Colorado Plateau Advocate

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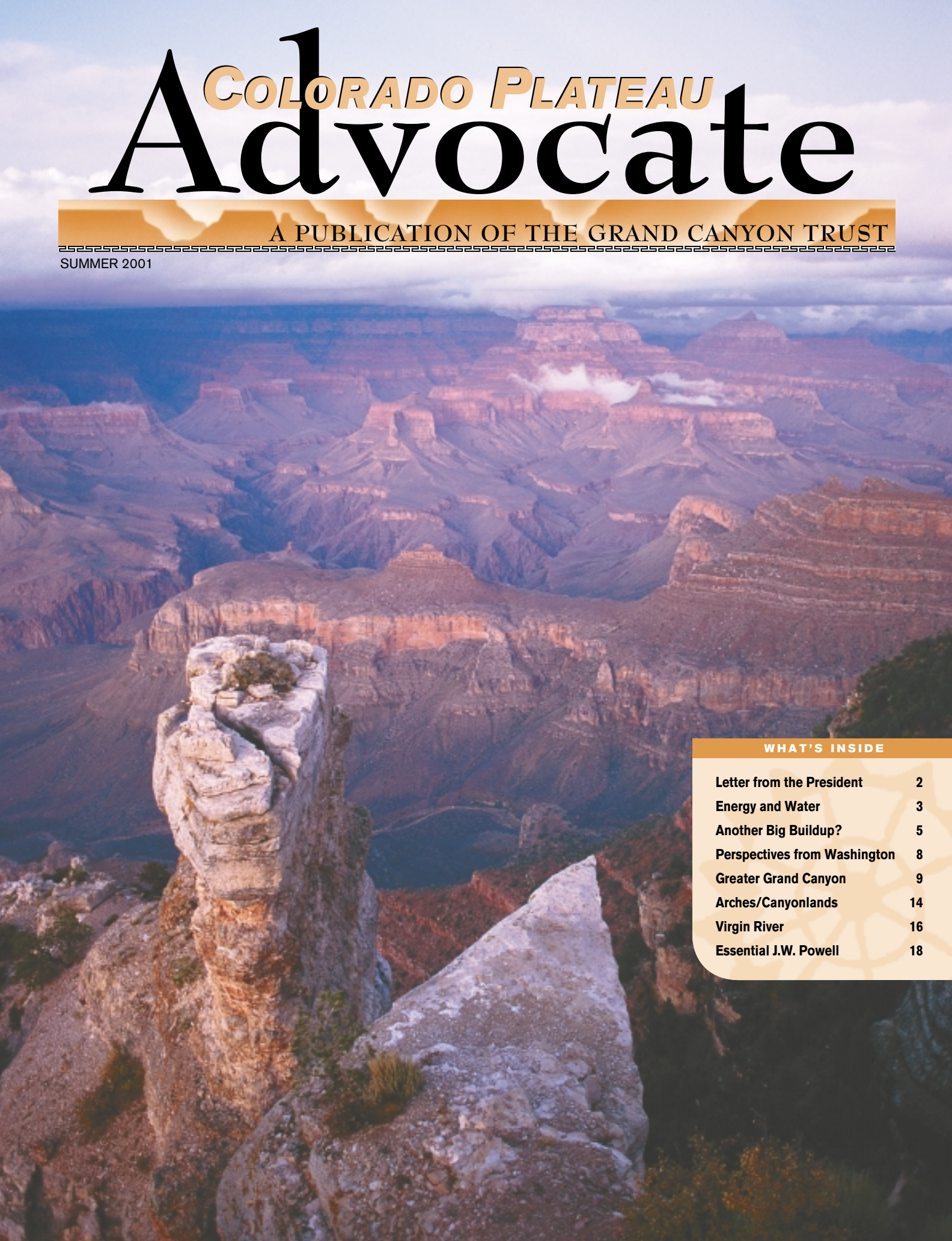


WHAT'S INSIDE

Peter Bloomer

The change in administration in Washington has sent shock waves through the West. The news about energy exploration is especially troubling for the Colorado Plateau. The administration has its sights on the Plateau for oil, gas, and coal to address the country's energy needs. Borrowing from board member Charles Wilkinson, I am calling what now threatens the Colorado Plateau as "Big Buildup II."

Charles Wilkinson first coined "Big Buildup" in his outstanding 1999 book *Fire on the Plateau*. Wilkinson writes:

"The methods of conquering the tribes were many and diverse: war, land sales, bad resource deals, cultural assimilation, and the treachery of their friends. As for the land, the most notable conquest took place from about 1955 through 1975. I have come to call it the Big Buildup. The cities surrounding the Plateau—Denver, Albuquerque, El Paso, Phoenix, Tucson, Las Vegas, Salt Lake City, San Diego, Los Angeles—had exhausted their own local resources. Civic leaders organized a concerted campaign for the rapid, wholesale development of the energy and water of the Colorado Plateau. The consequences of this conquest—for the land, rivers, air, and human health—were many, and they are with us still."

Compare the Colorado Plateau as it was before the Big Buildup with what it is today and you can see the impact: scores of dams on the Colorado River and its tributaries, including mammoth Glen Canyon and Flaming Gorge Dams; hundreds of miles of rivers and canyons inundated, along with thousands of cultural sites; thousands of uranium tailings sites, including the 13-million-ton Atlas Mine pile in Moab, leaking toxins into rivers and groundwater; tens of thousands of miles of roads punched into wilderness in pursuit of oil, gas, coal, and uranium; and a score of coal-fired power plants like Four Corners, Mohave, Navajo, Springerville, Coronado, and San Juan, spewing sulfur dioxide, nitrogen oxides, and particulate pollution into some of the purest air in the world.

We believe the Colorado Plateau is on the verge of Big Buildup II. The relentless press from the administration for more exploration, leasing, drilling, road access, pipeline rights of way, seismic surveys, suspending regulations, and backtracking on CO^2 emissions reveal their intentions. The result, unfortunately, of the Colorado Plateau becoming an "energy colony" would be another massive decline in the wildness, ecological health, and integrity of this once-sacred place.

Big Buildup II would have its physical expression on the land in a multitude of ways, virtually none of them good. Environmental colleagues at other organizations are currently monitoring some 400 applications for oil and gas drilling on BLM and USFS lands in southern Utah. There is a proposal for a seismic grid just north of Deadhorse Point adjacent to Canyonlands National Park. A massive pipeline is proposed to run the length of the state north to south along the eastern edge of canyon country. President Bush talks about viewing all public lands as potential energy reservoirs. Some members of Congress want to adjust the boundaries of the new national monuments, in part to assuage local officials, but also to perform intricate surgery to make pockets of coal, gas, and oil available to industry. Grand Staircase-Escalante is a prime target.

In all these areas, the Trust will be there—to protect the Colorado Plateau and its crown jewel, the Grand Canyon.

As you read this issue of the *Advocate*, you will note that defending the national monuments and addressing energy issues on the Plateau are featured. We also highlight our major push to protect state trust lands in both Arizona and Utah. This is the type of work the Grand Canyon Trust was made for—undaunted advocacy for the land. Thank you for being members, supporters, and our vocal cheering section!

Energy and Water

Lifeblood of the Modern Southwest

President Dwight Eisenhower pushed a button at the White House in Washington, D.C. on October 15, 1956, and a string of high explosives buried behind a red rock slab on a cliff in lower Glen Canyon exploded into fragments, cascading into the Colorado River. Construction on Glen Canyon dam had officially begun. By 1963, the dam had reached a height of 600 feet and the first of the tunnels that diverted the Colorado River around the dam site was closed and plugged with 400 feet of concrete. That same year the Four Corners Power Plant, located in northwestern New Mexico came on line and started sending power to El Paso, Albuquerque, Tucson, Phoenix and Los Angeles. The "Big Buildup" (see page 5) was underway.

Water and electricity are the lifeblood of the hot and arid Southwest. Without them, the Southwest would be a sparsely populated region, home only to the indigenous peoples and a few hardy souls who like heat. Water and electricity are also inextricably linked to the quality of the air and the overall ecological health of the Grand Canyon and Colorado Plateau. Air quality is degraded by pollution from coal-fired power plants on or near the Colorado Plateau and regional haze is caused, in large part, by the clouds of smog created by the Southwest's growing cities. Areas that were once remote and seldom visited have been opened up by roads that were bulldozed across fragile, slow-healing lands as exploration for uranium, oil, and natural gas deposits increased exponentially. The Colorado River has multiple dams and all its major tributaries are dammed, causing significant impacts on the fish, plants, animals, beaches, and archaeological sites, located downstream.

Now, given the increasing scientific certainty about global warming, energy production and use have taken on more frightening links to on-the-ground conservation. The energy crisis in California and a president who spent many years working for the fossil fuel industry have greatly increased pressure to resolve the energy situation by simply adding more conventional, fossil-fueled generating capacity and to drill, dig, and mine the fossil fuels needed for doing so. Earlier this year, Los Angeles Mayor Richard Riordan met with Utah Governor Mike Leavitt to discuss adding new coal-fired units to the Intermountain Power Plant in Utah. Tucson Electric Power Company submitted a permit application in April to add two new 380-megawatt coal-fired units to its Springerville plant in east central Arizona. There are more than a dozen natural-gas-fired power plants being built or proposed in Arizona that will generate roughly 20,000 megawatts. In sum, carbon dioxide emissions will skyrocket under this scenario.

Lin Alder

Grand Staircase-Escalante National Monument, Utah.

Carbon dioxide is the most abundant of the greenhouse gases (so named for their ability to keep heat from radiating back into space) and it is the chief culprit driving global warming. A report by the Intergovernmental Panel on Climate Change reports that scientists have found that global warming unquestionably impacts more than 420 physical processes and numerous plant and animal species around the world. The United States Environmental Protection Agency, writing about Arizona says: *In desert areas, many species already live near their tolerance limits and may be unable to survive under hotter conditions. Mountaintop habitats are especially vulnerable to climate change.*

A recent study by the World Wildlife Fund found that native species and the natural habitats upon which they depend can react to global warming—to some

extent—by migrating northwards or to higher elevations. However, the report says: *To bring migration rates into line with even the rapid migration rates of the past, it is apparent that large and rapid reductions in greenhouse gases are required.*

If the Trust is to realize its vision for the Colorado Plateau as a region *with restored healthy ecosystems and habitat for all native plants and animals,* then the reduction of greenhouse gases in general and carbon dioxide in particular is a challenge we cannot ignore. It is not "someone else's" job. So in fact, we are taking on the challenge directly through a three-pronged strategy, by advocating for: 1) cleaning up the mess from existing power-generating sources and minimizing additional pollution from new sources; 2) moving towards environmentally friendly renewable energy sources, and; 3) improving the way we use energy through increased efficiency.

Cleaning up the Mess

Reducing pollutants such as sulfur dioxide and nitrogen oxide will help improve the degraded visibility at the Grand Canyon and across the Colorado Plateau. Minimizing new emissions will help protect the current level of visibility. Further, while the installation of pollution control equipment for these pollutants does not reduce carbon dioxide, requiring the installation of state-of-the-art pollution controls helps level the playing field economically between fossil fuel generation and clean, renewable energy sources. It is bad public policy that nonpolluting power sources have to compete straight up with sources that use our atmosphere as a dumping ground for their pollution. This is even more true as real costs caused by global warming increase. A report by the United Nations Environment Programme's (UNEP) financial services initiative, says that losses due to more extreme weather events, rising sea levels, and damage to agriculture and water supplies, could cost around $304.2 billion annually.

Environmentally Friendly Energy

As conventional energy prices rise, the comparative cost of renewables is dropping. Wind power is increasingly competitive with fossil fuel generation, and power from photovoltaics was competitive during recent price spikes in California.

In Arizona, the Grand Canyon Trust has worked to promote the "Environmental Portfolio Standard" (EPS), which requires investor-owned Arizona utilities to generate 1.1 percent of all the power sold in Arizona by 2007 from renewable energy sources, 50 percent of which must come from photovoltaics. While this may seem inconsequential, it is the most aggressive photovoltaic program in the United States. When all of the photovoltaic systems come on line, they will generate roughly 75 megawatts of power, enough to provide power for about 56,000 homes.

Energy Efficiency

Energy efficiency should be the centerpiece of our energy policy, rather than the Bush administration's response of relaxing air pollution laws, "streamlining" permitting processes, and opening up special places for fossil fuel extraction. A recent study done for Utah's Public Utility Commission found that savings of 700 megawatts—enough power for 350,000 to 700,000 homes—can be easily achieved through energy efficiency programs that have been implemented in other states. The report goes on to say that an investment of $370 million dollars would save Utah consumers $1.08 billion dollars during the next 25 years and more than 16 million tons of carbon dioxide emissions would be avoided. As part of its air and energy program, the Trust will be advocating for increasing energy efficiency in Arizona and highlighting the choice between the environmental impacts of new fossil fuel generation and benefits of energy efficiency.

There is a saying among environmental engineers that the "solution to pollution is dilution." Unfortunately, we have dumped so many trillions of tons of pollutants into our air that the dilution part of the equation no longer provides a solution. It is going to take a significant effort and a number of years to end the practice of routinely dumping pollutants—including carbon dioxide—into our atmosphere. However, the Trust has always recognized that many of the most critical conservation issues require a long-term perspective and a long-term approach. Our work is based on our vision of what the Colorado Plateau should be 100 years from now. That vision will be lost if we don't roll up our sleeves and tackle global warming and the problems associated with energy production with all the innovation and tenacity we can muster.

—Rick Moore

Mining the Canyon Country: Should we Embark on another Big Buildup?

Charles Wilkinson

Lin Alder

Sunrise at the edge of Kaiparowits Plateau, Grand Staircase-Escalante National Monument, Utah.

The need to check history, and make a clear-eyed decision on whether to repeat it, is most urgent when events are racing the fastest. This holds true today for energy extraction in the Southwest. In the boom times of the 1950s city leaders embarked on the Big Buildup, an intensive resource development campaign that wrote a critical part of the story of the modern West across the grand tableau of the Colorado Plateau—the Four Corners area, the canyon country, the high redrock desert. Now the Bush administration seems bent on replicating the excesses of the past and we ought to brook no doubt about what is at stake.

At the end of World War II, the Southwest remained a backwater. Only Los Angeles was a serious city. Denver and San Diego were small ones. The others remained towns. The whole Phoenix metropolitan area had about 250,000 souls, Salt Lake City just 175,000. Las Vegas, a place not even included in the census until 1950, had 45,000 people. The West had no major league team in any sport when the war ended.

The fathers of industry and government saw vividly the opportunity—the Big Rock Candy Mountain—that lay glittering in the distance: the chance to grow, to expand. Looking back, we can understand their thinking. The seats of power were in faraway D.C. and Wall Street. There was no interstate highway system, no commercial jet service, no Internet. So the boomers decided to reel the country in, to lure the people and the businesses, and the influence, West.

And mark it down that the Big Buildup worked. Now, just a finger-snap in time later, we can count in the Southwest four megalopolises—not just cities or metropolises, but megalopolises. Southern California. The Valley of the Sun. The Wasatch Front. The Colorado Front Range.

In all, at the end of the war the population of the Southwest stood at 8 million. Now it has hit 34 million.

To accomplish this, the civic leaders already had two of four key ingredients: sun for gracious living and open land for industrial and residential development. Much more problematic was obtaining the water and electricity needed to fuel a boom of unprecedented proportions. The cities had all exhausted their local water supplies. No one was willing to build coal-fired power plants near the new population centers.

All eyes turned toward the Colorado Plateau. The Big Buildup that ensued would become perhaps the most prodigious exercise of industrial might in the history of the world.

The Colorado River is the largest watercourse in the Southwest and its deep-cut canyons capture not just the souls of Americans but also the ardor of the water

developers, for the gorges make ideal reservoirs. Four truly massive dam-and-reservoir projects, and many smaller ones, went in. The water projects of the Big Buildup remade the Colorado River, taking the wild out of its flows and forcing the native fish species onto the endangered and threatened species list. The largest is 90-story-tall Glen Canyon Dam, with its 200-mile reservoir. Put Glen Canyon Dam in New York City and Lake Powell would reach to Boston.

Lin Alder

Sunset in the Escalante River drainage, Grand Staircase-Escalante National Monument, Utah.

The developers also coveted the Colorado Plateau's mineral deposits. They had carte blanche access to the coal, oil, gas, and uranium: most of the Plateau is federal or Indian land and a development-oriented Interior Department controlled both. By 1975, 11 coal-fired power plants, and even more open-pit mines, had gone in. Numerous oil and gas fields opened up. Charlie Steen's find in 1952 near Moab ignited an unparalleled uranium rush.

Mining has made heavy tracks across the canyon country. Open-pit coal operations move an incomprehensible amount of earth—at every mine, each of the pits is canyon-sized, commonly a mile long, nearly that wide, and 200 feet deep or more. Coal is scoured out by cranes with booms 300 feet long. The coal plants demand large amounts of water from already stressed western streams. Coal slurrying—where coal is crushed, mixed with water, and then pipelined—requires even more water. On Black Mesa, Peabody Coal pumps huge amounts of groundwater for slurrying while springs that Hopi people depend on for farming and household use are drying up.

Emissions from the coal-fired power plants have had major air quality impacts. The pollutants affect human respiratory health and create acid rain and snow. They also blur the legendary southwestern vistas by reducing panoramas—the reach of our minds as well as our eyes—from up to 200 miles down to 80, 60, or less. Irene Nakai, a Navajo, grieved that "looking south over Dinetah, my people's homeland, I saw it enveloped in an ugly, green cloud—the dreaded smoke of the Four Corners Power Plant." One Hopi woman, a person who chooses her words carefully, told me that the mining and air pollution were like rape. These sweeping vistas, encompassing thrilling expanses of redrock canyons and mesas, ought to be a birthright of American people, every bit as much as the national parks we have formally designated.

The uranium boom left us the plague of radioactive waste. Cancer created by the poisonous dust killed hundreds of uranium miners, most of them Navajo, and hundreds more of "downwinders," rural residents who died from radioactive fallout from nuclear testing. The Atlas Mill near Moab, which received uranium ore from 300 mines, has piles of radioactive waste that leak 110,000 gallons of polluted water into the Colorado River every day. New Mexico has four piles even larger and the dump at White Mesa receives wastes from hundreds of sources. The Plateau is pocked with hundreds of old mines, some deep, some just potholes, but all hot and all holding danger for hikers and playful children.

The Big Buildup exacted other human costs. Traditional Hispanic villages were flooded out by Navajo Reservoir in northern New Mexico. Indian tribes were cheated by below-market mineral leases. In the case of the Hopi, the sale to Peabody Coal of the fabulously wealthy coal deposit under Black Mesa went for a song. Later, research disclosed that the Hopis' lawyer also worked in the dark for Peabody.

Finally, public opinion brought the Big Buildup to a halt in the 1970s. In a defining episode, a coalition of environmentalists and traditional Indian people helped block the most extravagant coal development scheme of all. Designed for broad, lonely Kaiparowits Plateau (later to become the heart of the spectacular Grand Staircase-Escalante National Monument), this mine and power plant complex would have required a company town of 15,000 people.

Without doubt, the Big Buildup produced some benefits. It opened up the chance to live in the hot, dry southwestern terrain. It brought electricity to businesses, schools, and hospitals.

But it had gone too far. Too much haze over the Grand Canyon and other skies of the Southwest. Too many health problems. Too much of a burden on traditional Native societies. Too much tearing up of wild land. Too much energy production from coal, the most destructive of all the fossil fuels.

Nonetheless, the Bush administration intends to push a full bore, old-style energy initiative. An energy task force, headed by Vice-President Cheney, released its report in May. The report relies heavily on extraction. Officials rhapsodize about strip mining and drilling while urging 30 to 40 percent budget cuts in programs for conservation and renewable resources. Vice-President Cheney's recent estimate of a need for 1,300 to 1,900 new power plants offers yet more proof that this is the most environmentally insensitive administration in history. The Colorado Plateau may well be a prime target in a massive extraction campaign—a Big Buildup II.

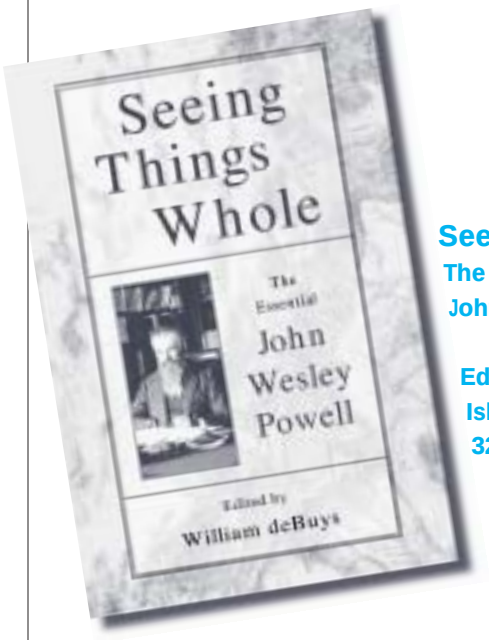
To be sure, some lessons have been learned since the heyday of the Big Buildup. Technology can reduce coal plant emissions of sulfur and nitrogen oxides. Visibility loss remains a daunting problem for the Southwest, but some progress is being made. Environmental impact statements allow public scrutiny not available in the 1950s and 1960s.

But other changes militate against a Big Buildup II. Once scornful of the high desert, the public now is fiercely protective of this dry, rocky, scratchy—but compelling—landscape: the Colorado Plateau is, after all, the single greatest concentration of parks and monuments in the world. The Grand Canyon. Arches. Canyonlands. The Grand Staircase-Escalante. Capitol Reef. Zion. Bryce Canyon. Mesa Verde. Further, the firm consensus of independent scientists now places on us the obligation to assess the use of fossil fuels in light of the specter of global warming. Granted, the major effects of climate change will not come on immediately. But are the people of the middle and late 21st century so distant and abstract that we will simply charge on, blinders securely in place?

We can hope that the administration's task force, or Congress after it receives the report, will turn away from the short-term thinking that pervaded the Big Buildup. Rather than extraction, we should look first to energy conservation (notably increasing efficiency in buildings, air conditioners, and other appliances) and renewable sources such as wind, solar, and geothermal. Vice-President Cheney, in a straw-man argument, pronounced that conservation cannot serve "all" of our energy needs. Of course it cannot. But the bulk of our needs can be met from conservation and renewables. Fossil fuel production should proceed cautiously. Coal should be forthrightly acknowledged for what it is: an undesirable fuel that should be used as a last resort, only in the right places and only with the best modern technology. In no case need mining be allowed in the Southwest's national monuments, wilderness areas, and roadless lands—our generation's gift to ourselves and legacy to those to come.

But make no mistake about the danger. This administration gives every sign of turning back the clock. It may well propose a Big Buildup II and, if it does, citizens should speak out quickly and loudly. Once Big Buildup II is set in motion, the wild Colorado Plateau, one of America's most hallowed places, may never recover.

Charles Wilkinson is Moses Lasky Professor of Law, Trustee of the Grand Canyon Trust, and author of *Fire on the Plateau: Conflict and Endurance in the American Southwest.*



Seeing Things Whole
The Essential John Wesley Powell

Edited by William deBuys
Island Press, 2001, 320 pages

Pardon me for making the following digression, but as a journalist whose primary interest lies in writing about the wild American West, I admit to entertaining a few mischievous fantasies now and then.

One of them would be raising John Wesley Powell and floating with him in a dory through the concrete canals of the Central Arizona Project right into the heart of palm tree-laden metropolitan Phoenix.

I wonder what Mr. Powell would make of the ingenious landscape engineering that supports this rapidly expanding megalopolis of 3 million people—propped up on a precarious pipe dream of water? Or what would be his reaction to the ongoing explosion in real estate speculation that races unhindered across the driest corner of our country?

Yes, I wonder what the Civil War officer turned explorer, ethnographer and prophet would make of it all: Would he declare Phoenix and Las Vegas and St. George modern Mesopotamias? Is this the vision of progress he imagined while navigating the Colorado Plateau more than 100 years ago, assessing the stark (albeit spectacular) topography stretching in every direction?

Metaphorically, William deBuys does the next best thing to taking that ponderous little boat ride with this wonderful new anthology of Powell writings, *Seeing Things Whole The Essential John Wesley Powell* (Island Press/Shearwater Books, 2001).

By guiding residents of the New West—and indeed modern America—through the high water marks of Powell's 19th century commentary on the future of arid lands west of the 100th meridian, deBuys invites us to be historical voyeurs. More poignantly, he asks us to sit in judgment, not solely in gauging Powell's blunt prescience, but in confronting the purveyors of runaway growth who have a reckoning awaiting them by not heeding the Major's advice.

On May 24, 1869, Powell seized his place in the lore of our culture when he shoved off to chart the last vast "blank spot" remaining in frontier maps. That hardscrabble piece of the puzzle began at the Green River, ran 350 miles southward into the Colorado River and cut a mysterious course through the wondrous part of the Colorado Plateau we know as the Grand Canyon.

The Major's lasting legacy is that any meaningful discussion about the Southwest must necessarily be framed by the region's relationship with scarce water first articulated by Powell. This book adds an exclamation point to this basic declaration and breaks new ground, assembling essentially a "greatest hits" of Powell essays illuminated with insightful contemporary interpretation.

DeBuys' challenge is to resurrect his subject without over aggrandizing him. John Wesley Powell, after all, advocated things that drive modern conservationists crazy. Yet, his way of seeing interconnectedness in a landscape set the stage for more evolved thinking later by Gifford Pinchot and Aldo Leopold:

At a time when the word ecology had scarcely entered the language, he endeavored to educate the public about complex ecological relationships—between, say, forests, grass fuels, grazing, and wildlife. American society was still in the earliest stages of developing what might be called an environmental point of view, and few of Powell's potential readers were prepared to appreciate, let alone understand, the kinds of issues that drove his analyses and recommendations. This is not to say that Powell's understanding of these issues was unflawed...

But, Powell coined the term "Colorado Plateau." He made "acre-feet" a common hydrological measuring stick. As he compiled information for his seminal *Report on the Lands of the Arid Region*, fellow Civil War veterans who had come west to join the cavalry were attacking Indians into submission on the Northern Plains and aiding in the near extermination of buffalo. The fact is, Powell felt a rare affinity for native peoples and the latter part of his life was spent trying to protect and preserve their ancient lifeways.

Powell approached the West with a fervent belief in utilitarianism—that is, harnessing resources to create economic prosperity—but his approach was tempered by caution that left him unpopular. He recognized the clear limitations of trying to develop the desert, and he warned against overbuilding an infrastructure that could not be sustained with nature's limited bounty of water. His mantra: "Man cannot change the great laws of nature; but he can take advantage of them, and use them for his purposes."

Behind his utilitarianism was a commitment to Democracy, a skepticsm of corporate accountability. He also advised against the government's disastrous settlement strategy based upon the notion that a 160-acre homestead parcel in the desert could support a rancher or farmer in perpetuity. Powell recommended that farm homesteads be allocated at not less than 2,560 acres! Presaging modern bioregional thinking, he promoted watershed-by-watershed planning efforts in which neighbors together engage in managing water and other resources for the benefit of the common good. Sustainability could be achieved, he thought, with water in the hands of mom and pop agrarians self interested in stewardship.

Powell could not have anticipated the way that water use during the last half of the 20th century would switch from producing crops to be a development tool luring immigrants into the web of sprawl.

Consider this 19th century passage that anticipates the problems of sprawl:

At present there is a large class of promoters who obtain options on lands and make contracts to supply water, and then enlist capital in the East...and organize and control construction companies, which, sometimes at least, make large profits. The great increase in value given to land through its redemption by irrigation makes such investments exceedingly attractive. But at present investors and farmers are badly protected, and the lands and waters are falling into the hands of 'middlemen.' If the last few years' experience throws any light upon the future...the people of the West are entering upon an era of unparalleled speculation, which will result in the aggregation of the lands and waters in the hands of a comparatively few persons. Let us hope that there is wisdom enough in the statesmen of America to avert the impending evil.

DeBuys describes Powell as being part Pollyanna, part Cassandra, and he boils down his still-relevent truth to two themes:

The first was that the lands of the West were not an empty stage that westering Americans could people and build on as they wished. The land had limits, Powell said again and again, and one of them was its aridity, which the settlers of the region could ignore at their peril. Many westerners and would-be westerners, from homesteaders to senators, did not like that kind of talk. It sounded too negative for what seemed to be a boundless American future, a future in which the West, as everybody knew, would play a central role.

The second troubling thing Powell kept saying was that the way in which people settled the West would have irremediable consequences. Provide the wrong institutions, the wrong systems for survey and land tenure, the wrong basis in law for holding water rights, and the results would be suffering, betrayed ideals, loss of wealth, and the erosion of democracy. Powell was right about this, too, and probably even his enemies at some level knew he was right.

Ultimately, ignoring Powell has led not to citizen independence from government, but a reliance on economic subsidy and the exploitation of federal lands to ensure private individuals and corporations make a living. It is this very mindset of expectation and false entitlement that continually resurfaces today in battles over water, grazing, logging, and mining.

Powell's plan for acquiring large grazing homesteads... probably would have lent itself to abuse as much as any previous plan for the settlement and sale of public domain, concludes deBuys. *Nevertheless, Powell's alternative might well have been preferable to what actually transpired. We will never know. The path he offered will forever remain the road not taken of western American history.*

A tribute to a pathfinder not fully appreciated in his own time, the value of deBuys' new collection is that our generation should know better than the generation that produced Powell, armed with the advantage of hindsight and the ability to learn from Powell's incontrovertible warning: the desert, by nature, is an arid, unforgiving place, not the "empty stage that westering Americans could people and build on as they wished."

Todd Wilkinson writes about the West for a number of national publications. He also is author of *Science Under Siege: The Politicians' War on Nature and Truth.*