

GRAND CANYON TRUST
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Advocate



Contents

- 2 Letter from the Executive Director
- 4 Ground Zero for a Startling Concept
- 7 Exit Coal, Enter Renewable Energy
- 9 A Critical Year for Arizona Forests
- 10 Call for Leadership
- 12 The Confluence
- 15 Through the Lens: What Our Lands Could Be
- 18 Building the Next Generation of Conservation Leaders: Grand Canyon Trust's Youth Initiative
- 20 Introducing the Colorado Plateau Conservancy
- 22 Learning from a Humble Hopi Farmer



Editor's Note: The views expressed by the guest writers in this issue are solely their own and do not necessarily represent the views of the Grand Canyon Trust.

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www.grandcanyontrust.org

It is always tough selecting among the interesting stories for the *Advocate*. One that ended up on the cutting room floor for this issue was about the potentially landmark initiative, or perhaps colossal-waste-of-time, that Congressman Rob Bishop is leading to develop land use legislation for 15 million acres of eastern Utah. Any remotely viable proposal would be the biggest wilderness bill in the nation since the Carter administration, would resolve the status of thousands of state road claims across the federal estate, and would exchange state and federal lands to ensure the integrity of protected areas while allowing development to support education in better suited places.

Modern wilderness legislation almost always involves these trade-offs and this case is nearly unprecedented in scale and in the difficulties of evaluating the costs and benefits. We left the full tale for a future issue of the magazine because it is still in wildly active flux; but there are several things about it that are emblematic of the rest of the work described in these pages.

The first is the way the Trust's broad mission, at its best, can cast new light on difficult conservation challenges. A colleague at another group once lamented his job of trying to pass wilderness legislation through the current, divided Congress. Then he brightened, looking at me, and said, "At least I don't have to worry about whether our cows have gotten lost in a snowstorm!" In the Bishop initiative, the other environmental groups have a relatively narrow focus on protecting large chunks of the wildest Bureau of Land Management (BLM) lands. This is visionary work and difficult to do, but their tight focus excludes even the national forests that are the watersheds and havens of biological diversity for the canyon country below. The Trust, through our extensive grazing and restoration programs in the forests, has squarely placed the wilderness-worthy high country on the table for protection alongside the desert lands.

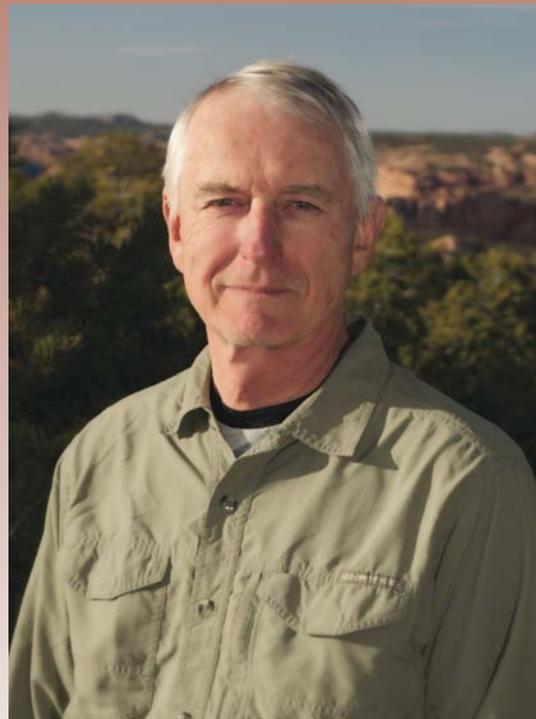
Even more important, our new energy program and long familiarity with the administration of state lands have caused the Trust to ask hard new questions about the desirability of land exchanges. Central to a Bishop deal, exchanges may protect inaccessible wild country, that isn't threatened by much, at the expense of teeing-up oil shale and tar sands for massive, climate disrupting development. These are edgy problems that call into question the whole future of wilderness protection. Only a group with the mission-breadth of the Trust would dare to ask them, though internally we have little choice. A wilderness for climate change deal is not one anybody should accept. Read Taylor McKinnon's article here to understand the scope of the unconventional fuel problem, or Tony Skrelunas' story about how indigenous farmers are already seeing the effects of climate change and banding together to share old knowledge about surviving hard times.

The second big theme exemplified by the Bishop initiative is what I think of as the need to put the public back in public lands. Forget, for a second, that the federal lands belong to all Americans. Since 1990, Arizona has received in excess of \$200 billion more in federal spending than was paid in federal taxes; in Utah the number was some \$35 billion. During that period, those Cadillac-driving welfare cheats in New York ponied-up a trillion dollars in taxes beyond what they received from Washington, but don't expect Utah wilderness hearings in Manhattan, or even Salt Lake City. When Mr. Bishop weighs the importance of stakeholders in his initiative, local county commissioners are the last word in public involvement. At one point, all the environmental groups were warned that their request for clean language in any bill might be trumped because "a rancher" had insisted on so-called *hard release* language, forever prohibiting any lands not designated wilderness from being considered again in the future. Apparently, not all of us are created equal.

Speaking up for the disenfranchised is a key part of our work. Mary O'Brien writes in these pages about prying open the relationship between ranchers and

LETTER FROM THE EXECUTIVE DIRECTOR

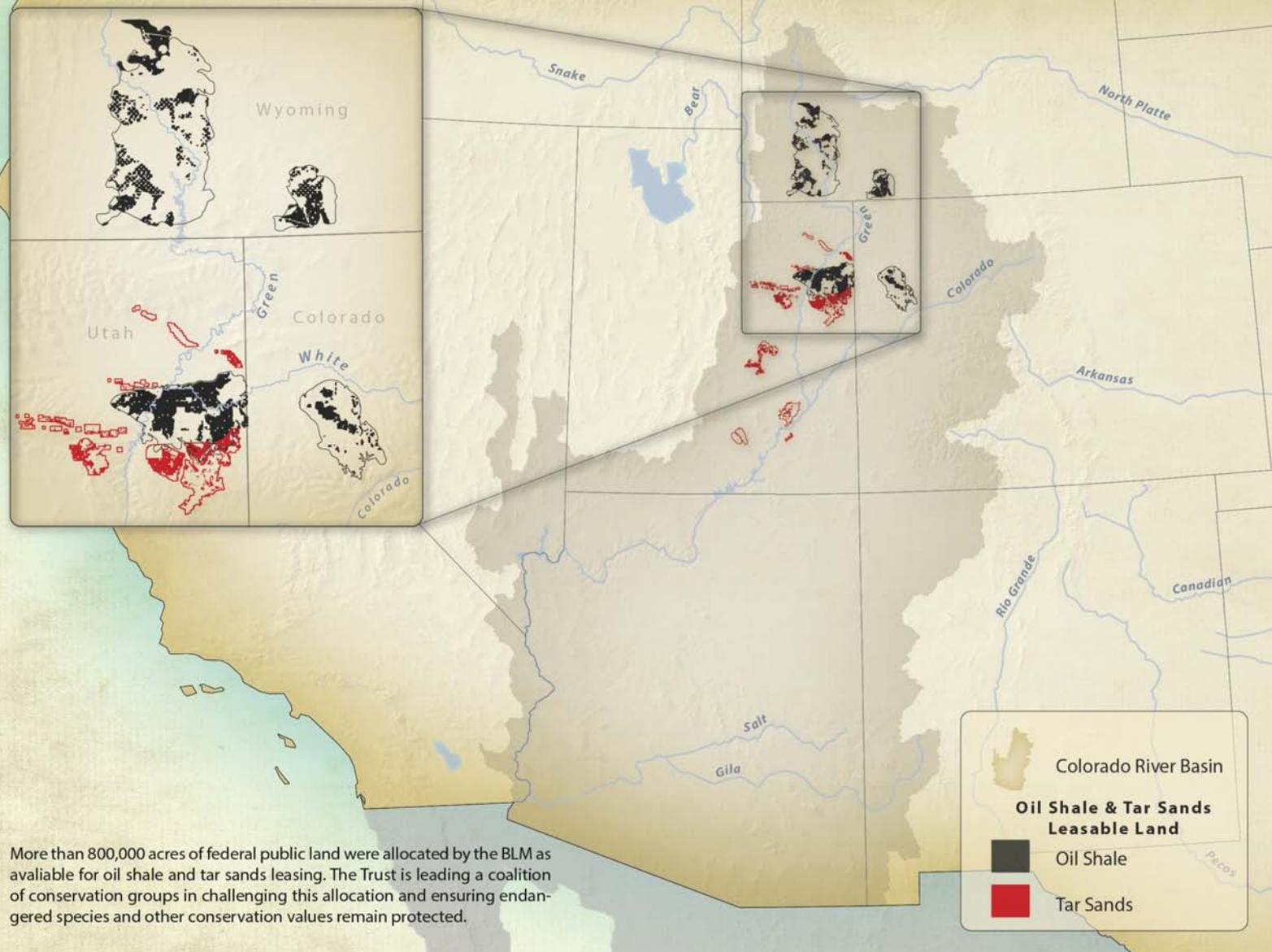
BILL HEDDEN



TIM PETERSON

A colleague once lamented his job of trying to pass wilderness legislation through the current, divided Congress. Then he brightened, looking at me, and said, "At least I don't have to worry about whether our cows have gotten lost in a snowstorm!"

land managers so people can have a say in the most pervasive use of federal lands; and Emily Thompson speaks on behalf of the young people who will have to make their lives in this world as we leave it to them. I hope you find the work inspiring. @



GROUND ZERO FOR A STARTLING CONCEPT

by Taylor McKinnon

MAP BY STEPHANIE SMITH, GCT

Peak oil is dead – or so argue some oil analysts. Others contend that it’s been greatly complicated. In either case, the world as envisioned by M. King Hubbert – one of increasing oil scarcity – is not coming to pass. On the contrary, owing to the rise of “unconventional fuels,” the world is entering an era of oil abundance. The world is now so far from running out of oil that some assert it may never happen.

To be fair, Hubbert’s prediction involved conventional oil. In line with his predictions, the rise in unconventional fuels—fuels like bitumen (tar sands), kerogen (oil shale), tight (fracked) oil, and extra heavy oils—in part results from waning supplies of conventional oil.

But unconventional fuels are transforming global energy markets as quickly as they are the places where oil is being developed. In the United States, the Colorado River Basin is seeing such a transformation. Already subject to a ravenous fracking boom, the Basin is now targeted for another form of hydrocarbon development—the making of transportation fuels from oil shale and tar sands.

The U.S. Geological Survey estimates that Utah, Colorado, and Wyoming's oil shale deposits contain between 353 billion and 1.146 trillion barrels of equivalent oil that could eventually "have a high potential for development." Utah's tar sands harbor an additional 20 billion barrels. For perspective, the world has burned about 1.2 trillion barrels of oil since the start of the industrial revolution.

Oil shale and tar sands are "immature" fuels. Their kerogen and bitumen must be mined, heated, and processed to derive usable liquid hydrocarbons. Those steps entail large energy inputs that, coupled with low energy densities, have precluded commercial industry. But, buoyed by the economic success of Alberta's tar sands and Utah's pro-extraction policies, a serious play is now afoot to change that history.

The land, species, climate, and water costs of committing society to those fuels would be tremendous. Those costs would bear on virtually every aspect of the Colorado River Basin's future; the climate costs could be globally significant.

In their 2013 report, the U.N. Intergovernmental Panel for Climate Change (IPCC)—the world's major science opinion on climate change—warns that in order to avoid dangerous thresholds of warming, the world needs to live within a tight carbon budget in the coming century. To fit that budget, a majority of the world's newly discovered fossil reserves must remain undeveloped.

That is a startling concept: in other words, nurturing a livable planet makes stranded assets of most of the world's recoverable hydrocarbons. This raises questions about the wisdom of further fossil fuel exploration, and renders the pursuit of high-carbon fuels—fuels with large emissions for their energy yield—exactly the wrong energy direction.

Oil shale and tar sands are high carbon fuels. Scientists, led by Adam Brandt at Stanford University, predict that barrel-to-barrel, oil shale would produce 25–75% more greenhouse gas emissions than conventional fuel. Domestic tar sands would carry an additional burden.



An aerial view of Asphalt Ridge along the Green River, which BLM has proposed for tar sands leasing.

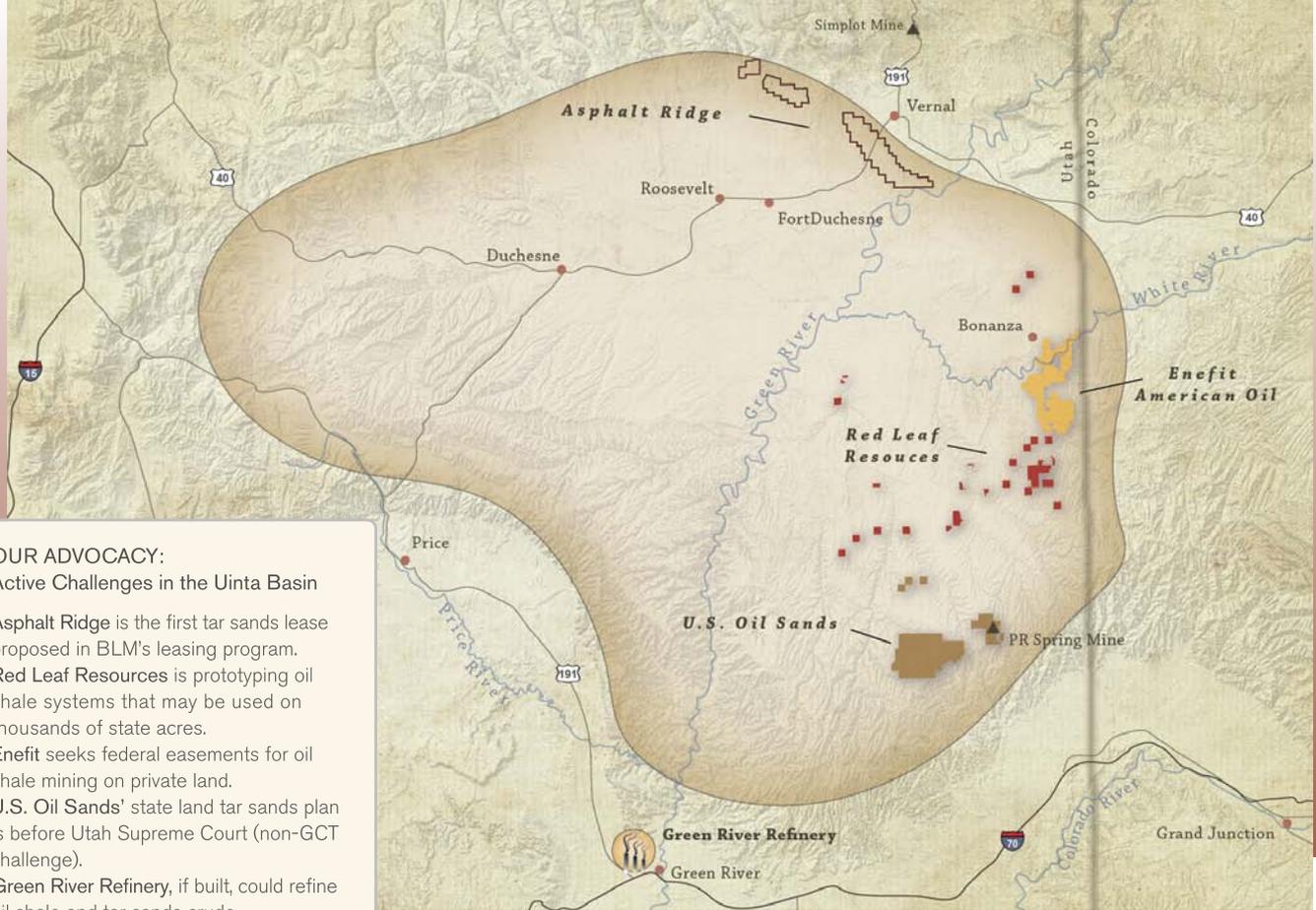
TAYLOR MCKINNON/GRAND CANYON TRUST/ECOFLIGHT

Emissions from developing even a fraction of the Colorado River Basin's deposits would account for a considerable slice of the IPCC's global carbon budget. In addition to making for terribly inefficient energy policy, it would help commit the Colorado River Basin to an exceedingly dire climate and water future, worsening a bad situation.

Colorado River flows are already taxed by drought, dwindling snowmelt, and booming populations. Lakes Mead and Powell are shrinking, reducing supplies for Nevada and forcing Arizona to cut its river use. Scientists predict flow declines of up to 20% in coming decades, including low flow events worse than anything we've yet seen. Salt Lake City's water supply is projected to suffer with earlier melts of the Wasatch snowpack.

Direct water use by a commercial oil shale or tar sands industry would exacerbate those problems. The U.S. General Accountability Office estimates that producing even 7% of the United States' daily oil from oil shale could require up to 122 billion gallons of water annually—about as much as Denver, Salt Lake City, and Albuquerque all use in a year.

As a region that stands to lose so much from climate change, the Colorado River Basin should be leading transitions to water- and carbon-thrifty energy development. But that's far from the case. With tax subsidies, infrastructure investment, and land allocations for leasing, vast public resources in Utah aim at hatching an oil shale and tar sands industry.



MAP BY STEPHANIE SMITH, GCT

OUR ADVOCACY:
Active Challenges in the Uinta Basin

Asphalt Ridge is the first tar sands lease proposed in BLM's leasing program.

Red Leaf Resources is prototyping oil shale systems that may be used on thousands of state acres.

Enefit seeks federal easements for oil shale mining on private land.

U.S. Oil Sands' state land tar sands plan is before Utah Supreme Court (non-GCT challenge).

Green River Refinery, if built, could refine oil shale and tar sands crude.

A 2012 University of Utah report that analyzed the economics of different development scenarios projected prohibitive economics for Colorado's oil shale deposits—deep, subsurface deposits that require complex in situ mining techniques. Those projections were buttressed by Chevron and Shell's abandonment of their Colorado oil shale research programs last year.

But the analyses also showed plausible economics for eastern Utah's shallow, ex situ oil shale and tar sands deposits—not a slam dunk, but not impossible either. The economics of strip mining and processing at the surface rather than deep in situ mining are vastly more favorable.

Industry seems to agree with these projections too, targeting eastern Utah's Uinta Basin. Hundreds of millions of investment dollars are now on the table. Tens of thousands of acres of state land are under lease, and permitting, which faces stiff opposition from the conservation community, is underway for developments on state and private land. A tar sands lease on federal public land, the first in the U.S., is proposed along the banks of the Green River.

If successful—and we're doing everything to ensure they're not—these plays will lay claim to

some of the Colorado Plateau's wildest country. The Uinta Basin is where it will start, perhaps atop the Book Cliffs—a little known, out of the way, and still-mostly-wild place. It's an area already penetrated by a tendrill of publically subsidized industrialization—an \$80 million paved upgrade of Seep Ridge Road that connects the Book Cliffs to the Uinta Basin's oil infrastructure.

Strip mining would turn wild country into industrial zones. A single, final land use, draglines equally disregard the people, traditional uses, and species that make the place home. One need look no further than the Uinta Basin's fracking boom, just down-valley of the Book Cliffs, to see the ravages of the fossil fuel industry on the scent of profits.

Our world is quickly approaching a point at which the costs of developing fossil fuels will outweigh the benefits. In the Colorado River Basin, the prospect of oil shale and tar sands development puts that horizon clearly in view. We now make consequential choices for our region's land, water, and climate future. Those decisions should turn, not on whether we have more oil to burn—as we likely will—but on quality of the land and society that we wish to leave future generations. ©

EXIT COAL, ENTER RENEWABLE ENERGY

by Roger Clark

Eighteen coal plants were built on or near the Colorado Plateau during the 1960s and 1970s. Relatively cheap electricity from coal promoted unprecedented growth during the next four decades in cities like Phoenix and Las Vegas. Three of the largest plants—Mohave, Four Corners, and Navajo—boosted employment and revenues for Navajo and Hopi people, while consuming their coal and water.

But new realities are butting heads with last century's promises of prosperity. Economic forces, pollution concerns, and competition from cleaner fuels are slowly pushing our region away from coal. One of the most effective drivers is the Clean Air Act's mandate that coal plants in the region must eliminate all air pollutants that impair visibility at the Grand Canyon and dozens of other national parks and wilderness areas across the Colorado Plateau. Pending new rules on carbon dioxide, mercury, nitrogen, and coal wastes are also causing a changing outlook.

Mohave was the first major coal plant in our nation to close in 2005. That plant shut due to a court-ordered clean-up of its air pollution, negotiated

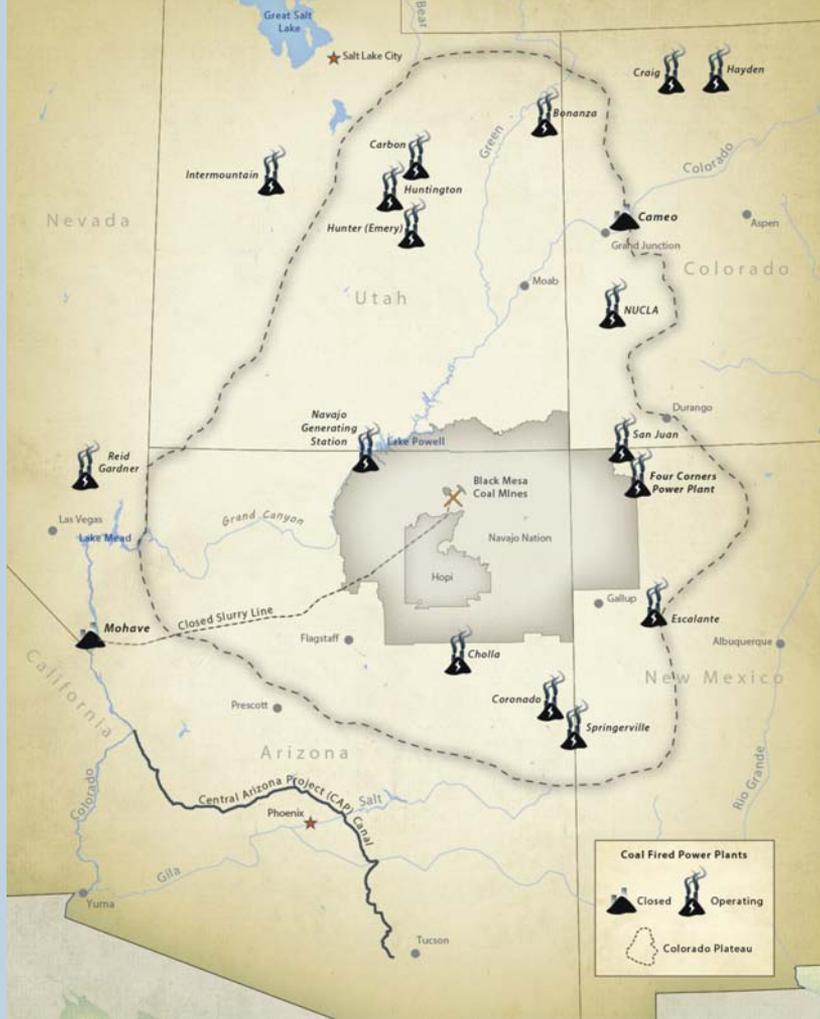
with the Grand Canyon Trust, combined with the owners' failure to renew coal and water agreements with the Hopi and Navajo tribal governments.

California utilities quickly replaced their share of Mohave's power with energy efficiency, solar, wind, and natural gas. In 2007, California adopted a standard for new sources of electricity that effectively ended all investments in building coal-fired power plants throughout the West. Utilities dropped plans for nearly a dozen plants.

At the end of 2013, the Four Corners Power Plant permanently closed three of its five coal-fired steam units. "This is a milestone occasion," said the owners. "It will benefit the environment, allow us to continue to support the economy of the Navajo Nation and surrounding community, and help electric users in the Southwest with an important, low-cost generating resource." After new emission controls are installed in 2018, Four Corners particulate emissions are expected to decline by 43%, nitrogen oxides by 36%, carbon dioxide by 30%, mercury by 61%, and sulfur dioxide by 24%.



Navajo Generating Station's pollution drains into the Grand Canyon most often during the winter. Only two of its three units were operating on the morning of January 16, 2009, simulating what it might look like if one boiler is retired in 2020. TED GRUSSING



Eighteen coal plants located on or around the Colorado Plateau. Two have closed during the last decade. Five plan to shut one or more units by 2020.

MAP BY STEPHANIE SMITH, GCT

Environmental Protection Agency (EPA) plan to retrofit all three NGS units with nitrogen dioxide controls by 2024, the U.S. Department of the Interior and six other parties recently submitted a counter proposal to shut one of the coal plant’s three units by 2020 and allow owners to postpone installing new emission controls on the remaining two units until 2030.

The Grand Canyon Trust and its allies have argued that the federal government, through the long, tangled history of NGS, has incurred a responsibility to assist the local tribal communities with an economic transition when the coal generator shuts down. Ideally, this transition would include tribal equity in renewable energy projects. EPA Administrator Lisa Jackson responded in 2012 by calling upon the secretaries of Interior and Energy “to collaborate on creative solutions to protect the environment,

human health and natural resources while honoring tribal communities and advancing the nation’s renewable energy future.” “These solutions,” she wrote “could focus on mitigating the impacts on tribes and promoting a transition to clean energy.”

The Intermountain, San Juan, and Navajo generating stations are all considering closing one or more units by the end of the decade. Nevada Energy has announced plans to retire all four units at Reid Gardner plant by 2017, and a 250 MW solar plant will be built on nearby land leased by the Moapa Band of the Paiutes. The handwriting is on the wall.

The Navajo Generating Station (NGS) presents far greater challenges to reducing pollution. The coal plant generates power to pump, each year, 1.5 million acre feet of Colorado River water 2,000 feet uphill into the uncovered canal of the Central Arizona Project (CAP), where it snakes across 336 miles of Sonoran Desert on the way to Phoenix and Tucson.

As the largest shareholder of the power plant and landlord of the water system, the federal government is faced with conflicting environmental, economic, and legal obligations. Rather than submit to an

Significantly, Interior’s recent proposal to EPA commits it and the Department of Energy (DOE) to assist in developing “community-based and large scale renewable energy projects” that will benefit Hopi and Navajo people. But there is a noteworthy flaw in the plan—while it would delay any new pollution control costs to CAP customers for more than 15 years, and offers assistance in building a 33 megawatt solar facility that would produce new revenues for the Gila River Indian Community, there is no similar assistance to Hopi and Navajo communities who would see coal royalties cut by a third and reduced employment at the coal mine and power plant before any alternatives are in place. The Hopi were not even invited to participate in developing the plan.

To their credit, cooperating federal agencies are now consulting with tribal officials, non-government organizations, and community leaders in identifying

The Bureau of Reclamation has evaluated the possibility of building a 100 MW solar plant next to one of the larger pumping stations along the Central Arizona Project canal.

viable renewable energy projects. They are committed to completing projects as quickly as possible and independently of EPA's rulemaking process. They are looking at ways for federal facilities to purchase power from tribally owned renewable energy projects and assessing utility-scale solar projects on Bureau of Reclamation controlled sites that could generate surplus revenues to benefit Hopi and Navajo communities.

With strong federal leadership, it may be possible to clean the air and help build a better future for the people who have underwritten an important part of the development in the southwest over the last 40 years.©

They used existing pumping schedules to determine when the solar plant could power the pump, when electricity from other sources would be needed, and when surplus solar power could be sold at peak rates. With conservative assumptions about repaying capital costs, the study concluded that the solar plant could be in the black by \$5.8 million annually. In this case, solar can replace coal and produce millions in surplus revenues for investing in tribal benefits.

A CRITICAL YEAR FOR ARIZONA FORESTS

by Ethan Aumack

DR. JULIO BETANCOURT SEARCHES TREE RINGS FOR CLUES THAT ALLOW HIM TO MAKE PREDICTIONS ABOUT THE FUTURE, AND SOME OF HIS PREDICTIONS ABOUT THE FUTURE OF NORTHERN ARIZONA'S PONDEROSA FORESTS ARE DOWNRIGHT SCARY.



Dr. Betancourt is a paleoecologist at the University of Arizona studying how climate change affects vegetation on time scales that range from years to millennia, with a special focus on the future of Arizona's forests.

Given the historic and likely future patterns of climate change, Dr. Betancourt predicts that northern Arizona will lose a majority of its ponderosa pine forests over the coming century. His predictions are consistent with the conclusions of a growing body of research showing that climate change has already dramatically and permanently affected wildfire dynamics across the West. As we see warmer temperatures, lighter snowpacks, and earlier fire seasons, we will continue to see larger and more intense fires—with those fires punching ever larger holes in northern Arizona's ecologically teetering ponderosa pine forests.

The consequence of losing vast areas of pine forests over the course of several decades will be enormous—almost beyond comprehension. Such a rapid transition will create severe disruption to human and biological communities across the Mogollon Rim. It will devastate

habitat for many wildlife species, making survival extremely difficult if not impossible for those that cannot adapt quickly to post-wildfire landscapes. It will likely destabilize and seriously degrade watersheds that currently provide clean and abundant water in an otherwise arid high desert. It has the potential to diminish forest-based recreation and the dependent economies. All who rely on what our forests are now will need to change their most basic survival strategies—and do it quickly. Many will simply be unable to make those changes fast enough.

Our forests in their current state are dramatically imperiled.

Conservation challenges related to climate change are many and daunting. One unique and somewhat promising aspect of the problem we face in northern Arizona is that we have known for some time how we must respond, and we are well set to do it now. We must, in short, remove many of the small trees choking our forests, use the wood generated from this removal in some economically practical way, and

A CALL FOR LEADERSHIP

by Governor Jan Brewer

As of early March, northern Arizona's winter has been one of the warmest and driest on record. The ongoing drought conditions we've faced in the state in combination with this winter's lack of precipitation and warm temperatures forecast dire challenges as we move closer to fire season.

As we've seen too often in northern Arizona, drought conditions combined with unnaturally dense forests have set the table for yet more megafires, like we saw in the Rodeo-Chediski Fire of 2002, and the Wallow Fire of 2011. Such large wildfires are incredibly destructive—incinerating homes and property, destabilizing and degrading critical watersheds and wildlife habitat, and severely impacting our state's rural economies.

The Four Forest Restoration Initiative (4FRI) stands as one of our best chances for restoring northern Arizona's forests on a scale that truly matters. The Initiative spans 2.5 million acres, and envisions collaborative, science-based forest restoration over the next 20 years that will protect communities, restore forest health, and create a job-generating, restoration-based economy.

4FRI is reaching a critical threshold in 2014. The Initiative's first project—hardly a small one at one million acres—has been undergoing environmental planning and review for several years, and Forest Service officials plan to release a final Environmental Impact Statement (EIS) this summer. This EIS will clear the path for treatments to accelerate almost immediately and, as such, its completion is vital to 4FRI's success—and northern Arizona's future.

Despite years of attempts at collaboration and compromise, some strongly held differences of

return more frequent, low intensity, managed fires to these systems—and do this at scales of hundreds of thousands of acres. If we do this right, it actually won't require large investments of public funds, sacrifices, or behavioral changes—some of the hallmark prerequisites that usually make response to climate change so difficult.



The Four Forest Restoration Initiative (4FRI) is the best vehicle we have had in several decades to push forward landscape-scale forest restoration in northern Arizona. The Initiative's premise, from its beginning, has been that we need to move restoration forward ambitiously—planning treatments at nearly 50 times the current scale, and implementing them at five times their current pace. To achieve this ramp-up in scale and pace, and to ensure that the work done is ecologically sound, socially supported, and fiscally viable, the founding tenets of the Initiative required that it be strongly collaborative, based on good and quickly adapting science, and supported by restoration industries that have viable plans for utilizing restoration byproducts profitably.

After nearly a decade of hard collaboration, negotiation, and planning, 4FRI is entering into one of its



most critical years in 2014. The Initiative's first planning effort—massive and unprecedented at nearly 1 million acres in size—will culminate this summer in the release of an Environmental Impact Statement (EIS) that identifies restoration strategies and targets across the entirety of the western Mogollon Rim. We, with colleagues, continue to push hard to ensure that the plan is indeed ecologically sound, socially and politically viable, and incorporating the best available science. If the EIS hits these marks, we will be off to the proverbial races—as we need to be. If the EIS falls short, this best hope will head dismally to the courts—hardly the best venue for determining appropriate restoration strategies.

2014 will also be the year we see whether contractors chosen by the Forest Service can actually begin implementing restoration treatments at the scale and pace originally envisioned. After a false start in 2012/2013 (the contractor originally selected to carry out treatments went bankrupt), the Forest Service re-awarded the contract in 2013 to Good Earth Power, a relatively unknown company intent on converting small diameter ponderosa pine trees into biofuels and other products. Good Earth Power has committed to treat more than 20,000 acres in 2014—ramping up to a pace of 30,000 acres per year thereafter. As has been the case from the Initiative's outset, we will support contractors chosen to implement the restoration treatments, working to ensure that they deliver needed treatments at an ambitious pace and with the intended on-the-ground results.

We hope and expect that 2014 will be a threshold year for the Four Forest Restoration Initiative—a year in which planning and on-the-ground treatments launch in a manner befitting the urgency and opportunity confronting us.

We will keep putting our shoulder strongly behind the Initiative, seeking every opportunity to move it toward success. As a result of very hard work by the Trust and many colleagues and partners over nearly a decade, we hope to be able to report substantial on-the-ground restoration progress within a matter of months, and much more to follow over the coming years. ©

opinion remain among stakeholders and between stakeholders and the Forest Service about appropriate restoration targets and strategies to be included in the EIS. This is not entirely surprising, given the precedent-setting nature of 4FRI, and the scale and complexity of the first planning effort.

If the Forest Service and stakeholders cannot collectively find their way to agreement around these remaining sticking points, the Initiative could very well get hung up in the courts, halting progress towards the kind of restoration northern Arizona's forests desperately need.

So much is on the line as we move closer to the completion of 4FRI's first phase planning. We cannot afford to lose the momentum gained over the past few years. This is why I feel it is imperative for all participants in 4FRI planning, from the Forest Service to key stakeholders—within and outside of the environmental community—to find their way to agreement, precluding this effort from getting stopped in its tracks. While there are most definitely times to cross swords, now is not the time because the price is too high.

4FRI has been built on the notion that collaboration, consensus building, and strong science can help us find our way across ideological divides. I truly hope that those who have invested so much in this initiative and upon whom our citizens and forests depend, will come to and stay seated at the negotiation table until resolution is reached. This is the kind of leadership I have come to appreciate in the Grand Canyon Trust's work on 4FRI, and the kind of leadership we need from all parties at such a critical juncture for Arizona's rural economies, communities, and forests. ©



THE CONFLUENCE by Scott Thybony

TIME TO RESET THE ODOMETER as we leave Flagstaff, the mile zero of my travels. It's late morning and the stormclouds gather as the two of us head for Cape Solitude. Our plan is to drive 25 miles on a backroad, more rock than dirt, and then hike to an exposed point on the rim of Grand Canyon where the monsoon storms will be rolling in. Photographer Shane McDermott and I are going heavy, having to pack in water for three days.

By midday we're descending a washed-out road into the Navajo country where the Little Colorado River lies in a gorge so narrow and sheer-walled the river runs unseen, only a rumor in these dry lands. Signs of major flooding appear as the road zigzags steeply down the flank of a geologic fold. A flash flood has swept the roadbed within the past ten days, leaving behind a slew of rock and outcropping shelves. At the bottom we stop to roll boulders out of what had been the road and build a ramp up a ledge. All signs of flood damage suddenly end as we leave the area hit by the storm cell and continue along the rollercoaster dips and climbs of the track.

As we traverse the Lower Basin, I find the number of abandoned sheep camps intriguing. In a land with few trees the Navajo had to build with rock, and each sheltered canyon holds a stone corral and the stacked walls of an old hogan. Some of these sites date to the 19th century. And while others were occupied more recently, no one continues to live here year-round. How they survived without springs, relying on ephemeral waterholes, remains a mystery.

Our route takes us north of Gold Hill, and we park at the boundary separating the reservation from the national park. Shouldering heavy packs we start walking, fortunate to have a cloud cover. In the heat



of summer hikers normally get going by first light. But during monsoon season, mornings can be hotter than the afternoons when storm winds, cloud shade, and bursts of rain cool the air.

The two of us follow a track where bunchgrass and sagebrush are reclaiming the old Cape Solitude road, long closed to vehicles. Our route veers toward the main canyon along the backside of the rim, rising in a knuckled crest of elevated points.

As we cover the miles a sense of limitless space grows. Scrub junipers and a scattering of pinyon yield to a sagebrush plain, and a trick of perception leads us to think we've arrived long before we do.

When the road finally ends at Cape Solitude, the packs hit the ground with a thud. We have arrived at the end of the world. At least one of them.

The promontory rises above a dramatic convergence of canyons and rivers running 3,000 feet below. Erosion has exposed massive laminations of rock sliced into vertical faces or shaved flat into lithic altars on an epic scale.

The blank wall of Chuar Butte fronts the far side of the cleft, and the reds of Temple Butte stand next to it. Farther south the cordon of cliffs spreads wide between Desert View on one side and Cape Royal on the other with the bright river held between them. Another long reach of canyon opens to the north, flanked by high mesas and the serrated edge of the Navajo Rim. Far below, Marble Canyon merges with the tight sinuosities of the Little Colorado gorge.

Cape Solitude takes an effort to reach, and for some that has its own attraction. Writer Edward Abbey needed a place to hide after a month on the lecture circuit had left him burnt out and discouraged. But he knew the cure. After parking his truck he began walking toward the edge of Grand Canyon, and on arrival he promptly removed all his clothes, including his hat and boots.

"Let others save the world for the time being," he wrote. "Tonight and tomorrow and for the next few days, I am going to walk the rim of Cape Solitude, along the palisades of the desert, and save myself. Without half trying."

Grand Canyon Escalade

In 2012, Navajo Nation President Ben Shelly and Scottsdale-based Confluence Partners LLC signed a Memorandum of Understanding to develop "Grand Canyon Escalade," a luxury resort on the Navajo Nation overlooking Marble Canyon. The Escalade would include a three-million square-foot hotel on the rim and a tramway descending from the resort 3,000 feet down to a boardwalk, restaurant and amphitheater to be built at the confluence of the Colorado and Little Colorado rivers. The Trust is supporting the efforts of local families, who have home-site and grazing leases in the area, to oppose the developer's well-funded campaign to win approval of the resort by the Bodaway/Gap Chapter and Navajo Nation. With Navajo Nation council delegate Walter Phelps, officials from seven western Navajo chapters, local organizations, and the Navajo Nation Parks and Recreation Department, we are facilitating establishment of a regional community development corporation aimed at creating appropriate alternatives to the Escalade development.

Abbey found a seat on the rim and settled in to contemplate the scene before him.

Walking along the cliff, I remember his story and find myself beginning to question it. Kaibab limestone, the weathered caprock, has dissolved into a surface so abrasive I'd classify it as weapons grade. To sit buck-naked on the rim "would be like sitting on broken glass," Shane says. And then I notice, at the very tip of the point, the only smooth piece of rock anywhere. It must be Abbey's perch. Someone in the past, I suspect, took a stone and ground down the jagged surface. Or it may have been worn smooth

simply by all the Abbeys preceding Abbey, all of the refugees and renegades stretching back in time.

Farther along the rim I find the right vantage point to look directly down at the confluence of the two rivers. The Colorado flows strong and green, appearing as an intrusion of malachite in the red walls of the gorge. From the east, the floodwaters of the Little Colorado twist toward the river mouth where the current splits as if swallowing the island lying at the junction. And in every direction water has carved through wind-laid rock, through deposits formed on ocean bottoms, and through the ancient channels of braided rivers. The facets of each cliff left standing catch the fall of light as stormclouds surge above the North Rim.

It's a dramatic setting, a place held sacred by a number of tribes. Here the waters of the Little Colorado enter the great river not far from the Place of Emergence, where the Hopi believe all people entered this world and began their migrations. The Navajo once used the inner canyon as a refuge in times of war and drought, and the Confluence still plays a role in certain ceremonies. Two main deities, Changing Woman and Salt Woman, met where the rivers flow together while on their epic journeys.

A Navajo ranger once told me how four sacred rivers form the border of the traditional Navajo homeland, with two of those merging below Cape Solitude. Whenever the old people crossed the Colorado, he said, they prayed. And as they prayed, they placed offerings of pollen or turquoise on the shore, close enough for the lapping water itself to take them. To my surprise, plans are now underway to build a resort complex called The Escalade on the Navajo lands across from Cape Solitude along a beautiful stretch of rimlands. It would destroy the pristine view from Point Imperial, one of the most popular overlooks in Grand Canyon National Park. And if that were not enough, a tramway descending from rim to river would add a carnival atmosphere to the scene.

As the air chilled, Ed Abbey put on his clothes. And in the solitude on the edge of the canyon he wrote, "We must preserve, not obliterate, what still remains of the American wilderness, the American hope, the American adventure."©



THROUGH THE LENS: WHAT OUR LANDS COULD BE

by Mary O'Brien

With heat, droughts, reduced snowpack, and periodic extreme precipitation events bearing down on the Colorado Plateau, what do our public lands need? More areas not grazed. The challenge is that on the 6.3 million acres of national forest land in southern and central Utah (Dixie, Fishlake, and Manti-La Sal NFs) and the Grand Staircase-Escalante National Monument, more than 96% of the acres are grazed by cattle or sheep, with elk herds large and growing. When almost every acre is grazed, it can be hard to picture how healthy, diverse and resilient these lands could be.

We're helping federal land managers and the public imagine what their public lands could be by taking agency people and others to see those rare areas that are not grazed; measuring key features within non-grazed areas compared to grazed areas; and using fine photography to collect an aesthetic, emotional, and scientifically accurate picture of what our lands could be.



TOP: Tall sedges within Dipping Vat Spring enclosure, 2013. ABOVE: Trampled, incised Dipping Vat Spring meadow prior to fencing, 2006. 2013 PHOTO BY CHRISTOPHER MARIN; 2006 PHOTO BY MARY O'BRIEN

FROM SHARKS TO A FENCED SPRING

Christopher Marin can usually be found under water with his camera in the world's oceans, capturing photos of shark activity. In September of 2013, however, he was wading on a rainy day through hip-high grass in the fenced, wet meadow of Dipping Vat Spring on Fishlake National Forest. Christopher's 2013 photo of Dipping Vat Spring (top photo) was taken at almost the same spot as the 2006 photo below it. The spring was



TOP: Ungrazed biological soil crust and native bunchgrasses, Grand Staircase-Escalante National Monument. ABOVE: Close-up of moss-dominated crust (on the left and right) with lichen-dominated crust in the center. ELLEN MORRIS BISHOP

fenced in 2009, per a consensus recommendation of the multi-stakeholder, multi-agency Tushar Allotments Collaboration (2007-2009).

“Photographing Dipping Vat Springs was an amazing experience,” Chris writes, “because of the diversity of life on display. I think at one point I stayed rooted in the same spot for twenty or so minutes, with each slight rotation of the macro lens revealing yet another praying mantis, spider, sedge, or dew-soaked acorn. The stark lack of biodiversity just outside the enclosure was both depressing and a testament to what could be achieved.”

FROM LANDSCAPES OF LAVA TO A FRAGILE, THIN CRUST

For most of several decades, Ellen Morris Bishop’s camera has been recording the geology of the volcanic Pacific Northwest whenever she’s not teaching about long-ago times the Earth’s atmosphere has heated up—due in each case to greenhouse gas accumulation. During the summer of 2013, her camera could be found eye-to-eye with an easily-overlooked key to keeping Grand Staircase-Escalante National Monument from being engulfed in sand dunes: biological soil crusts. Not particularly photogenic from afar (they can be magical close up), these diverse mixtures of lichen, mosses, algae, and cyanobacteria hold soil grains in place in arid areas where plants naturally are spaced apart from each other.

“We look at ‘wild’ landscapes today and think they have always been as we see them,” Ellen notes. “This is incorrect. In the past 150 years, grazing has almost completely reworked the West, destroying native vegetation, paving the way for non-natives that have changed the ecological playing field. Two centuries ago—practically no time in the history of the planet—the Grand Staircase-Escalante Monument was a kingdom of bunchgrasses and biological crusts. Now it is increasingly blow-sand, cheatgrass, and shrubs.”

“Biological crusts,” Ellen continues, “are among the most remarkable life-forms on the planet—and among the most ancient—they have graced the surface for more than two billion years. They are essential to desert soils and ecosystems—without them, erosion has its way with the landscape.”

FILLING A GAP

Christopher and Ellen are two of five photographers who contributed to Grand Canyon Trust’s “What Our Lands Could Be” photography project of 2013. Hundreds of fine photos were shot, most within the few areas or small exclosures not grazed by livestock, but some within adjacent areas that are conventionally grazed, as comparison.

The photos of lands not grazed by livestock provide a stunning vision of what our public lands could be if livestock grazing were managed differently, and if reasonable portions of the three forests and the

We look at “wild” landscapes today and think they have always been as we see them.

This is incorrect. In the past 150 years, grazing has almost completely reworked the West.

–Ellen Morris Bishop

Monument were lifted from the ecologically irresponsible requirement that the land be grazed by too many animals, almost every year, almost everywhere.

Unfortunately, too many federal land managers, users and visitors of the three forests and Monument think that what they see around them is “just how things are.” Too few realize how much of what they are seeing—the compacted ground; bare soil; wide, shallow streams; a few large cottonwood trees without young recruits; and blown sand—is the result of unsustainable grazing. In other words, too many of us have “normalized” degradation.

We have used the photos in the first of what will be several gallery shows. An interactive map, showing pairs of photos—not grazed by livestock and grazed—is on the Trust website, and we are using the photos in numerous meetings with the public, Forest Service, and BLM.

GOOD TIMING

These photographs from 2013 (and more in 2014) couldn't appear at a more opportune time, both for the three forests and the Monument.

Though 96.4% of the mostly-arid 1.9 million acre Monument is allotments grazed annually by cattle, no plan to manage grazing in the Monument has been completed since its establishment by President Clinton 18 years ago, in 1996. (One ten-year attempt to develop a grazing plan collapsed amid local controversy and threatened environmental litigation.)

In late 2013, the BLM initiated its second attempt to develop a grazing management plan, and the Trust, The Wilderness Society, and Great Old Broads for Wilderness submitted a comprehensive grazing proposal (“Sustainable Grazing Alternative”) to be considered alongside BLM alternatives in an upcoming Environmental Impact Statement. While accepting that parts of the Monument will continue to be grazed by cattle, our Alternative urges, among other suggestions, that the BLM establish ungrazed reference areas throughout the Monument so that the outcomes of grazing a particular area can be compared to (and kept within 80% of) conditions under no livestock grazing. The Alternative suggests that the BLM take

advantage of opportunities to gain large ungrazed areas when a rancher voluntarily relinquishes her or his grazing permit.

Photographs of the few ungrazed areas in the Monument help raise public and BLM understanding of what the Monument could be: biological soil crust holding soil against wind; non-trampled springs providing clear, cool water; tall grasses hiding small mammals and ground-nesting birds; and rare plant communities thriving with tall flowers and native bees.

The three national forests (Dixie, Fishlake, and Manti-La Sal) are following close behind the BLM by launching a process to change, for the first time in 28 years, their management of livestock grazing. The three forests hope to initiate this public process by early summer 2014.

More than 11 years of Trust field work on the three forests, participation in collaborations, and engagement with the Forest Service have been oriented toward three fundamental changes we will propose in our Sustainable Grazing Alternative for the three forest grazing plan process:

- A transformation of grazing decision-making to an open, multi-stakeholder process, from the current, tightly-closed Forest Service and permittee process;
- annual and long-term evaluation of whether grazing practices are sustainable based on assessment of more features than just the currently-used (high) percent of grass consumed each year; and
- a change from 97% of all three forests' acreage in active, annually-grazed livestock allotments to a *variety* of grazing arrangements. Ideally this will include a significant number of voluntarily-relinquished allotments and collaborative grazing experiments.

BEARING WITNESS

Ultimately, the Forest Service and BLM will decide whether grazing management across southern Utah will be amended to allow some of these 6.3 million acres to become all that they could be. We hope, as they deliberate, that the photographs we are gathering will help them understand what beauty, complexity, and health are at stake. ©



A group of AmeriCorps National Civilian Community Corps members fervently assess beaver habitat in southern Utah.

BUILDING THE NEXT GENERATION OF CONSERVATION LEADERS: Grand Canyon Trust's Youth Initiative

by Emily Thompson

I CHOSE A CAREER IN CONSERVATION. I wasn't always on this path. In a previous life I found myself awkwardly donning a business suit and heels, sitting in a five by five foot cubicle in a high rise office building in downtown Detroit working for a major advertising firm. I had a yearning for the outdoors so I applied for an internship with the Student Conservation Association at Lake Mead National Recreation Area. I had no experience as a Fisheries Technician, but was offered a job based on a "good feeling" my supervisor got from a 15-minute phone interview. At twenty-two, the course of my life changed forever.

I began in the trenches of conservation at the bottom of the Grand Canyon working through the night on a boat with frozen hands trying to save the last remaining populations of Humpback Chub, a four million year-old native fish pushed to the brink of extinction by human alterations of the Colorado River. I slept on the ground more often than in my own bed. Inspiring mentors offered encouragement and guidance, steering me toward a career in conservation.

Imagine conservation without youth. No conservation crews hiking deep into the Paria Canyon wilderness with 50 pound packs loaded with handsaws

and herbicide to battle with invasive tamarisk and Russian olive; no 11-year-olds starting campaigns to ban plastic straws in restaurants; no aspiring young biologists working for pennies to collect data in the roasting sun or rain and snow in remote places; no young, optimistic minds ready to take on the environmental challenges of their future with fresh eyes and open hearts. Conservation *relies* on youth involvement.

With over 60% of teens 13 and older owning smart phones, young people are tethered to technology that keeps them more connected to each other but ever more disconnected from nature. Youth need wild places as much as these places need youth, who will grow up inspired and prepared to defend them.

Grand Canyon Trust's (GCT) Volunteer Program is already responding to this universal need for action by taking young people to far-flung corners of the Plateau without cell signals, to build calluses on their hands and blisters on their feet doing important conservation work on public and tribal lands.

In 2011, I was hired by the Trust to supervise a crew of ten 18-24 year olds with the AmeriCorps National Civilian Community Corps (NCCC) on the North Rim of the Grand Canyon. The crew spent eight weeks living and working in a remote corner of northern Arizona where they completed conservation projects that would otherwise go undone in the vastly underfunded Vermilion Cliffs National Monument. They closed illegal roads to protect ancient archaeological sites from vandalism. They modified cattle pasture fences for Pronghorn movement and built rock barriers to protect the endangered Brady pin-cushion cactus (*Pediocactus bradyi*) from off-road travel. Perhaps most importantly, these young volunteers developed an intimate relationship with this landscape that most who pass through in their RVs and air conditioned cars will never fully know. They experienced the 50-mile-per hour northern Arizona winds and tasted fine sandstone grit in their teeth after a long day of hauling rocks. They came to appreciate the stark beauty of the House Rock Valley through countless sunsets from the front porch of Kane Ranch, the distinct scent of sagebrush drinking up a desert rainstorm, and the sound of silence.

The Trust's youth initiative is moving beyond simply getting young people outdoors. We are fueling a passion that ignites in the field and providing leadership opportunities for youth to become advocates for these special places. Each year, Trust staff work alongside outstanding, motivated high school and college students who are starving for authentic direction, knowledge, and experience. Students volunteer as individuals or with school groups. They spend several days in the field doing a hands-on conservation project while learning about the environmental threats to the places they are working. While still in the field, they begin to translate their experiences into action by writing letters to policy makers, practicing environmental writing and reflection, and learning how art can create public awareness.

If any group has a stake in the conversation about climate change on the Colorado Plateau, it is the young people, and the Trust has made a commitment to listen. A respected voice for conservation, the Trust has access to the platforms youth need to test their ideas. As a leading player in the environmental community, we have a unique opportunity and responsibility to amplify the young voices of the region that can and will lead to important changes in environmental policy on the Plateau.

Like many who came before me and many who will follow, I was looking for meaning and purpose in my life when I was twenty-two. I wouldn't be sitting here today writing this article about the need for youth in conservation if I hadn't traded in my heels for a pair of hiking boots and taken that internship opportunity. I wouldn't have found my own *tribe*, discovered my true home on the Colorado Plateau, become a field technician in the Grand Canyon, gone to graduate school for Environmental Studies, or found my way to the Grand Canyon Trust. I became passionate about restoring the Colorado Plateau landscape while restoring human connections to the earth because of the mentors along the way who shared their passions with me. I am honored now to be one of those mentors, working for an organization that provides those same life-changing opportunities to our next generation of conservation leaders. ©



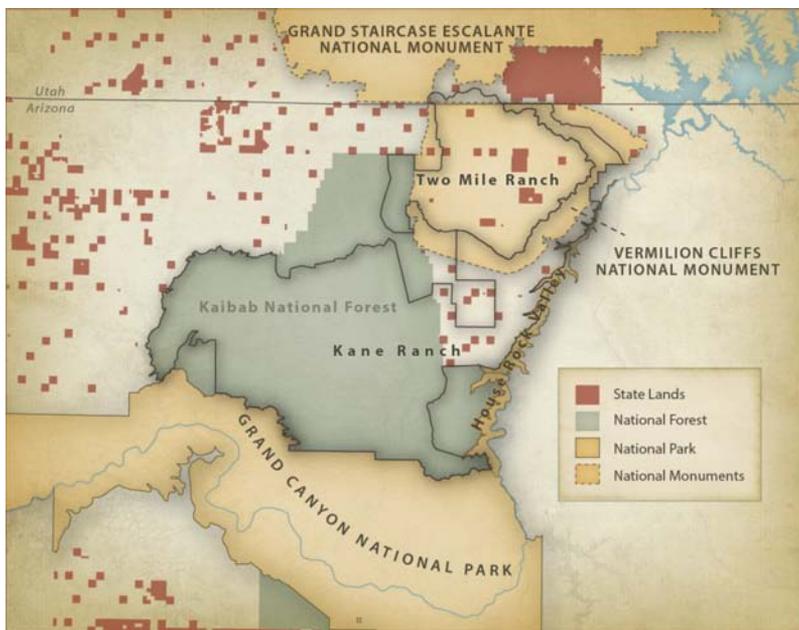
TOP: Amanda Smith, Volunteer Program AmeriCorps Intern, demonstrates safety protocols to a group of Alternative Spring Break college students.

ABOVE: Emily Thompson, Volunteer Program Associate, with GCT intern Amanda Smith at Triple Alcoves overlook, Grand Canyon.

Amanda Smith, a 23 year old volunteer with AmeriCorps National Civilian Community Corps spent eight weeks living and working in House Rock Valley where she and her crew assisted with conservation projects that otherwise wouldn't get done. She was so moved by her experience that she applied for an internship and returned a year later to intern with our Volunteer Program. She describes her experience, "My year with the Trust was everything I hoped it would be. I learned so many things and had such supportive mentors. I've worked alongside so many people who are experts in their field. Being part of a community united in the clear mission to protect and restore the Colorado Plateau – I can't think of a better way to jumpstart my career in conservation."

INTRODUCING THE COLORADO PLATEAU CONSERVANCY

by Phil Pearl



The Colorado Plateau Conservancy (CPC) is a new program of the Grand Canyon Trust that will complement the organization's regional leadership in conservation advocacy. Through the facilitation of land donations, purchases, exchanges, and conservation easement acquisitions, the CPC will focus on protecting strategic and otherwise vulnerable private and state land adjacent to and within national parks, national monuments, and wilderness character lands. There will also be emphasis on protecting Native American sacred sites.

As we look over a remarkable Colorado Plateau scenic vista in a national park or national monument we may assume that

what we see is all protected land. However, interspersed with these federal lands there are private and state lands. Private lands are remnants of federal land grants, which were used to incentivize the settling and industrial development of the West. Quite often these lands are associated with proximity to water sources, making them extremely important ecologically. State lands were part of a federal land grant to support local schools—generally four square miles per 36 square miles were granted for this purpose. This state land is not considered park land or public land, but rather, carries with it a state constitutional mandate that it be used to generate maximal revenue to support the schools.

Accordingly, in many areas of the Colorado Plateau we have a “checkerboard” of federal, private and state lands potentially vulnerable to inappropriate commercial development, including industrial uses such as energy development.

There are many possible targets for protection: 15 privately owned inholdings in Grand Staircase-Escalante National Monument; a square mile of state land adjacent to the entrance of Canyonlands National Park’s Needles District; 14 square miles of vulnerable state land within Vermilion Cliffs National Monument; 12 square miles of state lands in House Rock Valley where the Trust’s Kane Ranch is located; and a square mile of private land atop Cedar Mesa near Grand Gulch—a BLM primitive area in southern Utah that is at the crossroads of either becoming part of a national monument, a resort development, or worse—a private pothunter’s sandbox.

The CPC is working on protection strategies for all of the properties described above. It is also working to acquire the 325 acre Hance Mine—Grand Canyon National Park’s only remaining private inholding—and on a seven mile trail system along the banks of the San Juan River near Bluff, Utah.

Economic realities prevent the CPC from purchasing and protecting every worthy target. For this reason we need to be strategic and entrepreneurial. An initial effort of the CPC will be to inventory and prioritize



LEFT: A seven-mile stretch of the San Juan River where the CPC is working with the BLM and several private landowners to acquire easements and develop a non-motorized trail system. MICHAEL COLLIER

ABOVE: This parcel, a square mile of state land adjacent to the Needles District of Canyonlands National Park, will likely become a cluster of hotels unless an organization like the Grand Canyon Trust steps in to purchase it. MICHAEL COLLIER

MAP: The brightly colored squares on the map are square miles of state trust lands within and adjacent to Grand Canyon National Park and Vermilion Cliffs National Monument. These lands are ultimately slated to be sold by the state to support schools, so it is imperative that we develop a strategy and funding source to protect them. MAP BY STEPHANIE SMITH, GCT

existing opportunities. Following this we will assess those projects that provide the greatest social and ecological return on investment. The goal is to acquire and hold properties only as long as necessary and, to the extent possible, to leverage, recover, and recycle acquisition funds for future projects.

To date the Trust has dealt with land protection opportunities on an *ad hoc* basis, helping local constituencies purchase land, accepting donated conservation easements, making strategic purchases in places like the Grand Staircase-Escalante National Monument. The CPC will be a significant extension of this work and experience, and be another important tool in the Trust’s “toolbox”.

There are times when the Trust’s advocacy, policy, legislative, and local solutions work. There are other times when the only practical way to protect land is simply to purchase it. ©



TED JOHNSON

LEARNING FROM A HUMBLE HOPI FARMER

by Tony Skrelunas

Colorado Plateau tribes have protected their natural resources and sustainably built their societies using a comprehensive body of traditional knowledge developed over thousands of years. This knowledge was vital for communities to prosper without using up local resources, and one key thread was strong agricultural practices that created many of the world's rich foods and medicines. This body of knowledge is now threatened by climate change, which has brought unfamiliar weather patterns, decreased rainfall, drying of springs and watersheds, and increased temperatures.

Leonard Talaswaima, a traditional Hopi farmer, works to ensure the survival of the ancient dry farming techniques that have sustained his people in the high desert of northern Arizona since time immemorial. Leonard exudes an aura of seriousness, firm and accountable to his cultural responsibilities as a Hopi elder. He imparts traditional knowledge to his village's most accomplished young farmers. His character and appearance are commanding but accessible, full of depth combined with humor and wit. He likes nothing better than sharing a wide repertoire of melodic songs that he composes for his people.

As an esteemed elder, Leonard works to ensure his tribe's survival by guiding his village in restoring life-giving springs and helping to preserve ancient agricultural methods that have seen the people through hard times in the past. In recent years, he has become a natural leader of the Colorado Plateau Inter-Tribal Gatherings, where he has excited others about the need to preserve ancient tribal food and agricultural systems as a bulwark against climate change.

Leonard attributes much of his farming knowledge to his uncle who passed it down to him following Hopi protocols. He eagerly talks of how a "successful farmer" has to always be out in the field, becoming intimate with the land and weather over time. Traditional Hopi farmers monitored the weather in sophisticated ways to enable appropriate village preparations for the following year's crop production. Over thousands of years, they created complex ceremonies to guide their relationships with the land and the rain—ceremonies that enshrined the importance of land stewardship and wise farming and ensured that traditional knowledge was passed from generation to generation.

Leonard emphasizes the importance of protecting the heirloom seeds that were cultivated especially to thrive on Hopi lands. These biological treasures are now under the double threat of climate change and introduction of genetically modified seeds. He is concerned that, “We are changing systems that no one should meddle with. Changing our foods and how we eat, and changing the very heart of the seed will create issues and consequences on our climate and health.”

Since 2009, the Grand Canyon Trust has facilitated a landmark series of Inter-Tribal Gatherings of cultural leaders from ten Colorado Plateau tribes. The assembled leaders have agreed that their highest priority issues are protection of sacred sites and water resources, restoration of community health, and preservation of languages and cultures.

With Leonard’s guidance, the Gatherings recently spawned a Traditional Farmers Group that has brought those lofty ideals down to earth in a set of collaborative projects. Participants are mentoring local farmers and gardeners in all aspects of successfully raising crops with scarce water supplies. Farmers markets are being established that include teaching traditional food preparation, all with an eye to building the resiliency of local food systems. The culmination of this local work will be the creation of an inter-tribal coalition dedicated to educating communities across the Plateau about food and farming issues and strategies to preserve their heirloom seeds.

For Leonard, an important benefit from this process is the reestablishment of old traditions of tribes coming together to share stories and solutions. He recalls elder tales of a vital trading hub with the Supai People in the Grand Canyon, where many tribes made pilgrimages to trade prized items like buckskins, minerals, shells, salt, and peaches. The trade in material objects was greatly enriched by sharing wisdom about ethics, stewardship of lands, and cultural and religious practices. The best of traditional knowledge was spread and adapted to local circumstances.

Leonard’s vision for the future is that tribes once again achieve sustainability. “In Hopi history, we know of a time when we had no mechanized transportation and we settled in a place with not much available. Yet we sustained ourselves in our villages.” In a time of great uncertainty, this vision of a people rooted sustainably in their place seems like a model for all society, and one the Hopi can aspire to more realistically than most. ©

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JOHN RUNNING

The cover photo, the work of Shane McDermott, captures the remarkable serenity and quietude of the canyon rim at dusk, along with a glimpse into cyclical nature of flora that for thousands of miles adorns the edge of it's depths. A passionate explorer of nature, Shane has been capturing remarkable images around the Colorado Plateau since 2004. His work has been consistently acknowledged and awarded as some of the best in the business by NANPA and Outdoor Photographer.

Shane currently displays his work in fine art galleries in both Sedona at Goldenstien's and Scottsdale at the Work of Artists. He makes his business as a Holistic Health Practitioner and home here in Flagstaff.

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The **Mission** of the Grand Canyon Trust is to protect and restore the Colorado Plateau—its spectacular landscapes, flowing rivers, clean air, diversity of plants and animals, and areas of beauty and solitude.



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