

THE GRAND CANYON River Runner

Number Nine

preserving public access to the Colorado River

Fall, 2009



PHOTO © MARI CARLOS

Appeals Court Upholds Grand Canyon's River Management Plan

By Jonathan Simon

In July 2009, the U.S. Court of Appeals for the Ninth Circuit upheld the river management plan for Grand Canyon National Park, rejecting arguments challenging the decision of the National Park Service (NPS) to continue to allow motorized use during part of the year and the plan's allocation of use between professionally-outfitted and guided boaters and self-guided boaters. The court's decision marks the apparent end to the litigation that several groups, led by River Runners for Wilderness (RRFW), initiated in 2006 in federal district court in Arizona, challenging the new Colorado River Management Plan (CRMP) issued earlier that year.

The general premise of the lawsuit was that the 2006 CRMP authorizes river running concessions services that are contrary to applicable law. More specifically, the groups claimed that the plan violates the NPS's obligation to preserve the "wilderness character" of the river corridor because—like the previous plan issued in 1989— it continues to allow the use of motorized watercraft, helicopter passenger exchanges, and generators. They also claimed that the plan illegally authorizes concessions services—with respect to both motorized use and the overall amount of use allocated for use by members of the public who choose to use concessioners for their trips—that are neither "necessary and appropriate for public use and enjoyment" of the Park nor "consistent to the highest practicable degree with the preservation and conservation" of the Park's resources and values. Further, they argued that the plan's allocation of use between professionally-outfitted and guided boaters and self-guided boaters inequitably favors access by members of the public who choose to use concessioners for their trips and authorizes unnecessary amounts of such use at the expense of self-guided boaters. Finally, they argue that the NPS wrongly determined that motorized use does not "impair" the natural soundscape of the Park's river corridor. *(CONT. ON PG. 2)*

CRMP Update

On September 4th, 2009, RRFW et al. filed a motion for a rehearing/en banc with the Ninth Circuit. A three-judge panel of that court decided unanimously against the plaintiffs, but this motion requests that the original panel or a larger eleven-judge en banc panel rehear the entire case. GCRRA is disappointed with this decision, particularly in light of RRFW's earlier statement that it was unlikely to appeal. Most who have a stake in these issues, including GCRRA, had hoped that this chapter was over and that we could continue to move forward under the existing plan with some measure of certainty. GCRRA members will be apprised of updates to this legal action on our website.

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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 lawsuits continue to challenge the use of motors on the river and/or the ability of commercial outfitters to offer a variety of types and lengths of river trips through the park? 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! MEMBERSHIP REPLY ENVELOPE INCLUDED WITH THIS ISSUE. Visit our website : gcriverrunners.org to learn even more!

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 to Grand Canyon related causes, over \$11,000 as of November, 2009.

(CONT. FROM PG. 1) On July 21, as the federal district court in Arizona had done in November 2007, the Ninth Circuit rejected these arguments. The appeals court adopted the district court's "extensive and well-reasoned" opinion in its entirety and affirmed its grant of summary judgment for the NPS and the intervenors (Grand Canyon River Outfitters Association (GCROA) and Grand Canyon Private Boaters Association (GCPBA)), holding that the plaintiffs failed to establish that the NPS acted arbitrarily and capriciously when it adopted the 2006 CRMP and rejecting all of the plaintiffs' claims against the plan.

The Ninth Circuit's decision represents a major victory for the NPS and for the many stakeholder groups that played a constructive role in participating in the development of the CRMP and in supporting the NPS's plan before the courts. This includes GCROA and GCPBA, which both intervened as full parties in the case and assisted the NPS in defending its plan before the courts. It also includes Grand Canyon River Runners Association (GCRRA), Grand Canyon River Guides (GCRG), and Chicago Whitewater Association (CWA), who joined in submitting an amicus curiae ("friend of the court") brief to the appeals court in support of the NPS's decision.

In a statement on the decision, Steve Martin, Superintendent of the Park, stated, "We are pleased that the Appeals Court agreed with the District Court in affirming the Park's Colorado River Management Plan. . . . The plan is the result of many years of work to protect park resources and provide quality visitor experiences

on the Colorado River through Grand Canyon National Park, and required making many difficult decisions after considering extensive analysis of impacts and widely divergent points of view on many issues. We look forward to working with persons of all interests, including wilderness advocates, as we continue to implement the plan."

As GCRRA, GCRG, and CWA explained in their amicus brief, "The major issues that the NPS confronted and addressed in this quite historic planning effort—most notably, the continued authorization of motorized watercraft and the allocation of limited use among public user groups—are issues that have paralyzed the agency's efforts to manage Grand Canyon National Park effectively for decades." The appeals court's decision validates the NPS's decisionmaking effort and will finally provide some degree of certainty for Park management and others—concessioners and the members of the public who utilize them, river guides, self-guided boaters, and others—who can now rely on an established river management plan . . . at least until the next revision.

Jon Simon is a partner in the Washington, DC office of the law firm Van Ness Feldman, and represented GCROA in the litigation. He has rafted the Canyon twice, most recently too long ago. The views expressed herein are his own, and do not necessarily represent the views of GCROA or Van Ness Feldman.

FIVE YEARS!

The GCRRA Board of Directors just held its annual meeting, and I think we were all stunned when Vice President Pam Whitney reminded us that it was our five year anniversary. Has it really been that long? It seems like only yesterday that Dwight Sherwood and I looked at each other and wondered how we could make a meaningful contribution to the Colorado River Management Plan planning process in a way that would benefit commercial boaters. You know the answer, of course, although the decision to start an organization like GCRRA was not taken on without a great deal of soul searching.

Fortunately a stellar board came together, with herculean efforts on all sides assuring that we had a website, representation at all the public meetings, and a comprehensive response to the DEIS on record. It was thanks to the knowledge and dedication of two of our board members in particular that we were able to make our response to the Draft Environmental Impact Study (DEIS) such a meaningful one. Ruthie Stoner and Pam Whitney were our 'go to' gals, and have our eternal gratitude for their efforts. Catharine Cooper also merits high praise as the designer of our website and, perhaps more importantly, as the editor of this beautiful newsletter. How fortunate we are to have her on our side! We are also privileged to have board members like Bob McConnell overseeing legal issues, Linda Kahan, who jumps in with scientific and editing skills for every newsletter, and later, Kristen Ross, who assisted in designing our website. Each brought essential expertise that Dwight was able to put to immediate use in his role as our founding president.

Those early months of our existence were high energy and high stress, but also high excitement. Digesting the DEIS, then subsequently watching the plan evolve from this focused root document was invigorating. We proudly participated in a remarkable collaboration by signing the joint recommendations that helped shape key elements of the final CRMP. The partnerships formed through that singular act, especially with the Grand Canyon Private Boaters Association, have only grown stronger since the plan went into effect. We have subsequently collaborated with GCPBA and Grand Canyon River Guides on issues that have impacted all our member groups since the plan began, and we continue to monitor happenings in the Canyon that affect commercial boaters.

I am often asked how we allocate our charitable giving. GCRRA bylaws require us to set aside ten to twenty percent of membership dues income for Canyon-related causes. Initially this was administered for us by the Grand Canyon

Conservation Fund, but in the last two years we have managed our own giving. This year the Board voted to purchase two duckies for Grand Canyon Youth (see GRAND CANYON RIVER RUNNER, Number Two). Some of you may have heard of the devastating fire at the GCY warehouse earlier in the year. We hope that the duckies, plus an additional cash donation for administrative and operating costs, will help this wonderful organization maintain a full schedule of river trips designed specifically for the next generation.

Although it may seem that implementation of the CRMP settled all the contentious issues involved in its development, controversy continues. At least one organization is seeking to overturn the plan. River Runners for Wilderness has such an appealing name it is hard to imagine the threat harbored within. However, just a little research reveals the unfortunate truth, which is that this little organization seeks to eliminate all motors from Grand Canyon, and therefore a huge percentage of the American public would forever be denied access to Grand Canyon's river corridor, including most of you who read The RIVER RUNNER. It behooves us to remember this, and to steadfastly maintain focus on our primary goal, to preserve public access to the Colorado River through Grand Canyon. I urge you to read Jon Simon's article that begins this issue of The RIVER RUNNER so that you gain a better understanding of the litigation brought by RRFW against the National Park Service. We have written about this litigation from the outset, and you can read all previous articles on our website.

Our fifth anniversary board meeting introduced two new board members. Tim Bell and Jan Taylor joined us, bringing new energy and drive that will undoubtedly aid us in the buildup to the next revision of the CRMP. It is hard to believe that the document that has been our *raison d'être* since inception will soon succumb to scheduled obsolescence. It will be a pleasure to have these two enthusiastic river runners helping guide GCRRA into the next revision of the CRMP.

With the annual board meeting behind us I can finally focus once again on what keeps me going. I was not on the river this year, a rare miss for me. The Canyon is my completion, my other half, and thus I have spent a long summer as only a partial self. Salvation is not forthcoming until May, 2010, when once again I shall dip my toes into the water at Lees Ferry and know that I am home.

See you downstream!

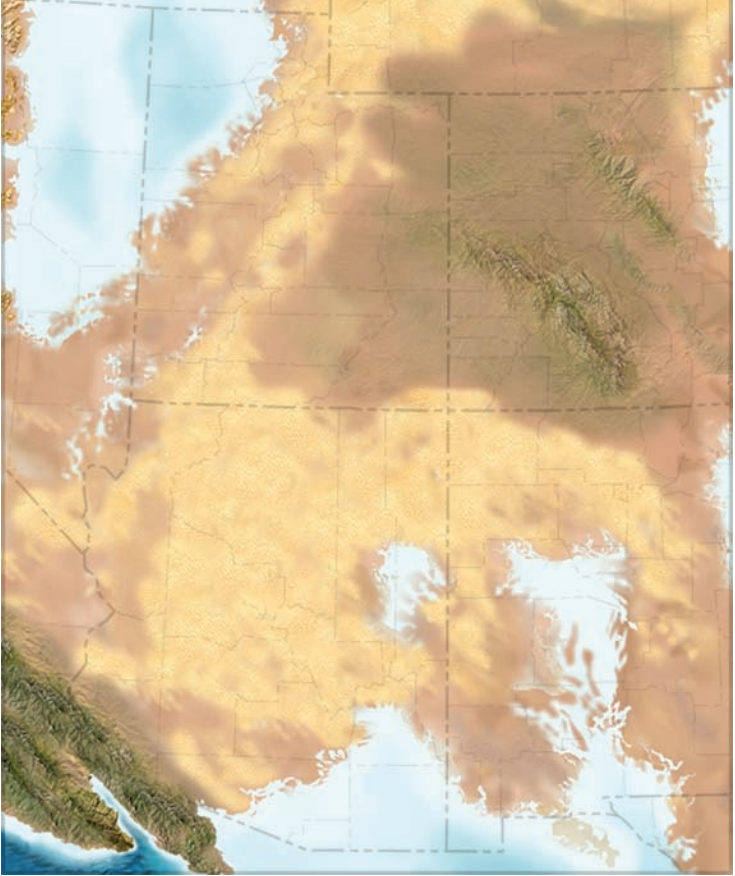
Mari Carlos

"Ancient Landscapes of the Colorado Plateau"

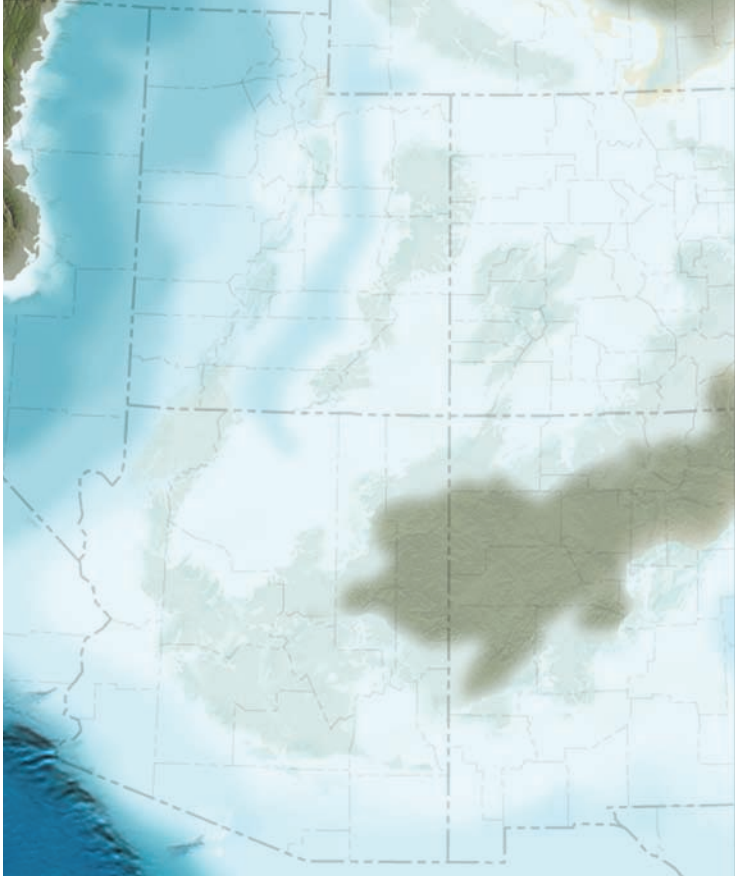
by Wayne Ranney

River runners in Grand Canyon are the luckiest people in the world. Not only do they get to run the rapids of the Colorado River and hike the many side canyons, but they are also exposed to earth history on a "Grand" scale. Running the river not only takes one on a trip in the canyon but also on a trip back in time, through wind-swept Sahara-like deserts (Coconino Sandstone), warm tropical seas (Redwall Limestone), and waves crashing on an ancient beach (Tapeats Sandstone). How fortunate we are to have this kind of "time-machine" that magically transports us through the varied landscapes that once existed here hundreds of millions, or even thousands of millions of years ago. If only we had a guidebook of some kind that allowed us "fun-hogs" to know something of the earthly pageantry that geologists are privy to. Now there is one.

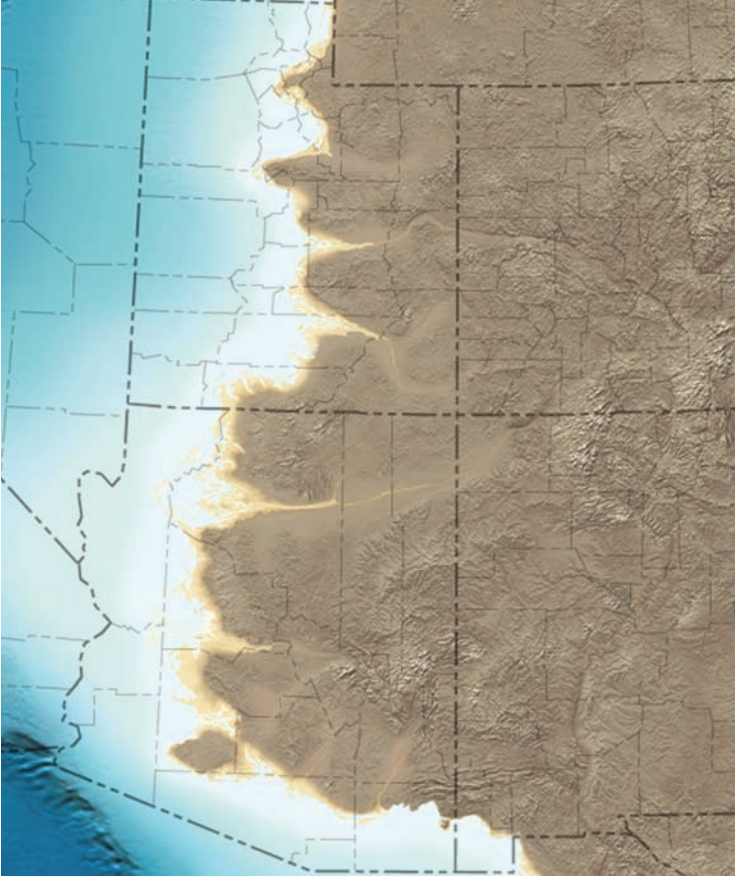
Not many of us have a formal education in geology, which traditionally is the only way to understand the ancient past. Another burden is that geology can be a very tough subject for an amateur to venture into. Besides using words and language that tend towards "science-speak," getting a feel for the vast amounts of time that geologists work with can be intimidating. I don't know how many times I have given a geology talk and seen the blank stares that zoom back my way when I mention how many millions of years ago some landscape-changing event happened here. I was



The Coconino sandstone accumulates in a great eolian desert.



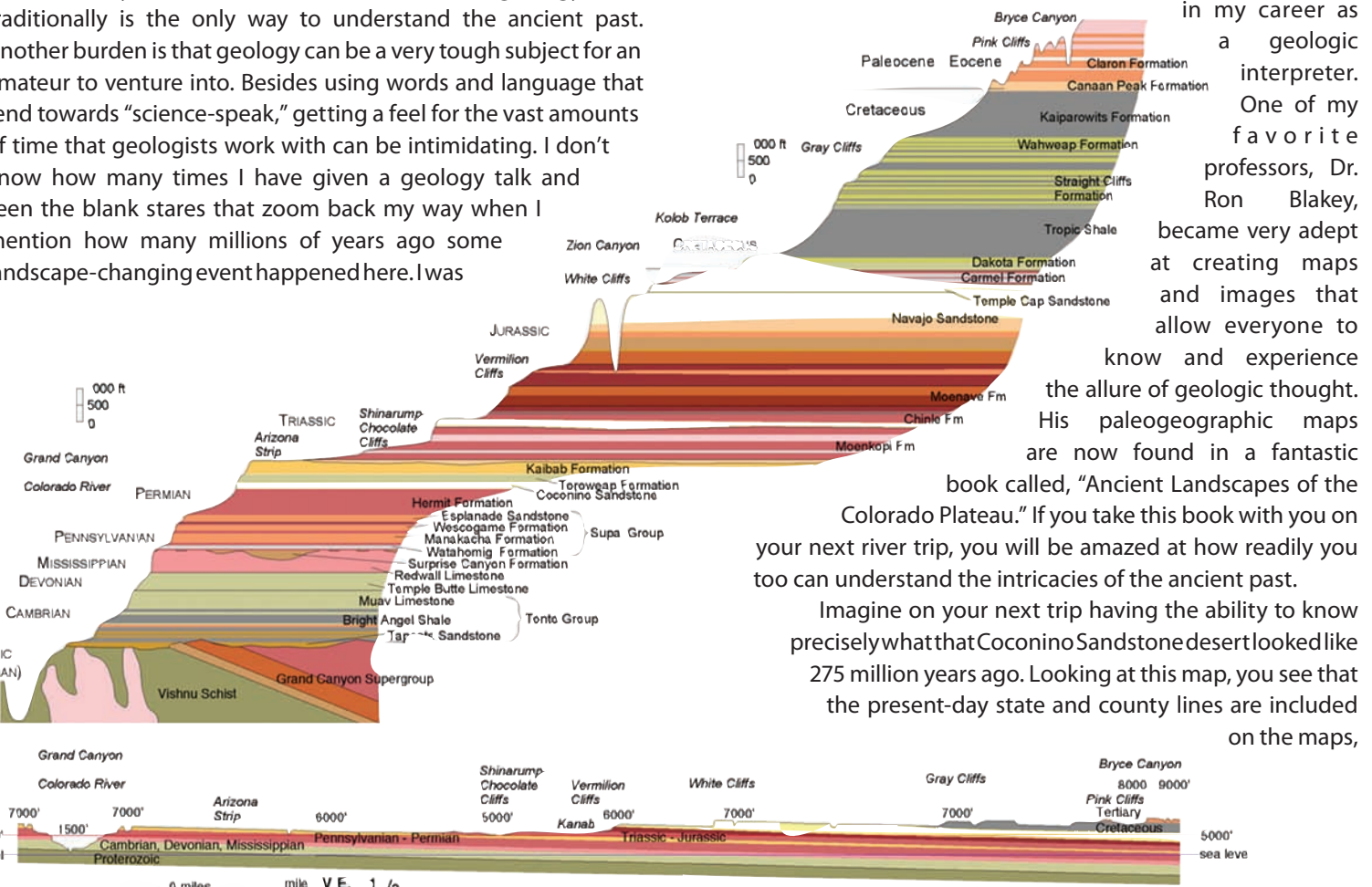
Warm, shallow seas of the Mississippian period foster deposition of Redwall limestone.



Early to middle Cambrian shorelines see deposition of Tapeats sandstone

fortunate to have some incredible instructors when I studied geology at Northern Arizona University and they instilled in me a respect and awe for earth history that has served me well

in my career as a geologic interpreter. One of my favorite professors, Dr. Ron Blakey, became very adept at creating maps and images that allow everyone to know and experience the allure of geologic thought. His paleogeographic maps are now found in a fantastic book called, "Ancient Landscapes of the Colorado Plateau." If you take this book with you on your next river trip, you will be amazed at how readily you too can understand the intricacies of the ancient past. Imagine on your next trip having the ability to know precisely what that Coconino Sandstone desert looked like 275 million years ago. Looking at this map, you see that the present-day state and county lines are included on the maps,



allowing you to precisely reference and pinpoint your present position in that ancient desert. You can turn the page and look at the map of the Redwall Sea, seeing that all of the Grand Canyon was under seawater 340 million years ago. And turning subsequent pages brings you to realistic depictions of the Tapeats beach, the floodplain of a Supai river, or the very ancient Vishnu mountains. It is truly magic! And although it is the present-day landscape and the Colorado River that initially brought you here, "Ancient Landscapes" allows you to see and tangibly know many of the previous landscapes that helped to shape the Grand Canyon. This book is a tool that can be used to help you and your fellow travelers better understand what otherwise is rather privileged information.

It is through the geologic fieldwork and artistic skills of Dr. Blakey that these long-lost landscapes jump out to us. He has studied the geology and geologic history of the American Southwest for over 40 years and his maps are informed by countless scientific studies that have been synthesized into a coherent whole. Someone would have to wade through thousands of arcane scientific articles to retrieve all of the information that is included within these maps. They are rendered in a visually appealing manner with the use of advanced computer programs such as Photoshop © and Adobe Illustrator ©. "Ancient Landscapes of the Colorado Plateau" is published by the folks at the Grand Canyon Association (GCA) and can be ordered from them on their web site, www.grandcanyon.org.

I am the co-author of "Ancient Landscapes" and wrote the text that accompanies these beautiful maps. As one of Ron's former students, I just happened to be in the right place at the right time to help him facilitate the publication of this gem of a book. I like to joke that "Ancient Landscapes" is a lot like a Playboy magazine – everyone says they look at it to read the articles, when in reality

they pick it up to look at the pictures. I don't mind. The book's 70 paleogeographic maps centered on the American Southwest show many ancient landscape features from Wyoming to Mexico and California to Colorado. There are other maps depicting all of North America, as well as global reconstructions of all the earth's continents through time. Additionally, there are diagrams that help you to better organize all of the various rock layers as they appear across the entire Colorado Plateau. In addition to the rocks at Grand Canyon, there is much information about the layers that have already been stripped away from the canyon – the so-called "dinosaur layers" to the north.

I include only a few of the fantastic maps and diagrams that are found in "Ancient Landscapes of the Colorado Plateau." One of my favorites is the stratigraphic column for all of the rocks on the Colorado Plateau. As you look at this column, notice that only about one third of the entire stack of strata found on the Plateau makes up the rocks from the bottom of the Grand Canyon to the top. As a trail guide in the canyon, I am always glad that I came into existence after that other two-thirds of the layers were eroded away! I couldn't imagine hiking 15,000 feet out of the canyon. For your next trip to the Grand Canyon, or for some good curl-up-under-a-blanket winter reading, check out this new book. You'll never look at the landscape in the same way again.

OCOTILLO

Ocotillo is one of the most characteristic plants of the southwestern deserts. This woody, semi-succulent shrub with sword-like branches growing 2-9 meters long is not easily confused with any other plant. Ocotillo comes alive in the spring when brilliant orange-red flower clusters burst from its branch tips. Following a rainy winter or summer monsoons, ocotillo is particularly impressive with its lush, green foliage densely covering the long, elegant stems. After the rains subside, the gray branches blend in to the surrounding landscape.

You may first mistake this plant for a cactus or a succulent because of its thorny, leafless nature, but it is actually neither. The harsh desert environment compelled ocotillo, cacti and other succulents to evolve similar strategies (shallow roots, reduced leaves, water storage organs) for coping with extreme



heat and dryness. Ocotillo does not reside in the Cactus Family because of its fused flower petals, which are more highly evolved than the free petals of cacti. The photosynthetic stems allow it to produce energy without losing precious water from its leaves. Its spreading, spiny branches come into leaf during each rainy period, and the foliage is shed in the intervening dry spells to aid in conserving water. It may actually change its leaves five or six times during some years.

Ocotillo is an important food plant for hummingbirds in need of "fast-food" stopovers on their spring migration through the desert to breeding grounds further north. It is often the only plant blooming in drought years, offering a relatively stable food source. It bears tubular flowers that have probably coevolved to suit the needs of these specific pollinators, such as hummingbirds (Anna's, black-chinned, broad-billed, broad-tailed, Costa's, and rufous). During the peak nectar-producing season, carpenter bees transfer pollen effectively while crawling around on the inflorescences as they feed on the flower tubes. Look for ocotillo stripped of leaves from the top down for evidence of the Calleta moth feeding during the summer rainy season. Antelope ground squirrels scurry up onto ocotillo branches and feed on the seeds and flowers.

Ocotillo reveals an interesting correlation of elevation, geology, and soil type. At higher elevations (to 6000 feet) it favors limestone formations, which have high specific heat and are able to retain warmth longer than other rocks. This helps ocotillo persist during the winter season at the high end of its elevational limit, as in Grand Canyon. At lower elevations (to sea level), ocotillo is more limited by water availability than temperature. Here it prefers granite soils, which more readily retain organic matter and moisture.

Where it occurs, native people, pioneers and explorers have used ocotillo for centuries. Tohono O'odham (Papago) people use ocotillo for house construction, while Akimel O'odham (Pima) people beautify their gardens with it. Highly flammable and sensitive to fire, ocotillo bark is full of resin and burns with heavy smoke, making it a supreme firewood. Mexican natives made the thin, dry wands of the ocotillo into torches. Branch cuttings root readily and make

living fences, hedges, or enclosures, which also serve as coyote-proof runs and corrals for fowl. Ocotillo is often used along with adobe mud in constructing shelters, houses, and outhouses and as support for thatched roofs of ramadas.

The flowers, soaked in cold water, make a very refreshing and tasty beverage. Others eat the seeds, which reportedly have an alum-like drying quality and make the mouth feel very strange. Herbalists make a tea from the bark to cleanse the lymph system and as a poultice to reduce swelling and inflammation.

According to Rose E. Collom, Grand Canyon National Park's first botanist, the Apache Indians relieved fatigue by bathing in a decoction of the roots and also applied the powdered roots to painful swellings. Around 1760, German Jesuit Ignaz Pfefferkorn testified that "this contemptible hocotillo is an incomparable remedy in driving away with astonishing speed swellings caused by falls, bumps, or crushing by peeling some hocotillo twigs, roasting the remainder for a short time in hot ashes, ... then [pressing] out the juice on a cloth and [binding] the swollen leg with it."

The genus, *Fouquieria*, has 13 species and is restricted to the arid regions of North America. It is named for a Parisian professor of medicine, Pierre Éloi Fouquier (1776-1850) and *splendens* is descriptive of the brilliant, scarlet flowers. First collected in 1847 near Chihuahua, Mexico by Dr. Frederick Adolphus Wislizenus, Dr. George Engelmann later described *Fouquieria splendens* as distinct from other species in the genus, such as boojum (*Fouquieria columnaris*). Ocotillo has sixteen common names, many of which are derived from Mexican, Spanish, Aztec and other Native American languages.

In Grand Canyon, ocotillo is found on dry mesas and slopes of the Inner Gorge from Colorado River Mile 155 downstream to the Grand Wash Cliffs. As you float on the Colorado River towards Havasu Canyon, look for ocotillo on the Muav benches, first appearing on river left just after you pass the "Polar Bear Rocks," above Ledges Camp. A stately ocotillo greets hikers at the entrance to Havasu Creek along the trail. Although ocotillo is absent from the Grand Canyon fossil record, the lower Grand Canyon took on its present appearance between 4000 and 2000 years ago, a landscape that included ocotillo. It lives for several centuries as evidenced in comparisons of historical photographs. Elsewhere, ocotillo is found on dry mesas and plains in grasslands and deserts from southwestern California extending east to Texas and south to mainland Mexico and Baja California.

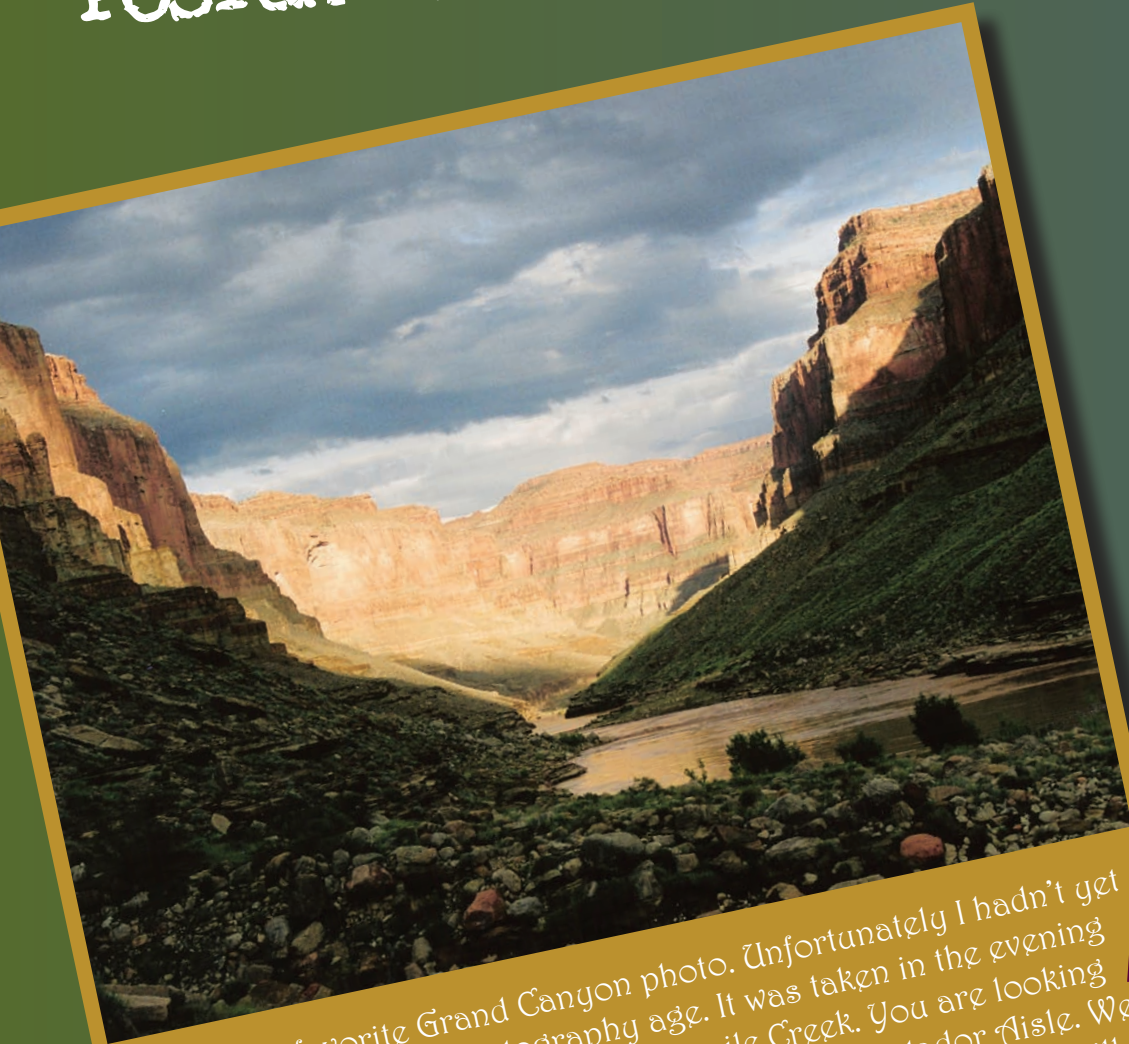
Researched by Richard Quartaroli

Originally published in the Summer, 2005 issue of THE BOATMAN'S QUARTERLY REVIEW, a publication of Grand Canyon River Guides.

ALL PHOTOS © MARI CARLOS



POSTCARDS FROM THE CANYON



This is my favorite Grand Canyon photo. Unfortunately I hadn't get into the digital photography age. It was taken in the evening shortly after we set up camp at 122 mile Creek. You are looking upriver towards Marcos Terrace through Conquistador Nisle. We took the Canyoners motorized trip in late August, 1999. It still ranks as our favorite vacation.
Don Olson - Chillieoth, Illinois



Our third afternoon out on the river, a storm came up. After setting up camp in a chilly downpour, we all ate dinner standing up, huddled under a tarp that kept wanting to blow away. But as we were finishing our meal, the sun broke through, turning the top of the canyon golden and treating us to a beautiful double rainbow.

Karen Martindale - Knoxville, TN



This photo was taken on the Tapeats Creek/Thunder River/Surprise Valley/Deer Creek loop. Chelsea Taylor, a dancer when she is not river guiding for Arizona River Runners, poses at the apex of the trail, just before it descends into Surprise Valley. Photo submitted by Jan Taylor.

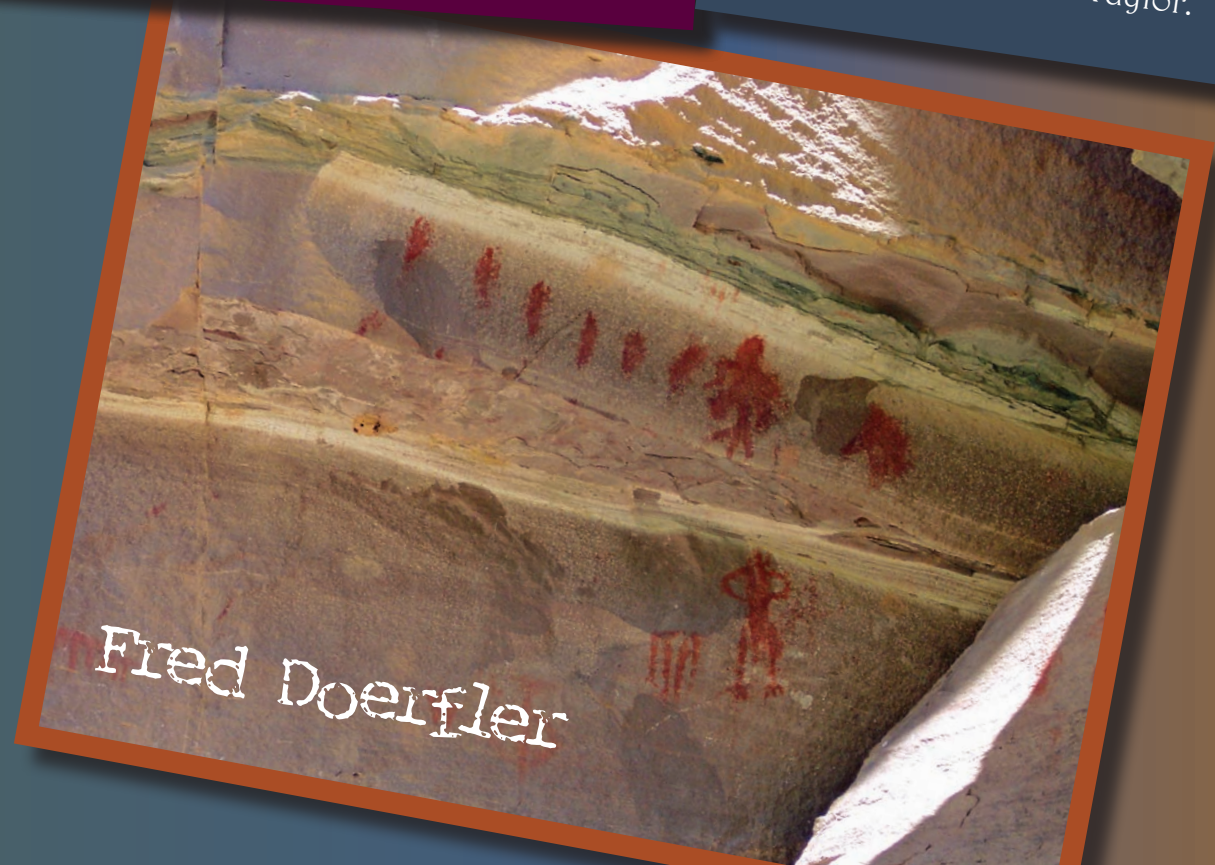
When my parents ventured on a canyon river trip over 30 years ago I couldn't understand why, even to this day, they still talk about that trip as one of their favorite travel adventures. Now I do.

As I followed the same trail that led them to the river, I started to understand what they meant. What a majestic landscape! As the trip progressed onto the river and we hit the first rapids, the understanding grew (although at the time all I keep thinking is "This ain't no Disney ride!"). As each day passed, the canyon way of life became more and more a part of me. What started off as checking off an item on my travel "bucket list" became so much more. Over the short span of days on the river, from silent floating to white knuckle this ain't no Disney ride rapids, the canyon had a profound effect on me. And with that came an understanding of what my parents have been reveling about for the past 30 years.

That was 2006. We are now planning our third trip back.



Cindy LaFrance
Rhode Island



Fred Doerfler

The Day of the Thousand Thousand-Foot Waterfalls

By George Sibley from Mountain Gazette No. 155 - May 2009



PHOTO BY MARK STEMM

It was a miserable morning in a transcendent landscape. We huddled in the rafts under a steady businesslike rain, learning about all the leaks in our waterproof gear, while looking out and up to waterfall after waterfall, waterfalls coming freefall in 500- or 1,000-foot leaps over the great limestone walls in the lower Grand Canyon. Shifting convocations of mist, fragments of clouds drifted through and died against the walls; occasionally rocks rattled down the walls, startling us and plopping into the river; but mostly we just huddled, stunned by the wet chill and that great gray dream of beauty as hours, miles passed and the waterfalls kept appearing around each turn and bend of the river till we were no longer amazed, and just wondered when or if it would stop raining — but not really hoping for that, knowing that the waterfalls would also stop.

We'd been lucky that morning; we'd woken to a threatening sky, but managed to get breakfasted and all packed up and ready to go before it started to rain. We were one of those instant societies that come together for a couple or three weeks in

the Grand Canyon — twenty-some of us, under the guidance of half a dozen members of the tribe of boatmen (two of ours were women). Some of us were small clumps of couples and friends traveling together, but all of us had been strangers to most of the rest of us when we'd started from Lee's Ferry two weeks before the day of the thousand-foot waterfalls. We were by then already well into the social sorting of genuines to be enjoyed, creatives to be followed, incompetents to be helped, arrogants to be tolerated, and the like, as we went with the river by day and a sandbar by night, setting up a movable feast every evening, ephemeral civilization at the bottom of the debris and chaos of ever-moving water, air and rock that is the Grand Canyon.

I was officially there as a "boatman's assistant" — thanks to Brad Dimock, a fellow writer and friend whose life has been intimately involved with the Grand Canyon for 35 years. "Assistant" meant I sliced and diced as prep cook, did dishes, hauled the groover and otherwise made myself useful at our nightly civilization-on-a-sandbar.

Beyond that, I was just a passenger, which was fine with me and everyone else — no responsibilities out on the river itself, thank god.

But that morning — the rain began around 8:30, abrupt and hard, just as the boatmen were lashing the last drybags down. The groover was already aboard — a sure sign of imminent departure. But it was raining hard enough that they sent us back up the beach to wait it out, under an overhang because of possible falling rocks. We stayed there maybe 45 minutes, and watched the world change before us.

Immediately across the river, we saw water begin to trickle in a little pinkish stream out of a notch 80 or 100 feet high, splash down onto a sloped ledge 20 feet above the river, then off that into the river. But the trickle began quickly to grow in size, and then we saw another fall start above that one, feeding into it, that second fall — what, 300 feet above us? 500? John Wesley Powell carried surveying instruments that let him estimate heights more accurately down there, but I just guessed, and then discounted my guesses 25-percent because I prefer understatement to hyperbole.

Then we saw yet a third waterfall start from the distant top of the visible canyon, at first just a thin thread of white falling free the full height of the tallest limestone, and within minutes, growing to something very much like the pictures of Yosemite's bigwall waterfalls. A few hundred feet downstream from that one, another waterfall came over the rim, and then as far downriver as we could see through the rain and mist, waterfall after waterfall . . .

Meanwhile, within 15 or 20 minutes, the river changed: The translucent green water we'd floated on for two weeks became an opaque red slurry that was visibly rising as we watched. And our triple waterfall right across the river grew redder as more water came down; the top one stayed pink, but the one off the next-lower wall turned red, and the one closest to us began to look like a great spill of blood — the thick brownish red that blood is while it's still inside. Its volume — both quantity and sound — was huge and intense as it pounded on the bottom ledge; there was no further mystery about how water could carve rock down there, or more accurately, beat it to sand — although what pounded down on the ledge looked and sounded like something closer to mud than water.

The rain eventually settled down to a steady but less imposing downpour, and the boatmen decided we might as well head on down the river. Just a quarter-mile downstream, Brad shipped his oars to take a picture; the boatmen have an "adopt-a-beach" program whereby they take pictures of the same beach every time they go past it, to monitor changes, and his beach was — he thought — just ahead.

But after a minute, he got a funny look on his face. "It's gone," he said. He pointed out the place where it had been, his last trip only three weeks earlier; now it was gone, the last of it possibly washing out only a few minutes before we got there.

What is it about a waterfall that is so mesmerizing? It's something to do with the release, the letting-go that we mistake for freedom. And leaping down like these were, in 200-, 500-, 1,000-foot freefalls — something to do with excess too, or maybe just extravagant abundance, all that potential energy being just exuberantly, flagrantly flaunted in sheer beauty.

I do not know if there were really 1,000 of them; I didn't count; I was too busy watching them, and thus may have succumbed to hyperbole after all, a common problem in the canyons.

Despite having studied and written about "the Colorado Rivers," Upper and Lower, on and off for the past 30 years — mostly more political stuff — and having a deep abiding fascination with all of its manifestations in the life of the American Southwest, it was my first time on the river through the Grand Canyon — the "Middle Colorado" — which makes me shy about writing on it, being just a tourist.

Furthermore, it'll probably get me thrown out of this broadshouldered magazine to confess it, but I didn't enjoy the rapids. I'm not a water person — a sinker, not a swimmer; and getting whapped head-on by a few hundred gallons of cold water became a marginal idea of fun. Sliding down the tongue of every rapid — feeling the water pick up the raft the way the lift cable picks up a quad chair at a ski area, to carry us into a place where I couldn't really believe the boatmen had much control over what happened — the only thing more rapid than the rapid was me rapidly praying to any god or gods lurking down there in the basement chaos of creation.

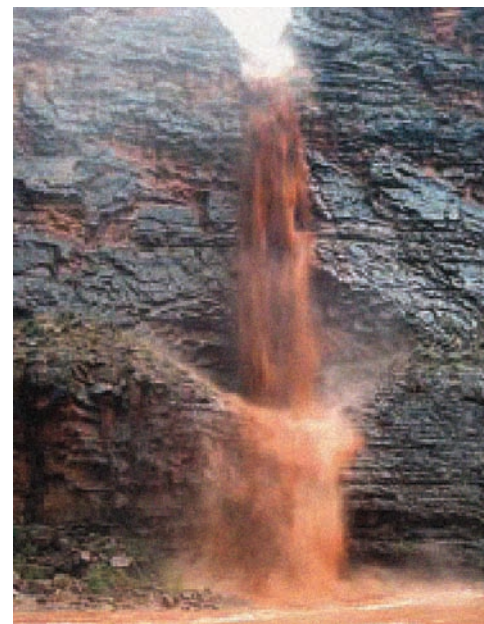


PHOTO © EVA SJOGREN

Brad — who has been down rivers all over the Western Hemisphere — says the Colorado's rapids are not "mean or angry," they are just "big and jumpy," but "angry" or "jumpy" is a pretty fine distinction when you're sliding down one standing wave into a trough and looking up at the ten-foot thrashing wall of the next wave you're either going to go up or through or some of both.

I was lucky — we only had one close call where I found myself standing on one tube trying to push the tube on the other side back down from near vertical to horizontal. Then the standing wave stood down or something — I have no delusions about having successfully flattened it myself — and we were ejected from the rapid (minus our boatman, who was thrown overboard), more or less horizontal with me again sprawled in the bottom of the raft.

I most enjoyed the long calm stretches where the river sometimes hardly seemed to be moving — and was, in fact, often moving back upstream in subtle eddies as much as downstream. The boatmen let us passengers row occasionally in those calm stretches, and I learned how elusive the current could be — a mere thread of water winding among back eddies and upwells and sinks.

But mostly I was happy to just sit and watch geology and hydrology happen or not as we moved slowly through it all. The bigness of the Grand Canyon is obvious enough from postcards, and needs no further comment — it doesn't help descriptively to use more sesquipedalian synonyms: massive, monumental, stupendous, et cetera. "Big" is a sufficient descriptor for that most obvious quality of the Grand Canyon.

But what gradually came to me after a few days was the fragility of it — fragility on a scale that boggles the comprehension. We would go past a piece of rock that had cracked away from a wall and slipped twenty feet or so, to sit partly in the water yet still leaning against the wall — but the piece of rock was the size of a three-story building, and one wondered how far up the opposite wall the wave from its fall would have washed our raft. It is all falling apart, down there, but the parts are really (forgive me) big — although, eventually, they do all end up as sand.

The river moves the sand along — quickly in places, ever so slowly in others — and the eddies pile it up against the walls, and seeds blow in and try to anchor it, and boats full of people with luggage land there and create moveable civilization. But eventually it rains harder and longer than usual, or rocks roll around on the bottom and shift the current, and that stirs the sand and it follows the people on down the river. Everything is moving on through except for the standing waves in the river and the standing walls above the river.

The really big walls the waterfalls spilled over are limestone; the Grand Canyon alternates thick

layers of hard limestone with sloping layers of softer shales and sandstones, until you get down to the "basement" schist and granite of the inner gorges.

At Lee's Ferry, where most Grand Canyon trips start, the layer of Kaibab limestone emerges from under the sandstones of the Colorado Plateau, rising out of the river itself right there, then ascending as the river descends until within a couple days it is only occasionally visible thousands of feet above the river, capping the high plateau that bears its name. But the most impressive formation in the canyon, to this tourist anyway, is the Redwall limestone — the Redwall and Temple Butte formations together that create the thousand-foot vertical walls over which poured the high falls we saw the day of the thousand-foot waterfalls.

The rain finally stopped about midday, and the sun began to break through the clouds. We all pulled over onto a big shelf of rock and heated up some water for instant soup and tea to warm the innards as the sun quickly took over the task of warming up the outards. Rain gear came off, polypro dried out — and somewhere during that flurry of activity, the waterfalls stopped falling. And, except for the blood tone of the river, it already seemed more like something dreamed than something remembered. Who could believe a thousand thousand-foot waterfalls?

Several people on our journey were on their second or third trip through the canyons. Brad stopped counting about fifty trips ago. But I am pretty sure my first trip will be my last. Mostly, this is because, like I said, I am not a water person. Everybody needs to find a geography that fits, and mine is the high valleys and mountains, where the streams are small and many. Brad Dimock's is clearly the Canyon's; he is in all ways thoroughly immersed in the Canyon's river, knows its natural history and its human history; his stories from his own history in and with the Canyon and its places and people greatly enriched the experience of being there for all of us.

But another reason for thinking, now at least, that I don't want to go back was the day of the thousand thousand-foot waterfalls. How could the river and its canyons and the weather, that eternal collision of earth air water fire, conspire or contend more magnificently than that? Accept the blessing; don't push the luck. Next time I'll probably fall in.

George Sibley is a landlubber from Gunnison, Colorado, and likes life high and dry. His "patron" on this river trip, Brad Dimock of Flagstaff, AZ, is also a contributor to *The River Runner*, and is a senior guide for Arizona Raft Adventures of Flagstaff.

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California Condor Update

Late Summer, 2009

By Eddie Feltes, The Peregrine Fund



The summer months in the high desert of northern Arizona and southern Utah have elicited the usual behavioral changes that we witness each year around the same time--the shift in foraging range into the higher elevations of southern Utah. By mid-June, the majority of our population starts to gradually make the "scouting" flights up north to the Kolob range in search for presence of the abundant domestic sheep herds that are brought to the area of private ranches for summer grazing. Once enough sheep are localized by the birds, they start to key in on the fragmented herds, knowing that food is going to become available daily as sheep mortality starts to initialize. This is foraging behavior that the California Condor has evolved to excel in--keying in on large mammalian herds, thus leading to higher chance of capitalizing on mortality as herd size increases. And as opportunistic scavengers relying on vision and observation for survival, it is no wonder that these scavengers flock up while foraging. More sets of eyes patrolling the vast area increase success of locating carcasses and other scavengers exponentially. During the Pleistocene these birds exhibited the same behavior with the large megafauna herds available then; and today, although specific

circumstances are different, the success and causes of this foraging technique are very similar.

The two newest additions to the southern Utah population include most recently released condors 426F and 454M. Scouting missions include flights back and forth from our release site in the Vermilion Cliffs, Arizona, to southern Utah, and each time individual or groups of birds make these trips, potential to attract other birds is very likely. This is exactly how these two young, inexperienced birds made the 80+ mile trip in mid-July, and have stayed since. This is great behavior to witness, and is a major benefit of having an established population to teach these inexperienced foragers the ropes of surviving in the wild.

On the breeding front, we have two pairs that are currently raising chicks in the wild--126F/114M in the Vermilion Cliffs, and the new pairing of 210F/122M in the Tapeats area of the Grand Canyon. Since the May observation of the Vermilion Cliffs chick, now given the number 515, we have been able to observe the nestling daily as it becomes more active and confident in exploration of the immediate area of the nest cave porch. Everything is going great with the rearing of the

now 111-day-old bird by both parent condors.

The other active nesting of 210F and 122M that we suspected to be tending a developing chick has had a positive chain of events resulting from our monitoring in the remote location. On May 31, 2009, condor project biologists Tim Hauck and Evan Buechley made an observational backpacking trip into the canyon, and observed both parent birds in the immediate vicinity, both visually and with means of radio telemetry, but were unable to pinpoint the actual nest cave location. Then, three weeks later, in hopes of getting observations of nest cave entry, biologist Neil Paprocki planned a similar backpacking trip with a slightly different route, and he succeeded. Neil was able to observe both condors entering and exiting an immense cave formation in the canyon wall where we have suspected this activity. Due to the size of the nest cave, the location of observation, and the young age of the suspected nestling with limited mobility, no visual was granted of the chick, but major progress was achieved in locating the exact cave.

A month later, biologist Evan Buechley made another trip down to the remote location, this time pooling together maps with routes and points of observation that might produce the best chance of getting a glimpse inside the now known nest cave of this reclusive pair. On 20-July-2009, after hiking in the night before and setting up camp, enduring a sleepless night from all of the anticipation, and setting up a scope at first light to observe, Evan was able to catch a first ever viewing of the long suspected condor chick, now numbered #527. During Evan's observation, he was able to witness a feeding from parent 210F, resulting in an extended crop or "splitter" as we call it on the young condor chick. 527 is the first chick produced from this pair, and the second produced by each parent bird that had produced one apiece during past pairings with previous mates; and the 11th condor chick produced in the wild by this released population since the first fledging here in 2003. This now confirmed young bird brings the total free-flying population of condors to 75 in Arizona/Utah, and another 6 being held for future release makes a grand total of 81 birds!



Eddie Feltes is the California Condor Restoration Project Field Manager for The Peregrine Fund. He and other wildlife biologists named in this article are based in Marble Canyon along Grand Canyon's north rim. For regular updates on the Condor population, please see Notes from the Field at <http://www.peregrinefund.org/default.asp>, to which Eddie is a regular contributor.

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Prepare Your Knees!

Text and Photos by Dr. Erin Hayden

Knee pain or soreness is a common complaint amongst the travelers of the Grand Canyon's river corridor. Every hike that starts from the river can only go one direction: UP. Moreover, what goes up must come down. Our knees get a workout nearly every day while in the Canyon, and after we get home many of us wonder, "Is there something we could have done before the trip to better prepare our knees for the challenges we faced?"

Here are few simple tips and do-at-home exercises from Dr. Erin Hayden, physical therapist, which will put your knees in top shape by the time your trip launches. They do not require a gym, and virtually no special equipment is required.

Decreasing the load

One of the primary purposes of the knee joint is to provide shock absorption for the body. The larger the forces placed on the knee, the harder the knee joint and surrounding structures have to work to provide support to the body. Although there are many health reasons for reducing your overall weight, weight reduction is extremely important in decreasing the demands on the knees and preventing injuries. Protecting your joints is a great motivation for starting, continuing, or keeping a healthy lifestyle. An important concept to remember is that every ounce of effort made to improve your health will make a difference when it comes to your joints—literally. Each pound of weight loss results in a 4-fold decrease in the load exerted on the knee joint.² A small decrease in weight will make a large impact on the stress at the knee joint. Just imagine what a difference one pound will make when you are walking nine miles on the Bright Angel Trail and taking approximately 20,000 steps.

The use of trekking poles also helps reduce loading on the joints of the lower extremity.^{1,3} This simple tool could make a world of difference for you. Although it may not be possible to bring extra equipment with you on your trip (check with your outfitter), it will definitely help decrease the soreness experienced during preparatory training.

Strength Training

Strengthening the muscles that surround the knee will decrease stress on the knee joint by assisting in shock absorption. An increase in strength will help prevent injuries to the knee and associated structures. Important muscles to strengthen are the quadriceps, hamstrings, gastrocnemius and soleus. Abdominal and gluteal or buttock muscle strength is also crucial. Walking, stair climbing and hiking are great ways to train specifically for your Grand Canyon trip by helping to strengthen your legs. Three other great exercises are squats (figure 1), multi direction lunges (figures 2-4) and jumping rope.

Stretching

Regular stretching is another crucial aspect to incorporate into an exercise program for preventing knee injuries. If muscles are tight that surround the knee joint, it will increase compressive forces at the joint itself. Stretching will increase the length of the muscle. This increased length will give the muscle more room to adapt before sustaining injury. Maintaining or increasing flexibility will help prevent those unknown injuries on your trip. Increases in the flexibility of the quadriceps, hamstrings, gastrocnemius and soleus muscles are the most important. See figures 5-7 for examples of ways to stretch these muscles.

Balance Training

One final tip to help prevent injuries is to improve your balance. Good balance will help reduce injuries that result from falling or twisting the knee on loose gravel or other unpredictable terrain. If exercise time is a factor, practice standing on one foot while in line for your cup of coffee or at the grocery store. Once you can achieve balancing on one leg for greater than thirty seconds, start practicing with your eyes closed. However, it is best to perform this exercise in a corner or with the use of a doorframe for safety. It is important to be able to balance with your eyes closed. While hiking, you will likely not be focusing on every step you take; but instead may be distracted by the absolute beauty of the Grand Canyon. You need to practice balance with your eyes closed or balancing while talking to a friend to get used to these types of distractions.

The more time you can put into your training program, the greater will be the benefit; however every little bit helps. A regular exercise routine will likely help decrease knee soreness during and after your trip. Remember though, if you only have time to watch what you eat, purchase or borrow trekking poles, and practice standing on one leg while waiting for your cup of coffee, it will be worth it. Before performing these exercises, or any type of exercise program, it is recommended that you consult with your physician for authorization and clearance.

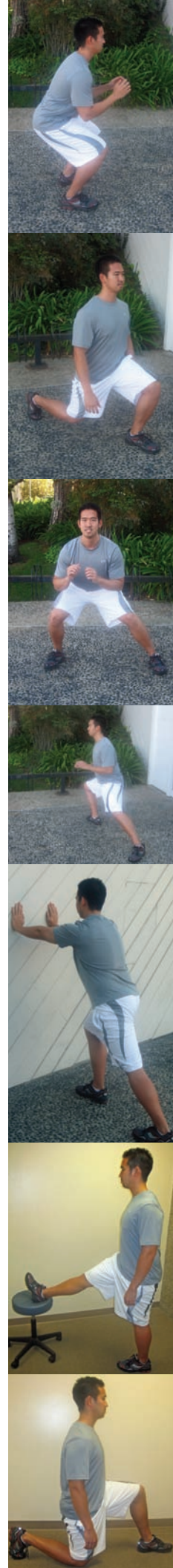
Enjoy your trip!

Erin Hayden, Doctor of Physical Therapy, Orthopedic Clinical Specialist

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An Unforgettable Summer Adventure

Where can you go to sleep outdoors on sand for a whole week, hike and climb in 105 degree heat, shuffle 56 heavy duffle bags twice a day with a dozen of your friends, wear the same clothes wet and dried uncountable times, bathe and pee in a fast-moving river?

And where can you go to experience colorful and varied scenery crafted for millions of years, ride through rapid-moving white water, soak in turquoise pools or shower in spring-fed waterfalls, wake to the smell of hot coffee?

If you answered the Colorado River of the Grand Canyon, you guessed correctly. And perhaps by now you've met up with one of a couple of dozen Ouray County folks who recently returned from eight days together there, smiling despite their bumps, bruises, scratches and sunburns.

On the last Thursday in June our group gathered in Las Vegas and traveled by bus the next morning to Lee's Ferry just west of Page, Arizona. There we met our guides and boarded two large, motor-driven rafts, the Silver Grotto and the Bright Angel.

That first afternoon we got introduced to white water splashing us, soaking us, and shifting us off our seat cushions as we began our journey through one of nature's finest monuments. We learned about all the unique layers of colorful sandstone, limestone, shale, quartzite, pink granite, and shiny schist we made our way through. And we heard the lore of the rapids we traveled through, saying their names: Hance, Sockdolager, Hermit, Crystal.

Most days we traveled 25-40 miles below cliffs and between walls shaded brown, red, gray, and green, marveling at the effects of uplift, erosion, volcanic activity and time. Sometimes we pointed out birds—ravens, blue herons, a flock of avocets—or named cacti that sometimes grew right of the rocks—barrel, prickly

pear, ocotillo. A few times we spotted and photographed desert bighorn sheep. On beach lunch stops we huddled under the shade of mesquite trees. Evenings at camp we hung our clothes on tamarisk branches.

We learned to deal with both stark contrasts and subtleties; very hot days and 55-degree river water that changed from deep green to brown, turning to pewter at dusk and dawn. We dipped hats and shirts in rocky steam beds to keep cool on hikes. Most days our guides found places for us to play in shady pools or under sparkling waterfalls. In the bright blue Little Colorado River we rode its current on life jackets like kids.

Our trip was the 182nd for head guide Irv, a man of few words who excelled equally in geology, river running and fine cooking. Dustin, our other guide, favored a ten-gallon hat, was a great storyteller and always told us what rapid was coming next. Christin and Katy were their "swampers," who helped with ropes and piloting the rafts as well as assisting with the myriad of camp details.

By about 5:00 p.m. every day Irv and Dustin found a suitable place to beach the rafts, and we all found places to set up camps for the night. Then we'd arrange our folding chairs in circles and sit down with cold drinks, talk, consult river maps, eat supper, tell stories and even sing. By the time dusk turned to dark, we were all bedded down, waiting for breezes, naming the stars, listening to the river. Then soon after dawn, we'd hear Irv call out, "Hot coffee!" and another exciting day on the river would begin.

Day Seven near Mile 179 we rode Lava Falls Rapid, considered the largest and most technically challenging in the Grand Canyon. It was a ride none of us will forget! I sat in front of the Silver Grotto on the roped dry boxes hunkered down next to Don. Irv called out, "Hold on with

both hands!" Then he dropped right into the dark green tongue of the rapid right before the first of two huge walls of water engulfed us with just enough time to breathe before the second. After that our raft rode the waves like a bucking bronco. When we were finally through Lava, Irv moved the raft to calmer water and we watched Katy bring Dustin's boat through carrying the rest of our group. I was sure glad our raft went first!

Now that I'm back in the cool mountains of Ouray County, my thoughts keep returning to my week in the Grand Canyon. I look again at the small sketches I did in camp each day and reread my journal entries. What a wonderful time I had making new friends and getting to know older friends in new ways.

I learned some things about trust during this physically challenging adventure. I learned to trust the river to carry the raft and the raft to carry me safely. I learned to trust my hands to hold me onto rocks and my feet to find the sure places to step on ledges. I learned to trust the expertise of the guides and the help of fellow hikers in difficult places.

I hope I'll find the words to write a poem or two about my experiences. Right now naturalist Ann Zwinger's words best sum up what I'm feeling:

"If...I cannot be here a century from now, the river will be and that's good enough for me. I appoint it my executor without instruction except to keep on doing what it's doing, sluicing down a limestone-walled canyon, pounding down a rapid, laving a sandbar, throwing spray 20 feet in the air...all I charge it to do is to sustain the enchantment, the rosy pink reflections, the silvery evenings, the platinum dawns, the gilded days of summer."

--Beth Paulson - Ouray, CO



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