

2015

Save the Colorado: Can Recreation Rescue a Preservation Ethic?

John Gioia

Follow this and additional works at: <https://digitalcommons.dartmouth.edu/appalachia>



Part of the [Nonfiction Commons](#)

Recommended Citation

Gioia, John (2015) "Save the Colorado: Can Recreation Rescue a Preservation Ethic?," *Appalachia*: Vol. 66: No. 1, Article 3.

Available at: <https://digitalcommons.dartmouth.edu/appalachia/vol66/iss1/3>

This In This Issue is brought to you for free and open access by Dartmouth Digital Commons. It has been accepted for inclusion in Appalachia by an authorized editor of Dartmouth Digital Commons. For more information, please contact dartmouthdigitalcommons@groups.dartmouth.edu.

Save the Colorado

Can recreation rescue a preservation ethic?

John Gioia



FOLLOWING OUR COLLEGE GRADUATION, MY CLOSEST FRIENDS AND I set out on a celebratory tour, based on a friendship and a longing for wild places. Together we sought North America's remote masterpieces, replete with solitude, and well removed from the commitments of "real life" that lay ahead. Our fraternal ties led us from Colorado's Rocky Mountains to British Columbia's subarctic highlands to the great canyonlands of the Southwest. Our last stop was a boat put-in on the Colorado River known as Lees Ferry. From here, the river would lead us to the Venus de Milo of wild masterpieces—the Grand Canyon. The gentle grade of the canyon walls at Lees Ferry (where the canyon is not yet the Grand) allows roads to reach the water's edge. The area serves as a natural dividing point between the Upper and Lower Colorado river basins. The basins are officially designated as such for the purpose of distributing water throughout the Southwest thanks to Glen Canyon Dam and Lake Powell, just upstream of Lees Ferry. The dam, built from 1956–63 and dedicated in 1966, flooded Glen Canyon.

In late August, in the desert's unrelenting sun and penetrating heat, we arrived at Lees Ferry, ready to take on the final leg of our sojourn. We joined eleven older river runners, all of us tied in some way through friendship or kinship. All sixteen of us had one goal: navigate through the mile-deep canyon that deserved no name other than that which describes its beauty, power, and history: Grand.

We meticulously rigged and packed our boats, recording on detailed maps the exact layout of every cooler and the exact location of every nonperishable food and safety equipment item; our intentions here were to maintain the dry ice content of our coolers for fifteen days in the desert, and, for safety's sake, to know where any piece of gear is at any moment. Our trip leader, a former Colorado River guide and occasional river companion of the late Edward Abbey, assigned roles. He explained how the first few days on the river would look and how we would work as a unit to ensure safety and enjoyment on the Colorado River. By day's end, we were tired and slightly dehydrated from all the rigging, yet ready for the epic two weeks that lay ahead.

THROUGHOUT THE HUMAN HISTORY OF THE SOUTHWEST, THE COLORADO River system has been no less than the lifeblood of the arid region. Major John

Predictable flows of the Colorado River through the Grand Canyon allowed John Gioia and his companions to ride through on rafts. His trip leader applied for the permit a year and a half before they left. JOHN GIOIA

Wesley Powell, a one-armed Civil War veteran whose intellectual brilliance and verbal acuity made up for his slight physical stature, scrutinized every watershed that funneled into the Colorado in the late nineteenth century. During a time when westward expansion and exploration coincided with each other, when we knew little about the lands toward which we ventured, Powell's precautionary approach to water and irrigation management, given his public position as director of the U.S. Geological Survey, were well known. As the United States recovered from the Civil War, entrepreneurs seeking to attract customers hyped the West's mineral and other bounties, sometimes overly facetious in their delivery. The Boosters (the title earned from having myriad false promises) advertised in newspapers land rich in precious minerals with endless opportunities for those bold enough to venture west.¹ Indeed, the guarantees that "rain would follow the plow" were proven irrefutably false by the infamous Dust Bowl² and depicted in literature and film ever since. As expansion and populations ebbed and flowed, industrial agriculture would soon become a necessity to support the growing population. As director of the USGS in 1879, Powell warned of a great divide between east and west, a division of aridity and humidity. In his verbose and prudently scientific publication entitled *A Report on the Lands of the Arid Region of the United States, With a More Detailed Account of the Lands of Utah*, Powell posited that 20 inches of annual rainfall was necessary to sustain commonly used agricultural practices.³ Anything less would be insufficient. Broadly defined, this divide rested along the 100th meridian, which runs north-south through the Dakotas, Nebraska, Kansas, Oklahoma, and Texas. Powell scientifically yet artfully indicated the dry areas on a map of the United States. His rain chart appeared as an insert to *Arid Lands*. That book would set the stage for

¹ Abbott, Carl. *Colorado: A History of the Centennial State, Fifth Edition*. Boulder, CO: University Press of Colorado, 2013. E-book.

² The transformation of millions of acres of thick native grassland in the Midwest and West to wheat fields in the early twentieth century intensified during the Great Depression to cope with plummeting crop values. When prices continued to drop, vast swaths of farmland were abandoned. Coupled with a sustained period of drought, the stage was set for increasingly common dust storms that buried homes and businesses and eroded hundreds of millions of tons of the country's most fertile topsoil. From 1930 to 1940, approximately 3.5 million people left the affected area and nearly 500,000 were left homeless.

³ Powell, John Wesley. *A Report on the Lands of the Arid Region of the United States, With a More Detailed Account of the Lands of Utah*. 2nd edition. Washington, D.C.: U.S. Government Printing Office, U.S. Geological Survey, 1879. <http://pubs.usgs.gov/unnumbered/70039240/report.pdf>

congressional battles, inter- and intra-state debate, and public–private rights issues for decades to come.

Powell believed that if done correctly, water storage could support irrigated agriculture and a modest population in the American Southwest. He correctly observed that during the spring and early summer, river levels surged from snowmelt, and greatly subsided in late fall. To cope with these fluctuations, he advocated dams for small-scale water storage in deep and narrow canyons near the mountainous headwaters of rivers to limit water lost through evaporation. Although he demanded a thorough review of the topography of the Colorado River basin, the Bureau of Reclamation soon had other plans that he felt dismissed his concerns. Surely Powell could not imagine the extent to which the Colorado River system would someday be altered. As author James Lawrence Powell (no relation to John Wesley) put it in his book *Dead Pool*, “to conceive of Hoover and Glen Canyon dams and Lakes Mead and Powell, the Major would have needed more imagination than his contemporary, the visionary writer Jules Verne.”⁴

Despite decades (and counting) of controversy beset by the Bureau of Reclamation’s Glen Canyon Dam and Lake Powell, the regular and predictable flows now allow for manageable rafting trips through the Grand Canyon. More than a year and a half before the day we put in, our trip leader and his (and our soon-to-be) river compatriots from bygone years received a permit through the weighted lottery system that all hopeful private boaters must enter for a chance to run the river. This trip, though in part a celebration of college friendship and brotherhood, was also to be a passing of the torch from their generation to our twenty-something generation—we stood to learn much about river travel, particularly Grand Canyon river travel, from floating downriver with veterans seasoned with years of experience on the Colorado. The morning after rigging our boats and dining at the Lees Ferry Lodge, we put in with nothing but 225 miles of wilderness, massively deep and brilliantly hued canyon walls, wildlife, and turbulent water ahead of us. At first, the river recalled memories of other floats I had done on higher reaches of the Colorado and Green rivers, through Ruby, Horsethief, Desolation, and Gray canyons, through Castle Valley, and on other school research trips to the Yampa and Snake rivers in Dinosaur National Monument. The alluvial fans and washes of Marble Canyon, which we passed through on the first

⁴ Powell, James Lawrence. *Dead Pool: Lake Powell, Global Warming, and the Future of Water in the West*. Berkeley: University of California Press, 2008.

stretch of the float downstream from Lees Ferry, were painted a wet brownish orange that warmly contrasted with the dark green foliage of the riparian vegetation. The river here looked a cold dark blue, an ecologically unfamiliar characteristic attributable to the bottom release at Glen Canyon Dam just a few miles upstream. Dark clouds, cool air, and the ominous threat of a desert storm punctuated day one in Marble Canyon.

Over the next few days, we would stop often and hike up side canyons, where we saw bighorn sheep, petroglyphs (scenes artfully etched into rock walls by native peoples), and fossils. The river had turned its characteristic light brown, resembling coffee with cream, most likely because of flash floods that send ephemeral torrents of the warmer sandy water down side canyons into the Colorado River; this periodic yet normal flooding of warmer water from small tributaries, a process severely affected by the existence of megadams such as Glen Canyon Dam, is necessary to sustain populations of native fish and to scour out vegetation that impedes their growth. On day four, we explored the Nankoweap Delta and the granaries high above the river where the Anasazi once stored corn and other grains grown on the delta. Before Glen Canyon Dam was constructed and flows came under control, the river would routinely flood the Nankoweap Delta and irrigate the uniquely flat area at the bottom of the Grand Canyon. Indeed, the river was the lifeblood of the Southwest long before European settlement of the region. When I asked Connie Rudd in an interview what the river has meant to humans in the Southwest, the former Black Canyon of the Gunnison National Park and Curecanti National Recreation Area superintendent explained, “Life. That’s just it. No river, no life.”

BY THE EARLY 1900S, PIONEERS WERE MOVING WEST IN DROVES AND relying heavily on the river for life sustenance in all forms. With population came an increasing demand for agriculture. Major Powell’s warning that the Southwest simply did not have enough water to support the irrigated land in the plentitude to which the Midwest and East were so accustomed turned out to be true. The Colorado River Compact, approved by Congress in 1922, divided the seven states the river served into upper and lower basins. The upper basin included Colorado, New Mexico, Utah, and Wyoming, and the lower basin included Arizona, California, and Nevada—divisions that still stand. No consideration was given to native peoples’ land or Mexico at the time, although in the 1944 treaty between the United States and Mexico on sharing rivers, Mexico was granted an annual share of the Colorado River’s



*In a side canyon, a desert bighorn sheep, *Ovis canadensis nelsoni*, grazed. This animal is a rare subspecies found only in the southwestern United States and northern Mexico.*

LISA DENSMORE BALLARD

flow. Needing a location for a dam and major reservoir for the upper basin's use, the Colorado River Commission chose Lees Ferry because of its unique accessibility from the rim of the canyon, the same reason why raft trips set out from Lees Ferry today; a significant remnant of the Colorado River Compact is the amount of water allocated for each basin. The commission based its allocations on data collections that began in 1896, a mere 26-year period for a river that had been flowing and carving the Grand Canyon for millions of years, surely experiencing periods of drought as well as periods of abundant moisture. The allocations relied on data collected during a wet period, not then understood as a wet period, in a drought-prone region; thus, the river is "over-allocated" based on skewed data. Furthermore, at the time of the approval of the compact, the population of the state of California was 3.5 million; the population in the four upper basin states totaled less

than 2 million.⁵ Today, the Colorado River supplies water to more than 30 million people. In contrast to the wetter 1920s, today the Southwest is in a documented drought. Its population has grown dramatically since the Colorado River Compact. The population of the upper and lower basin states is expected to reach nearly 70 million by 2025.⁶ People are flocking to the Southwest. The Front Range of Colorado, a term in years past referring to a largely uninhabited region dotted with major cities such as Fort Collins, Boulder, Denver, Colorado Springs, and Pueblo, now continues in a nearly uninterrupted metropolitan chain from Fort Collins in the north to Pueblo, nearly 200 miles south.

In Colorado, water planners have begun taking action. In 2013, Governor John Hickenlooper issued an executive order mandating that the Colorado Water Conservation Board develop a state water plan. Rudd said that the water plan was mandated essentially to reallocate water within Colorado, a state whose water is already over-allocated. “Well, no matter what,” she explained, “if there’s a reallocation of water within the state, it’s going to affect someone. Someone will win, and someone will lose.” Perhaps most importantly, where water is already over-allocated for commercial, agricultural, and residential use, what is to become of the booming population and surely increasing demand for water? As the Front Range continues its rapid growth, it places increasing pressure on western slope (all land west of the Continental Divide, which runs north–south through the Rocky Mountains) river basins for tremendously expensive transmountain diversions of water to metro areas such as Denver and Colorado Springs.

The damming of Glen Canyon outraged conservationists in its time and to this day stirs debate about the pros and cons of water storage. Those who were lucky enough to behold Glen Canyon’s natural brilliance often tout its walls, arches, and hues as being more grand than its downstream neighbor, the Grand Canyon. The Glen Canyon Dam has severely affected the ecological integrity of the Colorado River below it. The river no longer experiences its natural cycle of high and low flows, which are vital for native plant and animal species. Water released from the dam comes from near the bottom of Lake Powell. It is much colder than naturally flowing Colorado River water and therefore unsuitable for the many native plants and animals that inhabit

⁵ Powell, *Dead Pool*.

⁶ U.S. Census Bureau. “Current Population Reports.” Accessed June 8, 2014, from <http://www.census.gov/prod/2/pop/p25/p25-1131.pdf>.

the Grand Canyon below it. Sediment eroded from the sandstone canyons and carried by the river downstream is accumulating in Lake Powell behind Glen Canyon, thus placing an enormous amount of pressure on the aging infrastructure of the dam. In a free-flowing river, sediment does more than simply float down the river. It flushes waste through the system and ensures nutrients are transported downstream. When river systems are dammed and no longer capable of suspending and transporting sediment, as veteran Colorado River biologist Ed Wick once told me and a group of students, “the river dies.”

Downstream of the Nankoweap Delta, a “dead river” was the last thing on our minds. We were just a few river miles from the narrowest section of the Grand Canyon, where rapids can flip a boat as easily as you or I can flip a coin. Yet our thoughts were not without lamentations about a history of development on the Colorado River as our ritual morning readings were often highlighted with excerpts from Major Powell himself, or the great Southwest preservationist-author, Edward Abbey.

Now submerged beneath hundreds of feet of water, Glen Canyon is the home of Glen Canyon National Recreation Area and Lake Powell. Attracting more than 3 million annual visitors to its nearly 2,000 miles of shoreline, Lake Powell has been a massive economic boon to northern Arizona. Likewise, Lake Mead, at the southern terminus of Grand Canyon National Park, and Blue Mesa Reservoir, Colorado’s largest body of water on the Gunnison River, one of the Colorado River’s largest tributaries, provide recreational economies in their regions. Commercial rafting companies, private outfitters, fishing guides, hotels, motels, gear shops, restaurants, vendors, park service and other federal employees—the list goes on and on.

In an interview, Western State Colorado University’s director of Environment and Sustainability, Jeff Sellen, explained, “Water has recreational value now that it did not have 50 years ago. With this in mind, the water diversions from the upper basin to the Front Range across the Continental Divide have had significant impacts on the recreation economy.” Sellen explained that recreation has outpaced agriculture in economic stimulus to local economies during the past several decades and asserted, “There’s political power in those dollars.” In 1971, the Colorado Water Conservation Board gained authority to purchase water rights solely to keep water in rivers and lakes as part of its program to preserve instream flow for the benefit of human use and the natural environment. The CWCB was created in the 1930s to guide water policies. Their instream flow program aims to “preserve and improve the

natural environment to a reasonable degree.”⁷ Although the mission of this particular program is ecologically driven, recreationists directly benefit from the work of the CWCB because boaters and anglers rely on having water in the river.

ON THE SIXTH DAY, WE CAMPED RIVER-LEFT JUST ABOVE GRAPEVINE Rapid on a narrow but habitable sandbar site. Earlier that day, we had entered the upper Granite Gorge, several thousand feet below the canyon rim, where the river is at its narrowest through the Grand Canyon. This looked as I had pictured the Grand Canyon, although I could not have imagined the grandiosity my eyes now beheld. Smooth black Vishnu schist at the river’s surface in the inner gorge is the oldest exposed layer of rock in the Grand Canyon. The USGS estimates its age at nearly 1.75 billion years. The fluted smooth surfaces—in places about 50 feet overhead—were signs of unhindered river flow in the pre-dam era. Massive floods powerful enough to smooth the hard schist and carve out micro-canyons and caverns no longer sweep through the inner gorge.

Awestruck, we excitedly pointed out driftwood to each other that pre-dam floods had wedged into openings in the canyon walls high overhead. Signs of what the river used to be capable of remained everywhere. I felt eternally conflicted; saddened that the river had been so vastly altered, yet thankful that the dam regulated the water enough for recreationists to enjoy the river without the threat of major flooding and life-threatening situations. What was a thrilling run through the inner gorge’s Grapevine, Horn Creek, Granite, and Hermit rapids might have been a perilous journey in higher water. Indeed, these lived up to their famed reputations and forewarned us of what lay ahead in the likes of Crystal and Upset rapids and Lava Falls. With massive holes, laterals, and standing waves, even our 18-foot oar-rigged rafts were at the mercy of the river, albeit dam-controlled, when navigating these rapids.

On the seventh day, we thoroughly scouted Crystal Rapid, which was created not long ago by a flash flood through Crystal Creek, from a gravel bar river-right. In our rafts, we approached confidently, yet on high alert.

⁷ Colorado Department of Natural Resources. “Instream Flow Program,” Colorado Water Conservation Board. Accessed June 9, 2014, from <http://cwcb.state.co.us/environment/instream-flow-program/Pages/main.aspx>.

The river's glasslike surface just upriver of this and most rapids conferred a certain calmness in all passengers floating through. I took hold of the bow line while the boat captain maneuvered us into position in the eerily calm water. Despite the ten-day supply of rations weighing down the boat, Trevor told Seth and me to hold on tight and throw ourselves onto the front tubes of the raft just as we hit the major waves in the rapid. The goal was to keep the boat from flipping bow over stern. As we entered the rapid, a deafening roar enveloped us. Before we knew it, water was crashing over us, one wave after another, each one larger and more powerful than the last. Gasping for breath, I dove onto the front tubes of the boat, desperately trying to meet the energy of the waves. Determined not to let Crystal get the better of us, I held on tight as our raft submarined through the waves' crests rather than over them. Before I know it, we were riding the wave train out of Crystal, whooping and hollering to every canyon wren around that we had made it through. It remains one of the most exhilarating moments of my life.



John Gioia, in front of the raft, makes it through Upset Rapid. GRAEME PLANT

WHEN HUMANS DAM RIVERS, THEY MASSIVELY DISRUPT THE ecological integrity of the watershed through which they run. But in a parched region like the southwestern United States, water storage is a necessity to support a large and growing population. Although Major Powell argued that water should be stored in smaller reservoirs to avoid massive evaporation that might occur in larger reservoirs, he could never have envisioned the Southwest growing to its current size simply because he did not believe there was enough water to support such growth. Sellen explained that at the beginning of the twentieth century, conservation in the United States, as a theory and a practice, was interpreted far differently than it is today. It did not imply a degree of preservation. Conservation then meant putting water toward human use. It meant not “wasting” it, precisely the policy that led the Colorado River Commission to appropriate every gallon of water and more than the river annually produces. Today, we have expanded our understanding of conservation to include ecology. As Aldo Leopold relates in his essay, “Land Ethic,” “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”⁸ Though perhaps a lopsided sentiment when considering humans’ needs, Leopold’s sentiment echoes widely in today’s conservation community and is the basis on which much opposition to dams is founded.

One major reason for the influx of population to the Southwest is recreation. As technology improves and more activities and areas become more accessible to more people, the Southwest grows. “Use” of the Colorado River now includes the nonconsumptive activities of recreation (kayaking, rafting, fishing), which has major implications for management and economic stimulus. In 2012 alone, the eleven national parks included in the Colorado River basin saw nearly 19 million visitors spend roughly \$1.22 billion. The economic impact reaches even further when considering jobs and local economies supported in towns and cities near national parks and other federal lands. As Rudd said, “State and federal agencies tasked with managing any portion of the Colorado River have to step up and understand what resources are at risk, understand the science behind it, and understand the trend of water use.” The current trajectory points toward increasing use of Colorado River water for recreation, and that means benefits for local economies, at least those that benefit from recreation. Although the National

⁸ Leopold, Aldo. “Land Ethic.” *In A Sand County Almanac*. New York: Oxford University Press, 1949.

Park Service's mission says nothing about local economies, it is tasked with an almost impossible mission, which Rudd explained is "to preserve unimpaired the resources that we have for future generations." As Sellen suggested, there is political power in the economic stimulus provided by recreation. Thus, recreation may be a means for the National Park Service to work toward its nearly impossible mission of protecting its resources. If the resources of the eleven parks in the Colorado River basin begin to dry up, elected officials are going to notice the economic repercussions.

AS WE APPROACHED LAVA FALLS ON DAY FOURTEEN, THE LAST THING on our minds was a shortage of water. We pulled our boats to the shore just upstream of the fabled rapid, and scouted it from the small cliffs above. The water was relatively low, but we detected several holes that could devour our rafts in seconds. Running Lava requires patience, precision, and confidence. We watched from above as the kayakers in our group picked their way through the whitewater; our rafts would follow the path they took. After clean runs from each of them during which they all but disappeared in the deep holes toward the bottom of the rapid, it was our turn. Ahead of the raft I was in, our trip leader, a man who had run Lava nearly 30 times, charged through the first obstacles. His boat dropped out of our view as it entered the final part of the rapid, just as we were entering from the top. Our raft lined up perfectly from the start, but a massive lateral wave soon spun us sideways. Before I knew it, we were heading into the final hole backward. Out of the corner of my eye, I caught sight of our trip leader's flipped raft floating just below us, three swimmers by its side. With not much time to consider the downstream carnage, we plowed through the final wave backward as a tower of water crashed down from above. Safely through the rapid, we set our sights on our swimming trip mates, all tossed from their boat when Lava turned it over with no more than the shrug of its shoulder.

In our run through Lava, the river had no regard for our presence. It did not care whether our run through was safe, or not. The river had its own agenda. When something like this happens, when Mother Nature exerts her power over us as we recreate, a catchphrase we are wont to invoke involves some iteration of our ephemeral insignificance against the timelessness of the Earth. Yet we are significant, however brief our visit here may be, or however small we may feel when face-to-face with Lava Falls, or deep inside the Grand Canyon. In the millisecond that is human existence on the 24-hour geologic clock that is the planet's history, we have wreaked havoc on natural processes,

degraded ecosystems, and caused mass extinctions. Without doubt, our presence is so significant and powerful that if we wanted, we could shut off the water running through the Grand Canyon and dismantle Crystal Rapid and Lava Falls, piece by piece. Indeed, we were audacious enough to submerge Glen Canyon.

As we look to the future of the Colorado River, recreation rings with resounding clarity in the ears of managers, stakeholders, and visitors, as a mean to an end, the end in this case being conservation management. And herein lies one of the great paradoxes of recent generations. Much like a positive feedback loop that drives climate change, the influx of residents to the Southwest drives recreation, recreation drives conservation management, and a well-managed river with flowing water attracts more recreational enthusiasts. These very boaters, anglers, and other thrill-seeking adventurers that are flooding Colorado's Front Range and other major Southwest cities are among those who care most about the future of the Colorado River, yet are also among those who are placing increasing demands on an already over-allocated river. And thus, we must all ask ourselves: Are we comfortable being part of the problem by increasing demand on our precious resource as we move west? Let's not forget that more recreation and thus more support for local economies is beneficial in the anthropocentric purview of river management. What then, in the biocentric purview, is most beneficial for the river and its canyons that we claim to love so dearly? Perhaps most importantly, which view ensures sustained use and functioning of the Colorado River, one of the world's greatest and most imperiled?

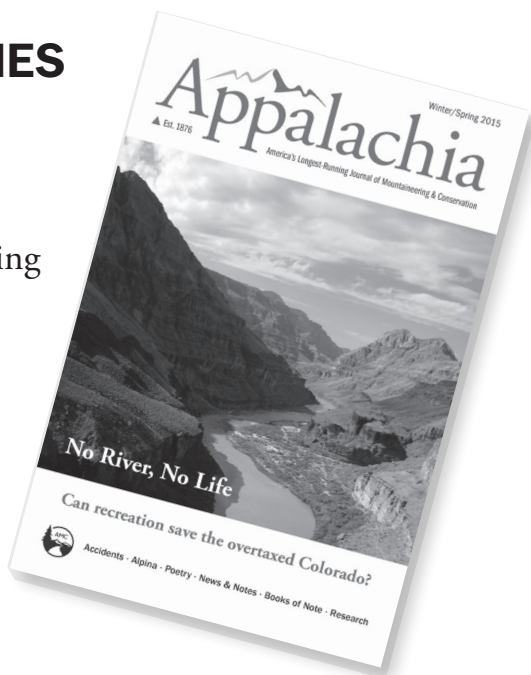
JOHN GIOIA, a native of Brookline, Massachusetts, is a candidate for a master's degree in environmental management at Western State Colorado University. He worked recently as a public education and outreach intern at the Upper Gunnison River Water Conservancy District in Gunnison, Colorado. Visit him at johngioiaphotography.com.

"I started reading Appalachia for the accident reports, but I kept reading for the great features."—Mohamed Ellozy, subscriber

SUPPORT THE STORIES YOU LOVE!

Start or renew your *Appalachia* subscription today, and keep reading America's longest-running journal of mountaineering and conservation.

Visit **outdoors.org/appalachia** for a special offer: 36% off the journal's cover price. That's three years of *Appalachia* (6 issues) for only \$42. Or choose a one-year subscription (2 issues) for \$18—18% off the cover price.



Inside every issue, you'll find:

- inspired writing on mountain exploration, adventurers, ecology, and conservation
- up-to-date news and notes on international expeditions
- analysis of recent Northeastern mountaineering accidents
- book reviews, poetry, and much more

Subscribe today at **outdoors.org/appalachia** or call 800-372-1758.



Subscription prices valid as of September 2021. Prices and offers subject to change without notice. For the most up-to-date info, visit outdoors.org.