Italy, began buying up private parcels inside the Kaibab National Forest, which is adjacent to the park.

The group recently worked in partnership with Tusayan business owners to incorporate the town, and then to secure a majority of seats on the town council and control over local zoning.

It was a smart and effective strategy. But it also transferred to a small group of investors the power to irreparably harm the crown jewel of America's park system.

Perhaps the only thing more dismaying is that the second threat is even worse.

Less than 25 miles to the northeast of Tusayan, Navajo leaders are working with developers from Scottsdale to construct a 1.4-mile tramway that would descend about 3,200 feet directly into the heart of the canyon. They call it Grand Canyon Escalade.

The cable system would take more than 4,000 visitors a day in eight-person gondolas to a spot on the floor of the canyon known as the Confluence, where the turquoise waters of the Little Colorado River merge with the emerald green current of the Colorado. The area, which is sacred to many in the Hopi and Zuni tribes, as well as Navajo people, would feature an elevated walkway, a restaurant and an amphitheater.

Opposition, which is furious, includes a group of Navajos who accuse the developers of tricking fellow tribesmen into supporting the project with misleading presentations. While the developers argue that the entire project would lie within the reservation, the park service suggests that it might intrude into the park and would not be allowed. Whichever is the case, the project would be a travesty.

The park's superintendent, David Uberuaga, who says he spends a majority of his time battling developers and other threats to the park, says the proposal represents "a real and permanent" danger because it "will change the landscape for all future visitors."

The driving force behind this is a developer and political consultant from Scottsdale, Ariz., R. Lamar Whitmer. He argues that the tramway will improve the canyon because the park service offers its visitors nothing more than "a drive-by wilderness experience."

"The average person can't ride a mule to the bottom of the canyon," Mr. Whitmer recently told The Los Angeles Times. "We want them to feel the canyon from the bottom."

That statement is wrong on so many levels that it's hard to know where to begin. But a good place to start is with the fact that Mr. Whitmer is conjuring a solution to a problem that doesn't exist.

"We have multiple ways for people of all ability levels to experience the canyon, whether it's taking a slow trip on the river, riding one of the burros, hiking the trails, or even flights or helicopters," said Bob Irvin, president of the conservation group American Rivers. "But if we start building gondolas and other forms of development, we lose much of what makes the Grand Canyon so special. It would be a devastation, a sacrilege, to build that structure there."

That word, sacrilege, may sound a bit overblown – but only to the ear of someone who has never been afforded the chance to grasp, firsthand, what makes this place so utterly unique, a landscape without antecedent or analog.

Although it is not the first, nor the largest, nor the most popular of America's national parks, the Grand Canyon is nevertheless regarded as the touchstone and the centerpiece of the entire system. And rightly so. Because nowhere else has nature provided a more graphic display of its titanic indifference to the works and aspirations of man.

The walls of the abyss comprise at least 20 separate layers of stone that penetrate more than a mile beneath the rim. The bloodlines of that rock extend 17 million centuries into the past – more than a third of the planet's life span, and about one-tenth the age of the universe itself.

Beneath those towering ramparts of unimaginably ancient rock, visitors are reminded that regardless of how impressive our achievements may seem, we are tiny and irrelevant in relation to the forces that have shaped the cosmos, and that we would thus do well to live humbly, and with a sense of balance.

That message may carry a special relevance to us as Americans, if only because we tend to be so impressed with our own noise. The canyon has things to say that we need to hear. It should therefore stand as axiomatic that the insights imparted by a journey into the abyss would be radically diminished, if not entirely negated, by making the trip inside a gondola.

In essence, what Mr. Whitmer's plan would amount to is the annulment of a space whose value resides not in its accessibility to the masses, but precisely the reverse. It is a violation of the very thing that makes the space holy.

Buried within the Tusayan and tramway proposals is the belief that a tiny circle of entrepreneurs has the right to profit at the expense of everyone else by destroying a piece of the commonwealth – a landscape that is the birthright and the responsibility of every American.

That principle was first laid down by Teddy Roosevelt in 1903, when he delivered a speech on the South Rim of the canyon.

"I want to ask you to do one thing in connection with it, in your own interest and in the interest of the country – keep this great wonder of nature as it now is," Roosevelt declared. "I hope you will not have a building of any kind, not a summer cottage, a hotel, or anything else, to mar the

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Well said, Teddy!

"In the Grand Canyon, Arizona has a natural wonder which is in kind absolutely unparalleled throughout the rest of the world. I want to ask you to keep this great wonder of nature as it now is. I hope you will not have a building of any kind, not a summer cottage, a hotel or anything else, to mar the wonderful grandeur, the sublimity, the great loneliness and beauty of the canyon. Leave it as it is. You cannot improve on it. The ages have been at work on it, and man can only mar it."

– Theodore Roosevelt

Theodore Roosevelt spoke those words over a century ago, demonstrating his acute perception of nature and man's profound need to protect wild places. We just need to keep reminding each other that his words still hold meaning for us in the 21st century. And oh, how those words portend the constant vigilance required.

Grand Canyon is more than just a geolocation defined by its legal boundaries. It is the cool scentscape of pinon and pine forests on the rims, the arid landscapes at the bottom, and all the varied and self-contained ecosystems tucked into cliffs and clefts, seeps and springs, flowing creeks and new rockslides from top to bottom. It is the river that connects the north to south. It is profound silence, stillness, solitude and grace. It is the sum of all of these things and more, things that we struggle to define as we gaze upon the Canyon's vastness, incapable of comprehending its pristine complexity.

While for many of us it is nearly impossible to describe what we see and feel that so moves us, virtually all of us can say what is antithetical to the Canyon. We know intuitively what does not belong. We know that a gondola should never descend on steel supports blasted into the stunningly beautiful cliffs above the Colorado River and its sacred blue tributary, the Little Colorado. We know that a restaurant and souvenir shop and public restrooms at the Confluence would insult the wilderness and the holiness of the place. We know, quite simply, that this would be deeply, devastatingly wrong.

"It is also vandalism wantonly to destroy or to permit the destruction of what is beautiful in nature, whether it be a cliff, a forest, or a species of mammal or bird…" –Theodore Roosevelt

As odious, as deplorable as it would be, a small group of developers has decided that humankind must be able to ride a gondola to the bottom of Grand Canyon. What will our children and grandchildren say about us if we turn away and do nothing, say nothing? Will they weep when they see the scars marring millions of years of our earth's memory? Or when they see the thousands descending daily to a misplaced arcade in full view of the ageless guardians of The Confluence?

"We have fallen heirs to the most glorious heritage a people ever received, and each one must do his part if we wish to show that the nation is worthy of its good fortune." –Theodore Roosevelt

"…And each one must do his part…"
Stay vigilant, and speak loudly and often.

–Mari Carlos
President, GCRRA

Reflections on the Future of Grand Canyon

Larry Stevens

The following is largely taken from the preface to the 2013 edition of my river guide, augmented with thoughts about the upcoming Glen Canyon Dam EIS.

The gates of Glen Canyon Dam closed 51 years ago, and 31 years have flowed under the Black Bridge at Phantom Ranch since I published the first edition of my river guide. Revered by Nature pilgrims, and famously over-allocated, the Colorado River in Grand Canyon is now the most carefully studied large, constrained river in the world.

COLORADO RIVER DOWNSTREAM FROM MILE 53 SEPTEMBER 2008 © LARRY STEVENS

Although 51 years would seem enough time for the river to have adjusted to the dam, and for us to understand dam impacts, that is simply not the case. We continue to learn about the importance of past events, and those of us watching are routinely surprised by the river's changes. Although it is socio-hydrologically shackled and pasted up with a baffling array of political abbreviations, the river ecosystem remains an enormous mystery, a living, changing, multidimensional masterpiece of nature.

The first edition of my river guide in 1983 emerged during a time of foment in river management. Lake Powell finally filled in 1980. Under the heat of mounting public pressure to improve environmental stewardship in late 1982, Secretary of the Interior James Watt had just initiated the Bureau of Reclamation's Glen Canyon Environmental Studies Program, setting in motion a tsunami of research to better understand the consequences of flow regulation. But the spring of 1983 saw overwhelming runoff into Lake Powell. More than 92,000 cfs (2,622 m3/s) was released through and around the dam. While only the equivalent of a 2-year springtime peak flow in the pre-dam era, considerable damage occurred to the spillways and downstream. Unplanned floods, passage of the 1992 Grand Canyon Protection Act, and leadership under David L. Wegner and subsequently the Adaptive Management Program (AMP) and the US Geological Survey, Grand Canyon Monitoring and Research Center dramatically changed Colorado River policy, scientific understanding, and management.

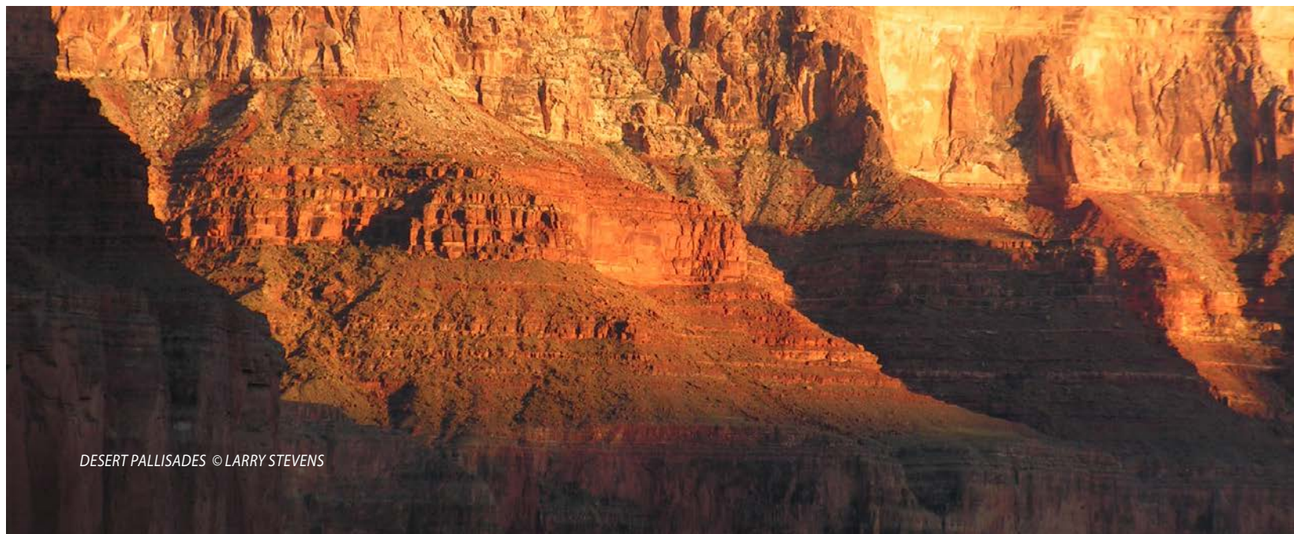
The Colorado River carries more politics than water, and its stewardship suffers from societal strabismus: the two eyes of our culture are out of binocular alignment, one focused on the river's economics and the other focused on its environmental values. The primary product of western appropriative water law is conflict, which is apparent to all who sit through Adaptive Management Program meetings. But in coming to know the many river managers, scientists, and water buffaloes on both sides of the economics-environment coin, I find that most of them try, within their limits, to do what is best for those they represent, for society, and for the resources they value. There is always much opportunity for disagreement, but making a sincere effort to understand each other's points of view helps one develop consensus in areas of former conflict, as reflected in the recently approved desired future conditions for the river ecosystem.

Over the past 40 years I have been honored to accompany many first-time visitors and hundreds of scientific, social, artistic, and spiritual authorities through Grand Canyon, from private citizens to senators, spider taxonomists to neural network modelers and Native American elders. I have been struck by the uniqueness of each visitor's perspective. It seems to me that Grand Canyon is a kind of inverted Jungian onion: each layer another dimension that expands the previously understood whole, providing lessons increasingly more intricate and grand than formerly envisioned. This kind of seeing realigns one's understanding and may provide new insights into the vexing limitations of perception and human nature. Grand Canyon is larger and more multifaceted than any of us can imagine, a portal into a world of wonder and humility. As with life itself, the more one learns and brings to it, the more vast and enthralling the world around us becomes.

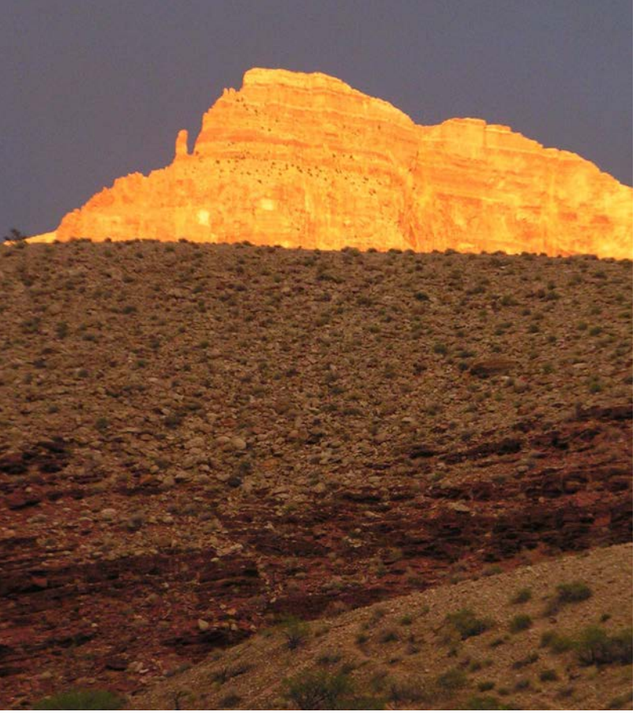
But time brings change, and we again face momentous stewardship challenges for our beloved Grand Canyon: not only issues like the proposed Escalade at the mouth of the Little Colorado River, but also deciding the best approach to managing Glen Canyon Dam for the next 20 years. How can we best reconfigure the balance between environmental and economic values in this world wonder? In early-middle 2015 the second Environmental Impact Statement (EIS) is scheduled to be released on Glen Canyon Dam operations, an EIS on which the public is welcome to comment. It is being called the LTEMP – the Glen Canyon Dam Long-term Experimental and Management Plan. The first EIS on dam operations, back in 1995, was reportedly the second largest in the nation's history, and its acceptance by the Secretary of the Interior has framed this past 20 years of dam operations and management. However, we have learned a great deal about the river over that time, including how to use high flows to better manage sand storage, and how best to monitor endangered humpback chub and manage introduced trout. This new EIS is jointly led by the Bureau of Reclamation and the National Park Service. It contains six alternatives, from "No change in operations" through various tweaks to flow, to steady seasonal or annual flows. News about the EIS is provided through the Bureau of Reclamation at:: http://ltempeis.anl.gov/, and the present draft of alternatives is available on-line at: http://ltempeis.anl.gov/documents/docs/LTEMP_Alternatives_April_2014.pdf. By the way, flat-lining the river's flow, as was done during the summer of 2000 did not work well for natural resources in the Canyon (Ralston 2011). Entirely steady flows would seem to be the least natural management strategy one could propose for this naturally highly dynamic river ecosystem.

GC RIVER, SEPTEMBER 2012 © LARRY STEVENS

Thanks in a strange way to President Nixon for his National Environmental Policy Act, every American is entitled to tell the Secretary of the Interior their thoughts on Glen Canyon Dam management. However, it seems unlikely to me that anyone would bother paying attention to something called "LTEMP" – a name that makes caring for Grand Canyon sound like just another failed federal program. A better name for the EIS might be the "Glen Canyon Dam Experimental and Management Plan," which would relate it back to the dam [CONT. PG. 6]



DESERT PALLISADES © LARRY STEVENS



and Grand Canyon, and relate it to the previously approved Glen Canyon Dam Adaptive Management Plan (GCDAMP). Whatever the name, this will be a plan to continue to use scientific information through adaptive management to help balance environmental and economic concerns downstream from the dam. Of course, much thought, modeling, and discussion has already taken place as to the most appropriate operating strategy, and the preferred alternative will have a great deal of support prior to release to the public, so the collaborating agencies have pretty well made up their minds on dam operations and the preferred alternative. Nonetheless, the public is free to, and from a democratic standpoint, obligated to critique the proposed federal actions.

But what are the crows and prawns of this kind of decision-making and trade-offs assessment: What should be the guiding principles for this EIS? Here are 10 thoughts that might stimulate thought and discussion as you write your letter to the Secretary of the Interior on the LTEMP EIS.

1. Use the dam to protect and restore native species, natural ecosystem processes, and doing so in a manner that respects Tribal and economic values.
2. Use the precautionary principle: refrain from conducting risky whole-system experiments by conducting smaller in-situ experimental studies (i.e., experimental native fish-rearing ponds at the mouth of the Paria River).
3. Consider restoring the range of humpback chub and other native fish throughout Grand Canyon, including to the mouth of the Paria River.
4. Consider Grand Canyon as a refuge within the entire Colorado River basin, to protect resources that are disappearing regionally, such as riparian habitat, springs, and pristine desert tributaries.
5. Compare the river ecosystem in Grand Canyon with that in Cataract Canyon – that scientific control is essential for framing our understanding and expectations about what can be achieved in Grand Canyon.
6. Promote rigorous outreach to the public, resource managers, Tribes, and youth.
7. Use naturally-timed high flows to manage sandbars - November floods are not natural, and we have little understanding of how river corridor biota respond to unnaturally timed floods. Those impacts require more study.
8. No best flow-only management solution exists: keep science and management rigorous, unbiased, innovative, and responsive to changes in the ecosystem. Have the U.S. Geological Survey contract out more science to independent investigators, and have the National Park Service restore administrative use for independent scientific research in Grand Canyon.
9. Develop a reservoir equalization strategy that reduces sand loss, but make sure to test flows greater than 45,000 cfs (1,274 m3/s) when conditions permit.
10. Consider non-flow management options more rigorously - riparian and native species and habitat restoration has been quite successful in Glen Canyon and at Lees Ferry.

Grand Canyon is a miraculous, direct expression of Earth's history, processes, and biota, a place where, with humility, we can recover ourselves and re-enter a desert Eden. All ground is sacred and should be treated as such, and the Canyon is clearly a temple. Failing to consider and respond to the LTEMP will mean that many of our most cherished and irreplaceable gifts may be squandered. I think our purpose here is to improve stewardship of the Earth, with compassion and respect for all life, to live with a sense of humor and adventure as we move towards spiritual fulfillment, honoring the memories and spirits of our parents and ancestors, and working for the common good. It has been a great joy and an honor to work in Grand Canyon and with those who recognize and attend to its well-being. Let us all continue to do so.

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Larry Stevens is Senior Ecologist with Grand Canyon Wildlands Council and Curator of Ecology and Conservation at the Museum of Northern Arizona.

DAVE MORTENSON, WEARING EMPTY BLEACH BOTTLES FOR EXTRA FLOTATION PHOTO: P.T. "PAT" REILEY@1962

Running down the Colorado River when it was dynamic and wild

by Dave Mortenson

Think of your first or maybe your only time running the Colorado River through the Grand Canyon. We all have those amazing memories. What pops up in your mind? Is it the beauty of the Canyon or seeing wildlife, prehistoric sites, geologic features or the vegetation of the desert right next to the riparian oasis? Maybe it is the adventure itself? Are your thoughts of the time with family, friends or people whom you didn't know until your river trip? Do you think of the stories of past river runners or maybe your trip experiences? Is it weather that may have been too hot, cold, windy, wet or all of these on one trip? Are there memories of fear before the first large rapid or the sadness of running the last rapid?

This year about 25,000 people will run the Colorado River for recreation. About two-thirds run on commercially guided trips and the rest are on self guided trips. Trip length, size of the party, type of river craft and time of year vary greatly. For all, the river is their route from their starting point to their takeout location. Everyone uses campsites to sleep outdoors, have their meals and visit the "groover". All strive to meet regulations for safety, requiring lifejackets, sanitation and other safety concerns. Protection of the Grand Canyon is a shared river running ethic taught and hopefully practiced.

2014 marked two 50th anniversary dates important to all who run the Colorado. In 1964 the Wilderness Act became law and provides the highest level of public land protection. It resulted in 94% of Grand Canyon National Park qualifying for wilderness and it is being managed as such. The other big anniversary is the 50th year of Glen Canyon Dam and Power Plant generating electricity. Both these somewhat conflicting events have greatly impacted river runners.

What was it like to run the Colorado River before wilderness management and Glen Canyon Dam regulated river flow? Try comparing your river running experience with the pre-dam river running experience of the estimated 1,800 people who ran the river from John Wesley Powell's first trip in 1869 through 1962, the last year of wild river running. With the dam building soon to stop the wild river flow, some 400 people joined the last free flowing trips.

As a 14 year old that last year, I was one of the few to experience this wild river adventure. My father, Brick Mortenson ran in the 1950s with P.T. "Pat" Reilly, and had Martin and Esther Litton as his passengers in 1955. Then, for a final wild river trip, Reilly, Litton and my father built three boats that we used on our private trip. Reilly and Litton used Oregon built McKenzie dories, and my father's boat was the last version of a Norm Nevills cataract style boat. These boats were used again in 1964. Filming on both trips was done to show what would be lost if two more dams were built in Grand Canyon, and thus helped to stop the funding of those dams. Litton later used these boats to start Grand Canyon Dories. As a young teenager I had no idea of the significance of the trip I was on. Thanks to these river pioneers who helped save the Canyon from dams we can run the river today.

Lees Ferry - Welcome to the middle of nowhere

After the original Navajo Bridge opened in 1929, Lees Ferry was used as a river gauge station, and as the location for river runners to take out if they had run down river through Glen Canyon or put in if they were departing through the Grand Canyon. When the building of Glen

CROSSING THE PARIA RIVER TO GET TO LAUNCH PHOTO: JOE SZEP@1962

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Canyon Dam began, a coffer dam blocked the river and ended Lees Ferry as a takeout location in 1956.

There was a dirt road that followed a similar route as today's paved road, but there was no bridge over the Paria River. Depending on the river level or if water was running in the Paria, it was a problem getting boats on trailers across the wash. In the flood of 1957 some trips launched from the Paria near Lonely Dell. Once over the Paria most launches

LEE'S FERRY - CANS, BOTTLES AND MORE CANS FOR 3 WEEK TRIP.
PHOTO: JOE SZEP@1957

were just up river from today's paved ramp, near a tree that provided wonderful shade.

Most river runners ran their trips in early summer to try to be on the river to hit the high flow. Low water was the concern. In 1954 two river runners showed up and saw that the water flow was below 10,000 cfs and canceled their trip. At Lees Ferry there were no fishermen, rangers or wandering tourists. Only the rare river party would show up at this remote location.

The Colorado River - Too thin to plow and too thick to drink

The Colorado River was sometimes called "Big Red" by boatmen since it was so full of sediment. It was so thick at times that the waves in rapids had a different sound and

TYPICAL SILT BAR AT MOUTH OF LCR
PHOTO: JOE SZEP@1962

look. How thick was the water? Often river parties would grab their buckets and fill them with river water to let them settle overnight. The next morning half the water would be somewhat clear and the bottom would be solid with sand and silt.

The river was warm when running in the summer. Hot passengers would jump into the river and float along with the boats to stay cool for a long time. There was never a fear about hypothermia. After the hard boats were bailed the remaining moisture would evaporate quickly leaving much silt and sand. With no dams upriver the level of the Colorado was always changing. Rapids would change after big flows. If the river was quickly rising, boats would have to be retied all night long. If the level was dropping, morning would sometimes find the boats high and dry. Putting a driftwood stick into the sand to mark the river edge was an easy way to tell what was happening.

The Big Flush (Not the groover - the river)

Almost every year the Colorado would have its high water flood in early summer. Today, when there is a planned big flow of 40,000 cubic feet per second (cfs) scientists get all excited. In 1962, we launched on 60,000 cfs and our boatmen remarked how nice this moderate water level was to run the river. They had run the river in 1957 when it crested at 126,000 cfs, 10 times more water then typical water levels today.

In big water at camps near a rapid, you could hear the muffled clunking sound of boulders being flushed down the river. The dynamic river dominated the side canyons. When a side canyon has a flash flood it washes a lot of rocks into the river. Today, these side canyon events can change the river for a long time, but this is not true for a wild river. The

SPRING FLOOD DRIFTWOOD AT BOAT REPAIR STOP
PHOTO: JOE SZEP@1957

real big floods of 100,000 cfs cleared out most side canyon deposits.

These big floods also deposited an unbelievable amount of driftwood, so much drift that river parties would often set fire to these piles of wood so that they would not be flushed down to Lake Mead and interfere with boating

on the lake. In the high water flow in 1957, upper Lake Mead had a massive log jam that impeded river parties trying to go down lake.

Governing river runners - There wasn't much

In 1955, the Grand Canyon National Park started requiring a permit to run the river. To be issued a permit, one had to have run the river before, tell when the trip was departing and how many were in the party, and have someone at the rim monitor your progress. Not sure how that last item was ever done!

The size of the GCNP was very small compared to the present boundaries. Marble Canyon and much of the western Canyon was not part of the park. From Kanab Canyon to near Whitmore Wash was in the Grand Canyon Monument, and the stretch between Tapeats Creek and Kanab Creek on the north side was in the Kaibab National Forest.

River running river practices for passengers

Norm Nevills pioneered running passengers in the late 1930s with his Cataract wooden boats until his death in a plane crash in 1949. Some followed his methods while others tried other ways. Georgie White pioneered large

DOCK MARSTON POWER BOATS WITH HIS SKUNK FLAGS
PHOTO: JOE SZEP@1957

WWII surplus rafts with motors or oars. Motor boats were introduced, and in 1960 jet boats ran up river. Two college students even swam downriver. It was an adventurous and risky era. Trip leaders were very cautious because there was no way to be rescued if there was a disaster.

Life jackets were a WWII type and often worn only when running rapids. Pith helmets and wind-up 16mm movie cameras were popular. With oar powered hard boats, big rapids would find passengers walking and filming the run, with a lone boatman in his boat. Sometimes the rapid was deemed too risky for fear of losing a boat, and each craft would be lined down the side of the rapid or carried over the rock and sand on shore. In 1962, we did this three times, and it was a hard, day-long effort for boatmen and passengers. Power boats or inflatable rafts were much easier for passengers, but still very risky.

Camps - Sand, more sand, and even more sand

Before Glen Canyon dam was authorized to be built, one of the justifications was that it will give Lake Mead a longer life before it would be filled in with deposits. Unfortunately it is not working. In 1962 our trip stopped at Stone Creek. There was a sand beach with a large sand dune between the river and the waterfall in lower Stone Creek. A large, swimming pool size pond awaited us and we cooled off in this clean fresh water pool. It was my favorite camp then, but today it is all rocks!

Usually, camps were covered with hot sand that might cool off sometime in the night. Since most just slept on the sand, often under windy conditions, waking up involved the task of shaking off the sand from every part of your body. Sand was in everything, your food, your eyes, your clothes, and it couldn't be avoided. It was part of running the river and was what one expected.

Camp life - Open fires, can openers and clean running water

Summer river trip passengers had little to set up when camp was reached. A ground cloth and a light sleeping bag were all one used since there was so much sand and very little vegetation along the river. Food usually came out of a can, and ice chests were not present. What was cooked was cooked over a camp fire burning driftwood which was everywhere. The outdoor ethic was if trash could be burned it was. Cans were opened at each end and pitched into the river.

Dishes were done on the sandy shore of the river. Being the youngest on my trip in 1962, I did a lot of dishes. The sand made a nice abrasive to clean pots. We had no tables, folding chairs, propane tanks or electronic devices

PHANTOM RANCH POOL
PHOTO: JOE SZEP@1957

to play music or contact anyone outside of our river companions. There were no river guides but we listened to our experienced boatmen, who knew the Canyon from experience and shared its history. Fresh water was always

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an issue since the river wasn't a source. Trip leaders would always plan a trip around side canyons with running water. They also would make a big deal of stopping at Phantom Ranch for maybe a few nights. Cold drinks, fresh meat and the fantastic swimming pool right next to the canteen were what made this wonderful facility our connection with the outside world between Lees Ferry and Temple Bar.

Early traditions & practices

We had no method or desire of carrying out human waste. Our trip rule was for women to go up canyon and men down. Usually when we would stop to make camp there were very few signs of people having been there before. Hikes up side canyons rarely followed a used path except where hiking trails came in from the rim. Only the big rapids had names. In Marble Canyon there was the hike to the skeleton. Bert Loper's boat still looked like a boat. The 1956 crash site of the airplane across from the Little Colorado was still very visible and solemn to all. Surprise Valley was the name everyone used for what today is called Deer Creek Valley. Upon reaching Diamond Creek, the tradition on many trips was to initiate those who were making their first complete journey from Lees Ferry to the Grand Wash Cliffs. Miner cables still crossed the river, and the Bat Cave operation was new.

Conclusion

Running the Colorado River in the Grand Canyon today is still an amazing adventure. Thanks to the GCNPS management and the conservation awareness of both commercial and private river running communities, the beauty of the Canyon is coping with so many visitors and is cleaner today than when post-dam river running greatly increased the number of users, but still followed the wild river traditions. While the dams upriver have resulted in a changed river corridor and much of the sand has now gone to Lake Mead, regulated flows have made year-round river running possible. Yes, there are issues with the number of people running the river each year and the impact of dams. Memories of my 1962 trip and the trip I took in 2014 are both special, and I feel privileged and remain in awe of this canyon and its river.

LAVA FALLS PORTAGE
PHOTO @ DAVE MORTENSON

Growing up, obtaining degrees, flying in the Air Force and being a key BLM planner that developed the California Desert Plan were all in California. Dave moved to Washington State in 1980. He worked ten years for the Washington legislature, followed by 20 years as a political consultant. The Grand Canyon has been a constant, beginning at age 13 in 1961 with over 75 major hikes in the backcountry and six three-week Colorado River trips. "The Grand Canyon and its river still tantalize me as it first did 53 years ago," is how Dave responds when asked why he returns.

GRAND CANYON WARRIORS

OCW Supporting Rafting Trip for Wounded Marines

By Henry Howard - January 8, 2015

Two dozen wounded Marines will be going on a once-in-a-lifetime rafting trip through the Grand Canyon, sponsored in part by The American Legion's Operation Comfort Warriors (OCW) program.

OCW's involvement in the 10-day trip will include the provision of some meals; other arrangements are being finalized.

The project is the brainchild of a retired Marine, Hank Detering, who is a member of American Legion Post 945 in Pennsylvania. Detering, a combat-wounded Vietnam veteran, hatched the plan as a way to give back to today's service members. A couple of years ago, Detering was invited to be on a panel discussion following a presentation of "Johnny Got His Gun." At the end of the play, the panel was asked, "What can we do for the veterans returning from the war today?"

That was the cue that Detering needed.

"I came away from that panel feeling like I needed to do something for the servicemen and women coming home," he said. "I had the idea of a river trip because I had heard of other groups working with amputee veterans, teaching them to kayak. I had heard of a blind veteran who had kayaked through the Grand Canyon. He had a lot of people with him, but he navigated all the way himself.

"It would be a really good thing for us to do."

Detering is a board member of the Grand Canyon River Runners Association, a nonprofit group that works to preserve public access to the Colorado River in Grand Canyon National Park. Detering proposed the idea and the other directors agreed. The association is now actively fundraising for 24 patients from the Marine Corp Wounded Warrior Regiment to go down the rapids this August, along with support staff such as health-care professionals. The plan is to work with other military branches on trips for 2016 and beyond.

"One hundred percent of the donations we receive are going toward getting these guys on the river," Detering said. Promotional costs such as flyers and printouts and other bills will be paid for by the board's operating funds, he said.

To donate, visit www.gcriverrunners.org.

Detering's first experience with the Grand Canyon was with his daughter, Susan, a river guide who has been on more than 60 trips. They both see these trips as life-changing experiences.

"During every trip I saw how the Grand Canyon affected the people and affected families in a positive way," Detering said. "I see kids who didn't want to be there, didn't want to be with their parents, do a complete turnaround to where they were having a great time.

"One kid at the beginning of the trip didn't want to be anywhere near his parents. Six days later, he came up to me as I was fixing dinner and he said, 'My dad is cool.'"

Reprinted from the American Legion Online Update (e-newsletter)

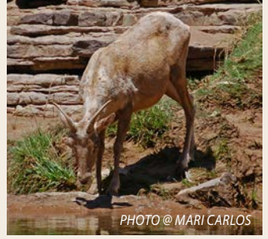


PHOTO @ MARI CARLOS

To Catch a Bighorn

by Brandon Holton

"Run goats run!" echoed up the canyon slope as I was easing to within darting range of a bighorn sheep. Needless to say, this particular effort to dart a bighorn was a bust as the animals became more vigilant and ran off. Not everyone understands the process or why we need to capture bighorn sheep in Grand Canyon in the first place. To some, the rationale for darting an animal in the rump and strapping a tracking collar around their neck appears unwarranted. The reality is that I would much rather float the river and modestly observe animal behavior, much like the early naturalists did before the invention of fancy gizmos and gadgets that allow us to better understand our furry and feathered friends. Although we may reminisce about those simpler days, the ecology of wild animals is much more complex than it used to be, with mounting external pressures uniquely shaped by humans that can markedly influence the viability of wild species. Conservation of any wildlife species is about understanding them; it's an informed process that is built from previous endeavors.

Hands-off passive monitoring of wild animals such as direct observations, whether of a bighorn or a peregrine falcon, can reveal locations of animals in time and space, general population trends, and demographic patterns. For example, observations of bighorn sheep collected over several decades have helped to determine relative hotspots along the river where bighorn sheep tend to congregate during different times of the year. Further, indirect monitoring such as tracks, camera-trapping, and the use of fecal pellets can additionally provide valuable information about animal abundance, densities, and conservation genetics. Non-invasively collecting bighorn poop has allowed us to analyze genetic diversity and population structure to assess how bighorn herds are connected within Grand Canyon, which has implications for conserving this vulnerable species in the face of disease and climate change. But to get at the heart of population health and viability, which is at the core of conservation, sometimes invasive approaches, such as capturing animals, are necessary.

Answering some of the more complicated ecological questions requires a more sophisticated approach of continuously monitoring an individual animal's movements across multiple seasons, rather than a mere snapshot in time of different animals coming and going. For bighorn sheep, GPS (Global Positioning System) tracking collars are the best way to achieve this around-the-clock approach. There are numerous benefits of tracking collars to better understand the behaviors and ecology of bighorns that cannot be answered by simply observing these animals; especially in a low density population ranging across an immense landscape such as Grand Canyon where visual observations can be hit or miss. We can better understand specific fine-scale movements that indicate resource use patterns for foraging, breeding, and lambing. These patterns can be used to identify population level threats from disease, predation, or changes in forage quality. By tracking bighorns we know almost exactly when an animal dies and can determine cause of death, providing crucial information about survival rates and mortality factors. Moreover, with the animal in hand, we can collect biological samples such as blood and tonsil/nasal swabs to test for respiratory disease, which is the primary killer of desert bighorn sheep across the southwest and has taken hold in Grand Canyon. But before we can understand these underlying questions, we have to capture a bighorn.

Capturing bighorn sheep in Grand Canyon is never a straightforward venture. From the perspective of a desert-adapted, free-ranging, four-legged, agile mammal, Grand Canyon is an ideal environment to call home; an expansive, protected, isolated canyon with abundant forage and a seemingly endless water supply. To a comparatively inept two-legged biologist, running around in bighorn sheep habitat can be a self-imposed brutal venture, yet particularly outlandish and personally gratifying. Capturing bighorns in Grand Canyon is unique relative to most methods employed to capture these animals. In most systems where bighorn sheep range, areas of gentler topography allows for safe captures by net-gunning bighorns from a helicopter. In Grand Canyon, the steep rugged topography in combination with NPS directives to uphold wilderness values discourages using helicopters to capture bighorn sheep from a safety and regulatory standpoint. As a result, this is the only study that routinely captures bighorn sheep from a boat along the Colorado River using immobilizing darts.

We first attempted to capture bighorn sheep along the river in 2010, primarily to test the efficacy of actually capturing bighorns from the river. After assembling a relatively inexperienced team in three oar rigs, we managed to capture only two bighorns between Matkatamiba and Sinyala Canyons. Although only a couple of sheep were captured, we more importantly gained a better understanding of not only the behaviors of these bighorns, but also tactics to improve capture success and animal welfare. One of the principal epiphanies was the need to dart these bighorns directly from the boat which called for better mobility on the water to move back upstream, efficiently ferrying across the river, and the ability to hold the boat steady in a current. Oar rigs just don't provide you that flexibility. Since the early capture effort, we have assembled an expert team and markedly improved our capture techniques, but we are still limited to what the Canyon and the bighorns decide to give us.

Before you even attempt to dart an animal, there are several components to consider. Similar to any other river trip in Grand Canyon, temperature dictates all. Although desert bighorn sheep are particularly adapted to hot arid conditions, these animals can be sensitive to excessive

[CONT. PG. 12]

["TO CATCH A BIGHORN" CONT. FROM PAGE 9]

heat, especially under anesthesia. Captures generally do not occur if temperatures reach above 95°F. Secondly, herd dynamics and body condition of potential target animals needs to be evaluated. Only healthy adults are considered capture prospects, and in the case of females, ewes without lambs are preferred. Within a group setting, ewes usually tend to react more vigilantly to human disturbance as compared to rams, who are preoccupied with following ewes. One thing that is consistent among all bighorn sheep is that they can cover a lot of ground very quickly if they need to, and no matter how skilled you think you are, even a week-old lamb is more adept at boulder hopping and climbing steep slopes than you ever will be. That being said, assessing an animal's escape terrain and your ability to actually get to the animal within a reasonable amount of time is central to deciding whether or not to dart an animal. Most opportunities to capture an animal end rather quickly after assessing the escape terrain and the potential risk to the animal.

The idea behind darting from the boat, rather than on foot, is to lessen the overall disturbance to the animals so they remain relaxed and in relatively the same spot. Otherwise, as soon as you step off the boat they will likely run. Ground stalking has worked with moderate success in the past, but darting from the boat has proven to be more effective and less time consuming. If the animals are along the shoreline of an eddy, the boatman can ease the boat towards the animals. More times than not however, the boatman must ferry across and upriver, float down until perpendicular to the animal, and hold the boat as steady as possible in a slow moving current. At this point, if the animal is cooperating, the boat is relatively steady, wind is at a minimum, and the animal is broadside and within 30 yards, an attempt to dart an animal can be made. Rarely do these conditions all line up quickly. Near Forster Canyon, we waited an entire day for a herd shaded up at the top of the Bright Angel Shale to come down to the river. Patience paid off, as we were able to observe several animals in a full sprint to the water to drink, and captured what has turned out to be one of the healthiest bighorns in the study at a time when disease seems to have a strong foothold in the population.

Most capture attempts flop before they even get started. But if you do manage a shot in the rump, things get even more interesting. Where this animal goes depends on the reaction of the herd, individual vigilance, the available escape terrain, and quality of the shot. Typically, the herd will follow suit to the reaction of any one individual within the herd. If one runs the others will run. Ewes with lambs tend to be more vigilant, as caring mothers should be. In a larger mixed herd, darting a leading ram will help minimize a mass exodus as he will want to stay close to his harem. But this is not always the case, especially with lone animals. We darted a solo adult ram near Rider Canyon last fall that sprinted 300 feet up a talus slope before settling down. In contrast, at the scout for Deubendorff rapid, we darted a solo adult ram, who calmly trotted about 50 feet along the river and lay down. If the dart hits pure muscle and no fat, the animal typically induces faster, and hence covers less ground before the effects of the drugs kick in, generally around 3-5 minutes.

Once the animal is darted and becomes immobile, you are now fully responsible for their welfare. Bighorn have a notorious way of becoming fully anesthetized on steep slopes or otherwise precarious terrain. The first task is to move and correctly position the body to permit a safe environment for both working on the animal and releasing the animal. It's not uncommon to spend a substantial chunk of time moving an animal off the top of boulder or away from a loose talus slope to more secure ground. As anesthetics can make it more difficult for an animal to control their internal physiology, monitoring and stabilizing temperature, respiration, and heart rate is the primary goal through the entire work-up. Although temperature cutoffs for darting are employed, the simplest tactic for controlling temperature is one that we all use – shade. To this end the most important piece of gear for maintaining around 101-102°0F (a bighorn's normal body temperature) is the trusted beach umbrella. We generally have about an hour to work with until the animal begins to awaken. Once the animal is stable, collecting samples to be used for assessing the health of the animal is the first thing we focus on. Blood, drawn most easily from the jugular vein (Figure 1), will provide information on genetics and exposure to various diseases. Nasal and tonsil swabs are also collected (Figure 2) to detect specific disease pathogens known to cause pneumonia in bighorn sheep. Next, an overall assessment of body condition is done, and collar appropriately sized and fitted to the animal (Figure 3). Once completed, the anesthetics are reversed. The animal wakes up after 5 minutes or so, and moves off, albeit a bit groggy at first.

Folks ask me if the bighorns are actually "traumatized" by the capture. Some anesthetics are thought to have amnestic properties, so these animals may have little or no recollection of the event. They will certainly recognize some new bling around their neck, but soon get used to it and go about their daily routine, unknowingly contributing to the knowledge and conservation of their species. Capturing bighorns in the Canyon involves a huge methodical effort with relatively few animals captured compared with other studies; but with big payouts with regards to the information gained and the applicability to the conservation and protection of this emblematic species in Grand Canyon .

(see images to the right)
Figure 1. Collecting blood from an adult ewe captured near Stairway Canyon in 2014.
Figure 2. Collecting tonsillar swabs from an adult ram captured near Blacktail Canyon in 2014.
Figure 3. Affixing a GPS collar to an adult ram captured near Havasu Canyon in 2011

Photos courtesy of Brandon Holton, Grand Canyon National Park

Brandon Holton is a Grand Canyon National Park biologist. He is involved in concurrent studies of bighorn sheep, mule deer and mountain lion at Grand Canyon. The Grand Canyon Association is currently raising funds to support the bighorn sheep project. To learn more or to make a donation: www.grandcanyon.org or contact Helen Ranney at hranney@grandcanyon.org


FIGURE 1


FIGURE 2


FIGURE 3

Our Personal Poem for a Grand Canyon

There is this river – a grand and glorious river...
That runs silty green and clear aquamarine.
It has ripples and rapids that swallow you whole...
And fills your mouth and numbs your toes.

Rising canyons of castles in the sky,
Standing sentry to eons and eons gone by.
Ancient and crumbling and layered like cake
Centuries of shells and bones sun baked.

We loved it – this motley crew
Drawn together by Rok and Mary Lou.
From every corner and profession we came...
To indulge in the river and to stake our claim.

It all began on an ol' school bus when
Allen leapt up and greeted us.
Filled with fire and sage advice
He entertained us every night.

Then she came onto the scene...
Our very own Fayevorite River Queen.
Skill and cunning is her craft –
Safely guiding six fat rafts.

Matt, the Sage, the legend of old,
Calmly stroked and boldly rowed...
Toward the churning belly of the beast –
Waiting to swallow us for its feast.

Amity so regal and serene
Brought grace and beauty to our team.
Especially dancing with the waves
On her frothy, roiling stage.

There was Greg, our Yoga King
Getting us ready and into full swing...
Of a day of laughter and poems and fun
Warming us all – like the kiss of the sun.

Captain Ken brought up the rear
Getting his crew ready to steer.
As the rumble and roar grew louder yet
Following the Master was our best bet.

They all could cook and they all could clean
Under the direction of our Fair Queen.
But they dug deeper and shared so much more...
Oozing their love of the river lore.

From fireside chats and delicious dinners...
Our friendships turned into long-term winners.
Bonded by beauty and friends and crew
We felt pure magic that few people do.

By: K Parker, October-2014

["CATHEDRAL UNDER SEIGE" CONT. FROM PAGE 1]

wonderful grandeur, the sublimity, the great loneliness and beauty of the canyon. Leave it as it is. You cannot improve on it. The ages have been at work on it, and man can only mar it."

If what is now unfolding seems grotesquely at odds with Roosevelt's message, it's worth keeping in mind that this is hardly the first time something like this has happened to the canyon.

Back in the 1960s, the federal Bureau of Reclamation came within a hairbreadth of constructing not one but two colossal hydroelectric dams directly inside the canyon — a project that would have transformed the most magnificent stretch of the Colorado into a series of stagnant reservoirs teeming with power boats.

Oddly enough, one of the arguments used to justify that boondoggle was that flooding the canyon would serve the same purpose as a tramway: creating access — in this case not by moving people on the rim down to the river, but by moving the river closer to the rim.

The absurdity of that logic was exposed in 1966 when the Sierra Club took out a full-page ad in this newspaper asking if we should also flood the Sistine Chapel to enable tourists to get closer to the frescoes.

That campaign created a firestorm of opposition to the projects, and when Congress killed the dams, the victory marked a watershed moment in the history of wilderness conservation. It also underscored the principle laid down by Roosevelt: that the Grand Canyon should not be messed with — not now, not ever.

And therein, perhaps, lies the crux of the problem we are now facing.

Because the national park system has rightly been called this country's best idea, we might assume that the parks themselves are sacrosanct. In the case of the Grand Canyon, this illusion of inviolability is further reinforced by the architecture of the terrain itself. If those walls fail to convey the weight of eternity, then nothing on earth can.

But as the Tusayan and tramway projects illustrate, the status of this park, like the status of all our parks, is as ephemeral as virga, the ghostly plumes of summer rain that stream from clouds above the canyon's rim, only to evaporate before reaching the ground.

Conservationists often lament the inherent unfairness of fights like this. Whenever a developer is defeated, nothing prevents other developers from stepping forward, again and again. But for those who love wilderness, the loss of a single battle can mean the end of the war, because landscapes that fall to development will never return.

If you care about places like the Grand Canyon, there's something inherently wrong about that. But there may be something reaffirming about it, too, because these threats call upon us to reassert our conviction, as a nation, that although wilderness is an asset whose worth may be difficult if not impossible to quantify, without it, we would be immeasurably poorer.

Every 15 or 20 years, it seems, the canyon forces us to undergo a kind of national character exam. If we cannot muster the resources and the resolve to preserve this, perhaps our greatest natural treasure, what, if anything, are we willing to protect?

Kevin Fedarko is the author of "The Emerald Mile: The Epic Story of the Fastest Ride in History Through the Heart of the Grand Canyon."

A version of this op-ed appears in print on August 10, 2014, on page SR1 of the New York edition with the headline: A Cathedral Under Siege.

CONFLUENCE PHOTO © JOEL PEARSON

COMMENTS ON THE CONFLUENCE ISSUE:

Last July our entire family went on a Grand Canyon Expeditions trip. It was not only a magical individual experience for each of us, but brought our family closer together. To get away from the normal stress of everyday life and be healed by the beauty and splendor of nature is truly a religious experience in its purest form.

We sincerely hope the gondola is never built to the Confluence since it would be a monumental mistake. The Confluence is not only sacred to Native American people, but also sacred to all of us who have been there.

–Pearson Family, Selah, WA

I have just retired after a long career with AzRA. This means that I have had the privilege to spend many a time at the Little Colorado River. There are restrictions on food and camping. But for a few precious hours, river passengers can play in the water, hike along the Little Colorado for a ways, or - my favorite pastime as an author - sit under one of the shady ledges and write. These activities leave no trace and require no permanent structures.

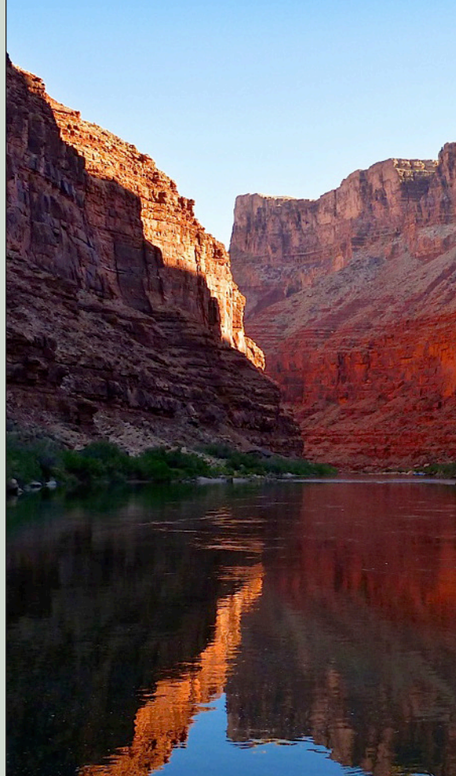
The Bright Angel shale layer is there, those greens and purples showing vividly in the bright sunlight. The river flows by in brilliant turquoise, gurgling merrily. A sense of sacred stillness permeates the area, punctuated only occasionally by sounds of someone enjoying the water. Usually people just float in the pleasantly warm water, quietly contemplating the beauty.

This place figures in my prehistoric novel, "On the Brink of Shards," because it evokes the ancient, untrammeled world that none of us can see anymore. Can't one special place be left as it is? There are places I can't access because I wouldn't have the stamina to get there. But I want those places there, protected, and the few hardy souls who can hike there can come back with stories and photos for the rest of us to appreciate. Let's take a lesson from Glen Canyon that beautiful ecosystems are gone forever when interfered with by greedy, thoughtless man.

Nancy Rivest Green
Arizona Author
www.nancyrivestgreen.com

I have been hiking, camping, backpacking, and climbing for over fifty years. I have never "outgrown" my love of wilderness, remoteness, solitude. I need regular doses of the wild. Helps me maintain my sanity in a crazy world. We all know that the preservation of our remaining wild places requires our vigilance. Any further degradation of our remaining wildernesses diminishes us all. The Escalade Project is just such a degradation. It would intrude, physically and spiritually, into the Grand Canyon and its River, and, thus, its ability to help us know ourselves.

-Paul Hanneman, Santa Cruz



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Grand Canyon River Runners Association

preserving public access to the colorado river

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JOIN GCRRA

Have you experienced a fantastic commercially outfitted trip down the Colorado River? Are you planning to have one in the future? Do you think that the opportunity to see Grand Canyon from river level should be available to everyone, even if they do not have the skill or strength to row their own boat? Did you know that the Park Service can change its management plan, including adjusting the number of visitors and kinds of trips permitted, from time to time? If you care about these issues, GCRRA speaks for you, with the Park Service and in the courts, helping preserve your opportunities to participate in a commercially outfitted river trip. Have your voice heard! Join us today!

Log on to our website: www.gcriverrunners.org to learn more. We have an online interactive membership form and can accept PAYPAL for your convenience.

Membership includes half-yearly issues of the beautiful Grand Canyon River Runner newsletter. GCRRA is a 501(c)3 organization that has donated a portion of membership dues – over $12,500 – to Grand Canyon related causes.

CALLING ALL RIVER RUNNERS!

YOUR LITERARY AND ARTISTIC CONTRIBUTIONS CAN BE SHOWCASED IN THE NEXT GCRRA NEWSLETTER

Send us your journal entries, poetry, postcards from the canyon, humorous stories, photos, and original art work for publication in the next newsletter or on the GCRRA website. Electronic submissions are preferred.
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If you need more information your question will be routed to the Editor.

Submission deadline for the SUMMER Issue is MAY 1, 2015 .

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