COLORADO PLATEAU Advocate

SPRING/SUMMER 2011

GRAND CANYON TRUST

BIGSTOCK

Contents

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

Last summer I testified at a congressional hearing in favor of protecting the Grand Canyon from hardrock mining on its rims. Remarkably, the hearing was held in the Shrine of the Ages at the national park, rather than in an airless room in Washington; but most participants went to the Shrine, held forth in the debate, and left again without ever glimpsing the stupendous canyon that engendered all the fuss in the first place. Perhaps that bloodless, disconnected approach lent the proceedings an air of unreality that was expressed in some unusual verbal exchanges. At one point, then Arizona Representative John Shadegg insisted at length that he was seeking a balance between land protection and energy security, indicating clearly that he thought setting aside land around the canyon was erring on the side of too much protection. I replied that the U.S. Geological Survey had reported that the proposed one million acre withdrawal would complete protection of the canyon from mining while setting off-limits just 12 percent of Arizona's uranium reserves, concluding that the proposal seemed to achieve the balance Mr. Shadegg endorsed. The reply came from another member of the panel, Representative Tom McClintock of California, who did not counter my facts or conclusion, nor engage the issue at all, but instead sharply demanded to know about every time in the last decade the Grand Canyon Trust had appealed a federal agency decision or filed a lawsuit against the government, and an accounting of every time we had received legal fees under the Equal Access to Justice Act after prevailing in such court cases. It was irrelevant and disheartening, as I suppose it was meant to be. The wag who coined the phrase about not wanting to see how law or sausage is made may have had such moments in mind.

Conservation is hard work. People who are motivated by the belief that we are obliged to pass on a healthy world to our kids, or who love wild places and animals, soon learn that we are in the messy and human-centered business of social change. They end up spending their lives on the phone, cloistered in

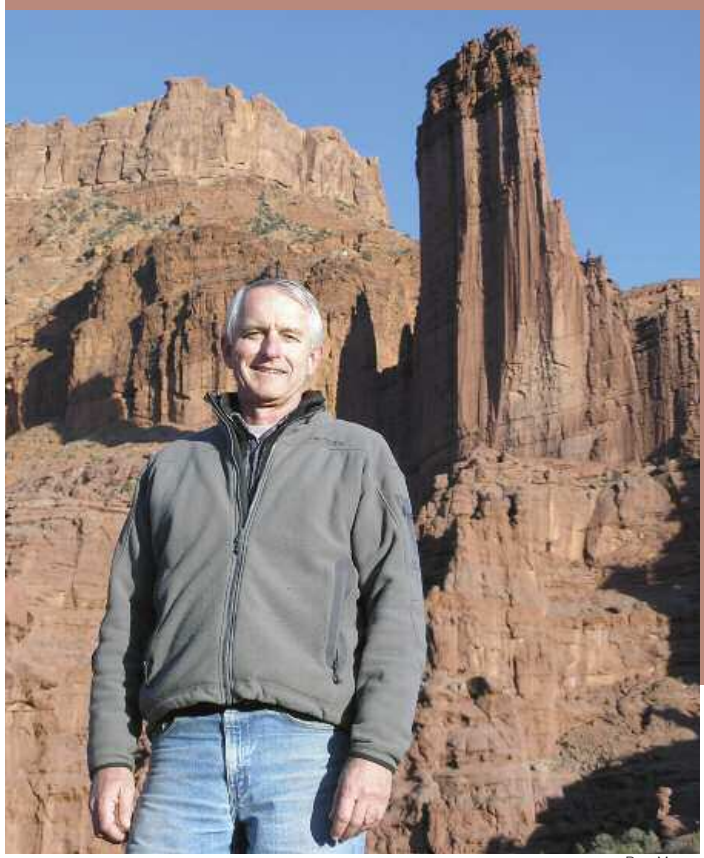
meetings with people of radically opposed viewpoints, or in the field documenting damage that most of us would rather not confront. Real gains come slowly and uncertainly: it is often years between the first announcement of a new program in these pages and the final win, lose or draw. I realize that it also takes belief and faith and patience to be a supporter of a conservation group and I am always grateful for our members who hang in there with us for as long as it takes to get the job done.

In this issue of the *Colorado Plateau Advocate* I have asked some of our program directors to describe the sausage-making process—to take the readers into the work in progress, laying out the overall strategies and goals as well as describing the chockstones blocking the route forward. We spend our lives immersed in these issues and know why we choose to invest in solving one problem and not another; yet we rarely explain our logic to our members, missing an opportunity for what could be a fruitful back and forth communication. I hope that you will share any ideas that occur to you as you read these pages, because we always know that we could be smarter.

When the hope for legislative protection of the Grand Canyon vanished with last November's elections, we turned our focus on the administrative withdrawal being considered by Interior Secretary Ken Salazar. We hired Arizona's most respected economic analysts to critique the flawed study of supposed economic benefits that the Bureau of Land Management adopted wholesale from the uranium industry. We and partners traveled across the country to enlist the support of hundreds of nonprofit organizations and, from Arizona and the Navajo Nation, numerous local governments and chapters weighed in to tell the Secretary that protection of the Grand Canyon is far more important to the quality of life and the economy than digging up a small percentage of Arizona's uranium. Later this year we will learn if it is enough when Secretary Salazar announces whether or not he'll extend his temporary withdrawal to twenty years.

Letter from the Executive Director

Bill Hedden

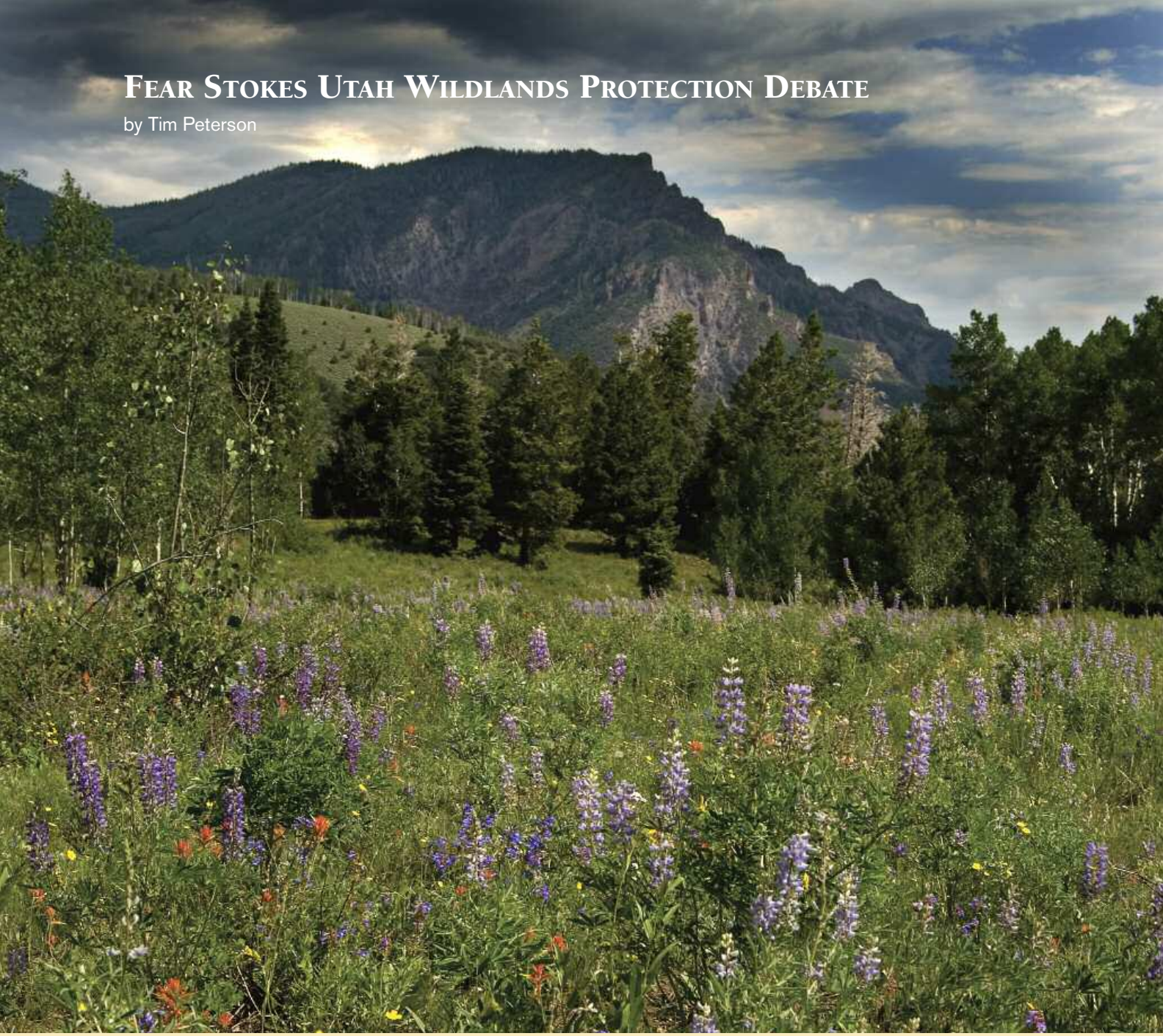


Rick Moore

Conservation is hard work. People who are motivated by the belief that we are obliged to pass on a healthy world to our kids, or who love wild places and animals, soon learn that we are in the messy and human-centered business of social change.

Fear Stokes Utah Wildlands Protection Debate

by Tim Peterson



For a state so incomparably blessed with wildlife, scenery, and solitude, Utah can be a tough place to make progress on public lands protection.

The reasons are myriad. From a deep distrust of the federal government to a fierce sense of individual independence; some rural westerners loathe being told what to do, especially when they fear their lifestyle is threatened. There are business interests vitally invested in promulgating that fear, and lately they've felt particularly empowered. In spite of that empowerment, the overwhelming majority of Utahns want their landscapes preserved (a January 2011 *Conservation in the West* study found that 78 percent of Utahns favor maintaining protections for land, air and water that apply to major industries).

Public lands are an important part of our shared heritage, and neither side wants to leave a barren moonscape for future generations. If you spend a little time talking with the various local interests, it becomes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City Creek Peak, Bullion-Delano proposed wilderness, Piute County, Utah.
TIM PETERSON

clear that headline capturing sound bites aren't much use in getting things done. The public debate is more heat than light, and powerful forces often twist the facts to suit their ideological mindset and financial self-interest. As of late, a small group of industry-backed politicians and lobbyists seem more interested in sending messages than actually bringing these complex issues to a mutually beneficial resolution.

The biggest instigator of unproductive oratory presently seems to be the U.S. House of Representatives. In recent budget negotiations they passed many "message" riders, including one pushed by off-roading activists that would have shut down all travel management planning on Forest Service lands coast to coast. Don't like what you're getting out of the public process? Stop the public process. Uncertainty rules at press time, but we're hopeful that cooler heads will consign that bad idea to the trash heap.

More recent legislation reads like an industry shopping list. The *Domestic Jobs, Domestic Energy, and Deficit Reduction Act* (HR1287) carried by Rob Bishop, (R-UT), should really be called the *Oil Industry Dream Act*. It would prohibit the reimbursement of legal fees to environmental plaintiffs when they win legal challenges on oil and gas projects, speed up the issuance of drilling permits, open the Outer Continental Shelf and Alaska National Wildlife Refuge to drilling, fast-track permitting for new oil shale development and reissue the seventy-seven Utah oil and gas leases adjacent to national parks and monuments issued by the previous administration and recalled by the current Interior Secretary. Representative Bishop decries conservationists and land managers for restricting oil and gas development thus leading to rising pump prices while brushing aside the fact that the industry is sitting on nearly 7200 unused drilling leases for over 22 million acres of federal land. Far from suffering a dearth of permits, some gas producers are actually "shutting in" wells hoping to trigger price spikes.

Another bill carried by Kevin McCarthy (R-CA), Rob Bishop (R-UT), and Steve Pearce (R-NM), and advanced by so-called "recreation" groups would immediately remove protections from tens of millions of acres of Bureau of Land Management Wilderness Study Areas (WSAs) and Forest Service Roadless Areas with no public input whatsoever. How does removing protections for scenic views, pristine wild lands and watersheds enhance the recreation experience, particularly when roadless and WSAs grandfather in motorized use? Why would one want to hike or ride through once protected lands that are industrial zones?

Thankfully, most of these efforts are transparent overreaches with little chance of success, but acting in this manner takes time, attention, and resources away from serious dialogue with all stakeholders to actually resolve resource issues. In spite of the Beltway debate, Grand Canyon Trust is engaged on a day-to-day basis with local decision-makers and stakeholders to really make Colorado Plateau conservation happen.

Locally, our biggest challenge is breaking down barriers created by those more interested in messaging than working together. It's hard to lay ideology aside and find common ground, but it must be done for real solutions to emerge.

Locally, our biggest challenge is breaking down barriers created by those more interested in messaging than working together. It's hard to lay ideology aside and find common ground, but it must be done for real solutions to emerge. Even in Utah we are making headway. After working on the public process for more than five years, the Trust and its partners have a motorized travel plan for the Dixie National Forest of which we can all be proud. It's not perfect, but it's a huge improvement, and the collaborative public process that the Forest Service took seriously made big strides toward better management. We're building on that success by working with an even larger group of partners to restore the Escalante River watershed, leveraging our efforts, time, and money to greatly improve conditions on the ground.

continued on page 23

Building Conservation Capacity

A Self-Critique of Conservation Across the Colorado Plateau

by Ethan Aumack

My great-grandfather
once asked my father,

How do you justify your life?

It wasn't an existential criticism as much as a challenge, a strong provocation. I've never known my father's response. It didn't matter though, as my parents passed this story down to my siblings and me as our own challenge: Help people. Appreciate and care for the natural world. Leave the world a better place than the world into which you were born.

I have spent most of my life trying to live up to the challenge threading through my family's history. I have pursued change through conservation, focusing my efforts on the Colorado Plateau – a wild and beautiful and mysterious place I have known and cared deeply about since early childhood. My work has been gratifying beyond compare. The conservation successes I have witnessed and been lucky enough to play a part in have been both important and inspiring.

Unfortunately, I also consider them insufficient.

Each day, conservationists confront a litany of pressures that squeeze, contort, and degrade landscapes, and the communities that depend upon them. Unnaturally severe fire, spread of invasive species, urbanization of natural environments, public lands misuse, exploitative resource extraction schemes, climate change—the list goes on. These pressures and more suggest that many of our most cherished landscapes and ecosystems continue to be stressed to and beyond their limits, making their future far from secure.

Our society faces daunting environmental and social challenges. In many cases, individual conservation "victories" cannot keep up with degradation trends. For some this may be a recipe for despair, but it can also be a defining moment for the conservation community. Not one that requires us to question what we have been and done in the past, but one that forces us to do better in the future—creating opportunities for us to win, not simply lose slower.

Winning will require that we set our communities and natural landscapes on a sustainable path. It will dictate a fundamental course correction reflected in policy, law, and collective behavior. It will demand that we are as adept at establishing good practices as we are at eliminating bad. And, by the very nature of our democracy, it will necessitate broad support from the American public.

Personal participation in previous conservation successes and failures has caused several change elements to resonate with me. They represent change needed within the conservation community, as well as across a broader swath of our social and political communities.

Improving our Learning Capabilities

In an era of rapid environmental change, uncertainty pervades all conservation discussions. Across much of the Colorado Plateau we now have a clear sense that many past land management actions had, and continue to have, harmful effects. We have a less clear understanding of how to stabilize our environment and allow it to adapt to climate change. Conservation science can help us here, but we as a conservation community do not embrace science as we should. We must either build better conservation science capacity within the NGO community, or partner more effectively with entities such as academic institutions that have a greater array of science-based conservation planning tools at their disposal. By supporting stronger, science-based conservation approaches, we will be better positioned to respond to change as it barrels towards us.

Broadening the Conservation Base

Within the conservation community, much time is spent working with fellow conservation advocates. A lot of the remaining time is spent blunting the power of those whose conservation views are unlikely to change. It doesn't take long to see that this often simply perpetuates stalemate. If meaningful conservation-based social change is to occur, it will require significant social buy-in that extends well beyond traditional core supporters. We must be flexible enough in these

outreach efforts to accommodate differing perspectives, continually striving to find common ground without sacrificing our intent to meet ambitious conservation goals. This will require humility and perseverance, and an ability to learn as well as teach, but it will end up greatly enhancing the potency of our collective conservation agenda.

Extending Political Support for Conservation

Today, most urgent conservation matters require creative and ambitious action. Unfortunately, our current political system leaves scant space for such action as weighty issues often get squeezed into the lowest common denominator and, ultimately, lead to insufficient compromise. If we assume adequate change must be more than incremental, and we believe that conservation need not be an ideological battering ram, we should work to extend the conservation plank across both major parties' platforms and beyond. Thanks to Teddy Roosevelt and many others, conservation has been historically supported as a fundamental element of the American ethos. We can and should work to restore this broad-based political legitimacy at all levels in our society.

Building Leadership Capacity

Most environmental advocates are very good at rallying and inspiring relatively small groups of vocal supporters. Most aren't as good at effectively communicating with diverse constituencies outside this core and convincing them to participate in conservation efforts. Unfortunately many others, including those working in the public sectors, also fall short in this regard. Conservation advocates must combine their continuing advocacy roles and responsibilities with efforts to convene, mobilize and sometimes facilitate groups holding a broader and sometimes different set of perspectives. Doing so will fill a critical need and help position conservation advocates as credible and trustworthy where they may not be now. That will ultimately allow for more legitimate and effective advocacy.

My fervent hope is that by addressing these challenges and many others, we can do much better in the coming decades than we have in the past. Taking these steps, we can justify our existence as a forceful conservation community by truly guiding the Plateau towards a sustainable path. I greatly look forward to addressing this continuing and urgent challenge.

Marshall Lake wetlands on Anderson Mesa south of Flagstaff, Arizona. Tom Bean

The Ultra Win at Grand Canyon

by Nikolai Lash

When I am not advocating for an improved Grand Canyon, I enjoy running long distances—sometimes longer than marathons. Endurance running of this kind is referred to as ultra running.

Recently I joined the two activities—advocacy and running—when running the rim trail at the Park and meditating on the Ultra Win for Grand Canyon.

Before Glen Canyon Dam's existence, Grand Canyon was characterized by huge sweeping beaches built up by raging snowmelt floods. The wind picked up the beach sediment and carried it inland, burying hundreds of archaeological sites. Eight native fish thrived in the mainstem and tributaries. River runners took advantage of these huge beaches for camping.

Glen Canyon Dam blocked the Colorado River in 1963, starting a cascade of ecosystem changes. The dam traps about 90 percent of the annual sediment supply for Grand Canyon and gushes fluctuating flows that increase hydropower revenue but, unfortunately, also increase sediment erosion within Grand Canyon. Sediment conservation is critical because nearly all of the resources of concern are tied to sediment—beaches, native plants, native fish, and archaeological and cultural sites.

The most comprehensive report on the state of the Colorado River—the USGS Colorado River SCORE Report—concluded that almost every resource in Grand Canyon has declined since fluctuating flows were implemented at the dam. Beaches have shrunk or disappeared, the 4-million-year-old humpback chub remains endangered, and cultural sites are losing their sediment-based foundations.

Scientists tell us that two kinds of flows are needed to reverse these trends: high flows and steady flows. Periodic high flows, if timed with sediment-enriched tributaries, park the sediment on beaches and at higher elevations. High flows also build backwater channels and other habitat for native fish, including the endangered humpback chub.

During my recent Canyon run, I envisioned there being two laps in the Ultra Race to an improved Grand Canyon.

Lap one involves regular implementation of high flows. Thanks in part to Trust advocacy, the Department of Interior (Interior) has begun NEPA compliance on a High-Flow Experiment Protocol that will allow for high flows to be implemented every year between 2011 and 2020. This is a great step forward. We are well down the track of lap one for an improved Grand Canyon!

Steady flows are also needed to improve conditions in Grand Canyon. Conserving sediment to improve resource conditions will require minimizing the rate of erosion between flood flows and that means running steady flows. Government scientists summed up their support for steady flows this way: "*For a given volume of water to be released from Glen Canyon Dam, the optimal dam operation for accumulating tributary-supplied sand is a constant, steady flow over the entire year.*"

Lap two in our Grand Canyon Ultra Race requires implementing a steady flow regime at Glen Canyon Dam. Because of negative politics imposed on Interior by the seven river basin states—Arizona, California, Colorado, Wyoming, Utah, Nevada, and New Mexico—lap two will be more difficult to complete than lap one. Right now, fluctuating flows are washing much-needed sediment out of Grand Canyon. Lap two involves setting up a multi-year steady flow experiment that will bring a positive mass balance of sediment back to Grand Canyon. The seven basin states and power interests are opposed to steady flows because of concerns about possible changes to water allocations among the states and the potential for reduced hydropower revenue. When looked at more closely however, these are not real obstacles.

Implementing steady flows will not change the annual distribution of water to the basin states in any way. Steady flows only affect how the water is released from the dam, not how much. Regarding a possible reduction in hydropower revenue, Congress passed the Grand Canyon Protection Act explicitly recognizing that hydropower revenue will be diminished in the bargain to improve Grand Canyon. Although steady and fluctuating flow alternatives produce the same amount of electricity, it is true that the price

Colorado River through Grand Canyon. EcoFlight

structure attending hydropower generation results in customers benefiting more if the electricity is produced during daytime peaking hours rather than at night. However, a recent study demonstrated that the cost of steady flows totals between 1.0 and 8.9 million dollars annually—or only pennies per month per ratepayer.

Lap two is on the horizon: We soon will have a great opportunity to finally see steady flows implemented in Grand Canyon. Interior is expected shortly to announce the beginning of the Long-Term Experiment and Management Plan EIS process. This EIS will take the first significant look at Glen Canyon Dam operations since the last operations EIS in 1995. A substantial steady flow alternative will be one of the alternatives considered and the American public will finally have a say in how Glen Canyon Dam is operated for the benefit of Grand Canyon.

Arizona, acting more like the Glen Canyon Dam state instead of the Grand Canyon state, regularly votes against Grand Canyon in the Glen Canyon Dam Adaptive Management Program. California, a state known for its environmental consciousness, also votes too often against Grand Canyon. It is time for the basin states to end the status quo of damaging fluctuating flows and express support for a substantial steady flow regime.

The American public wants the Ultra Win of an improved Grand Canyon and is willing to pay for it. The USGS Colorado River study reported that Americans are willing to pay 3-4 billion dollars a year for a full-fledged steady flow regime protective of Grand Canyon. In that context, a cost of something less than $9 million dollars annually seems like a reasonable amount to pay to restore Grand Canyon's grandeur—to bring back to vitality its beaches, remarkable ancient native fish, and centuries-old Native American sites. The Ultra Race for Grand Canyon is underway and will be won.

Young Volunteers The Future of Conservation

by Kate Watters

Americorps NCCC volunteers doing trail maintenence.

It has been a long cold day cleaning up decades of old appliances on the Paria Plateau with a spring break group from a Chicago college. Tumbleweeds cartwheel across our camp as we work frantically to set up our kitchen and stake down tents. As I heat up water for hot chocolate the first snow flurries arrive, and in minutes everything is covered in a layer of fresh snow. I brace myself for their disappointment—after all spring break in the desert Southwest was supposed to be sunny skies and tee shirts!

But these students show no sign of sagging spirits. Despite being deprived of showers and cell phone and Internet access, and wearing every layer of clothing they brought, they are all smiles and helping hands. Jung Ho, an exchange student from South Korea, works tirelessly to light a roaring fire in a scrap metal basin rummaged from the cleanup. After dinner around the fire, the wind dies down and a break in the clouds reveals a dazzling star canopy unlike any they have seen from their Chicago homes. Instead of darting for the shelter of their tents, the group huddles around the fire eager to hear the stories behind the landscape they are volunteering to improve.

Seale, a 27-year-old student from the University of Illinois-Chicago, brims with excitement. He has not had the opportunity to travel since he arrived in the U.S. from Ethiopia seven years ago. When he is not a student Seale drives a taxicab in Chicago, entertaining us with stories of chasing down college students for cab fare. “Tell me everything you know about this place,” he says, leaning in closer to the fire.

Each year the Trust’s Volunteer Program hosts colleges from all over the country for a week of volunteer conservation projects on the Kane and Two Mile ranches. While immersed in the powerful landscapes of the Vermilion Cliffs and House Rock Valley, they experience, discuss, and develop a significant understanding of environmental issues.

Each year the Trust's Volunteer Program hosts colleges from all over the country for a week of volunteer conservation projects on the Kane and Two Mile ranches.

I remember when I was fresh out of college, saddled with thousands of dollars in loan debt. My options seemed endless, though limited by lack of income. I had just finished a volunteer internship with the Student Conservation Association at Canyon de Chelly and was working as an office temp in Phoenix. I was captivated by the Southwest and wanted more than anything to live and work outdoors, and to contribute in some way.

That was the first year of AmeriCorps Public Lands Corps, a program conceived as a domestic Peace Corps for 18- to 24-year-old volunteers to serve public lands while earning a living allowance and an educational award. I joined a crew of twelve diverse people; from former Tucson gang members to Midwestern college students and Navajo kids fresh off the reservation. I watched our crew transform into a functioning team as we traveled Arizona's national forests to build many portions of the Arizona Trail. That experience ignited my passion for community service and the exploration of the natural world.

This spring, my AmeriCorps experience came full circle when the Trust welcomed ten young adults who are devoting a year of their lives to the National Civilian Community Corps (NCCC) on the Paria Plateau. The Trust partnered with Vermilion Cliffs National Monument (VCNM) to sponsor this NCCC crew to assist with road closures, trail reconstruction, and wildlife projects that preserve the archeological sites and natural condition of this stunning place. Excited, a bit anxious, and pale-faced from the winter months, they arrived at Navajo Bridge after a two-day van ride from their regional headquarters in Denver, CO. Most of the crew did not know each other, had little or no camping experience, and had never seen a landscape as majestic as the Vermilion Cliffs.

During their service with the Trust and VCNM, these young people will become intimately acquainted with their surroundings and develop a lifelong stake in conservation and a lasting connection with the outdoors. They will learn the value of giving back and acquire invaluable life skills by working and living as a team in challenging conditions.

Native American youth organizations are also making key contributions to service projects with the Trust on Native lands. Through their volunteer experience at North Leupp Family Farms, groups such as Upward Bound, Futures for Children, and the Northern Arizona University chapter of American Indian Engineering Students are learning traditional agricultural practices and community innovation from Navajo farmers. This connects youth to native traditions and ensures that the teachings by elders will be passed on to future generations.

Volunteering with the Trust is also a way for young people to explore future careers in conservation. Ashley Driver, geography major at California Polytechnic State University, volunteered over 100 hours with the Trust in 2010 and is now pursuing a career as a park ranger. Ashley was raised in a farming family, which instilled in her an appreciation for the natural world from a very young age. Through volunteering she realized, "I could apply all that I was taught from my youth, along with my passion and love for the natural environment, and stand up and make a difference." It is gratifying to see the experience of volunteers like Ashley translate into continued advocacy and conservation work.

The enthusiasm and energy that these young people bring to our work is inspiring and infectious. We are incredibly optimistic and confident that the future of conservation is in good hands.

Youth and native elder come together at Leupp Family Farm.

DISCOVER

IN THE FIELD

Many Grand Canyon Trust volunteers come to us through the Alternative Spring Break program and AmeriCorps National Civilian Community Corps. This year we've hosted student volunteers from the University of Illinois-Chicago, Northeastern University and Boston University.

NICHOLAS CONNOLLY
Through AmeriCorps and sponsors like the Grand Canyon Trust that provide service learning to young adults, the future of America's environment looks brighter every day.

JACOB LUCAS
Today's youth will be tomorrow's leaders in conservation. It is important to have well-educated and motivated youth to shape tomorrow's world. Through organizations like the Grand Canyon Trust, we can make a better future.

SONALI GANDHI
Being from a big city, we rarely
busy chasing money or a care
oriented people. I never sit and
taught me how to appreciate
improve our surroundings mad
are. These mountains, valleys,
for our future generations. I w
appreciate natural beauty as m

ASHLEY DRIVER
Young volunteers observe and connect with nature, understanding its intrinsic value and importance.

CONSERVE

CONNECT

DAVID HECHT

I want to push the boundaries of my comfort zone and learn about issues like environmental degradation, ecology, and conservation. I want to physically give back as a young, idealistic, and hard-working individual.

CODY BAUMAN

I hope that future generations of youth make choices not based on what seems expected, but on what makes them come alive. I challenge them to do something that they feel passionate about. I hope that through people's passion and drive, more of this country's beautiful places can be protected. Through our actions, we instill conservation in others.

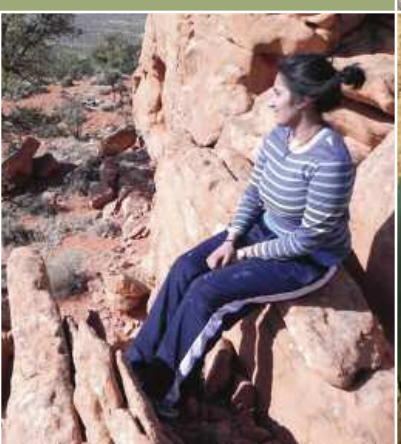
ELIZABETH BLAIR

Winning Contest Photo Above

Many college students are dedicating their spring breaks to environmental preservation. Our young volunteers learn to view mankind as a part of nature, where both humans and the land exist in harmony. This student is crouched over, as if in submission to nature's greatness. Although humbled, looking out past the student one can see a vast landscape of opportunity, hope, and beauty.

Deon Ben

see any nature. Everyone is
eer. I'm one of those career-
d live in a moment. This place
what I've got. Working to
de me realize how lucky we
and land must be protected
ant my grandchildren to
uch as I do.



Community-Based Clean Energy Initiatives by Roger Clark

"Now, we are all about renewables," said Diné Power Authority's director Steven Begay. It was a startling statement coming from a man who has for years been all about building a new coal plant on Navajo land in northwestern New Mexico. That proposal was abandoned because it became too costly and too risky for anyone to commit to purchasing its power. Another sign of change occurred when owners of Four Corners Power Plant recently announced plans to close three of its five coal-fired steam generators.

For decades, the Navajo Nation depended on coal royalties and leases to pay for central government and social services. However, new strategies are needed as costs escalate to cut pollution from mining and burning coal and as owners opt to retire aging plants. Part of the transition away from coal will be driven by community-based initiatives that offer greater opportunities for diversifying local economies and for meeting basic needs.

Shonto Community Development Corporation

Most of the people living in the Shonto Chapter of the Navajo Nation have no electricity or running water. But traversing their Chapter is an electric train that hauls 24,000 tons of coal each day from the mine to Navajo Generating Station, which provides cheap electricity to millions of homes and businesses throughout the western United States. Shonto lies along the western flank of Black Mesa where Peabody has mined coal since the late 1960s, and has developed a vast network of roads, wells, and electrical distribution lines to support mining operations. But investment in infrastructure to benefit local communities has not occurred.

Ten years ago, Shonto's leaders decided to seize control of their future. They became the first of 110 Chapters to become "certified" under the recently passed Local Governance Act. That enabled the community to incorporate their own business enterprises, to form partnerships, and to establish a nonprofit organization for securing new funding for community projects. One of their first decisions was to hire locally born Brett Isaac to run the Shonto Community Development Corporation and its renewable energy business.

This spring, Shonto received partial funding from a federal rural economic development program for the

Facing page: Photo-voltaic system and power shed installation at Curtis hogan. Amanda Voisard
Left: Elsa Johnson and Mark Snyder address Leupp community during "lighting" ceremony. Amanda Voisard

first phase of its initiative to bring solar generated electricity to dozens of remote homes. Isaac consulted photovoltaic experts in designing residential solar systems and developed an installation and maintenance program to employ local labor. He created wholesale contracts with manufacturers and secured additional funding for materials from the Renewable Energy Investment Fund (REIF), a $5 million fund established in a settlement agreement between the Grand Canyon Trust and the owners of a coal-fired power plant.

Not only is Shonto building, installing, and maintaining residential photovoltaic systems, it is also supplying solar electric equipment valued at $150,000 to power a new multipurpose building at the largest "off grid" school in the country. Isaac is finalizing plans in cooperation with a new vocational education training center in Kayenta to construct a large photovoltaic array. The project will offer hands-on training as well as reduce the school's electric bill.

Shonto's story of self-determination is stimulating strategic planning for economic diversification in other Navajo communities. Councilmember Walter Phelps convened a Trust-sponsored workshop with the five Chapters that he represents and invited Isaac to describe how Shonto is making progress through its creative initiatives. One of the Chapters attending was the community of Leupp, which is engaged in its own unique partnership to electrify remotely located rural homes.

Life Solutions

Elsa Johnson created the nonprofit organization *IINA Solutions* to help address the many needs of rural Navajo families. As she interviewed residents in her native language, "the thing we kept hearing from people was they wanted basic utilities: water and electricity." "Iina" means life in Navajo, and Johnson is tirelessly seeking solutions for living on the reservation.

With an estimated 20,000 homes on the Navajo Nation without electricity, Johnson surveyed several areas and narrowed her objective to providing photovoltaic systems to 100 homes. She began working with Leupp community leaders to identify candidates for one or more demonstration projects. Last fall, Johnson and collaborator Mark Snyder contacted Paula Curtis, who lives with her six children in a traditional single-room hogan and agreed to participate in a demonstration project. Again, an REIF grant paid for the project's material costs and was secured with help from the Grand Canyon Trust.

Community volunteers and laborers worked through the bitter cold of winter to install the photovoltaic solar system and a power shed to house batteries and associated electronics. The system will supply enough electricity for lighting and a few energy efficient appliances. The well-insulated power shed designed by Snyder also supports a solar hot water system and houses a water tank and a small bathroom equipped with a composting toilet, shower, and sink.

Newly inaugurated Navajo Nation President Ben Shelly attended the "lighting" ceremony at the Curtis hogan. At the gathering of eighty enthusiastic neighbors, community leaders, and volunteers, Shelly said:

> "Green technology is not only about cleaner air and a better environment, it is also about creating new opportunities for families. Through solar technology, Paula Curtis and her children will now have access to water, sewer, and electricity to heat and cool their home. Community partners and volunteers are bringing families together and improving the lives of many in rural areas of Western Navajo. I support their efforts and hope to see more green projects emerge and succeed on the Navajo Nation."

Clean and renewable energy, generated from the sun and wind, is beginning to make a difference in the lives of people who have derived few lasting benefits from coal. In addition to community-based clean

continued on page 23

Tangled Bank Livestock Grazing in Southern Utah

by Mary O'Brien

Tiny strips of interconnected land within the Dixie, Fishlake, and Manti-La Sal National Forests of southern and central Utah have consumed much of the Trust's Utah Forests Program for several years. These narrow strips are the lands hugging the water of every spring, seep, creek, pond, river, and lake in the three national forests; that is, the forests' "riparian areas."

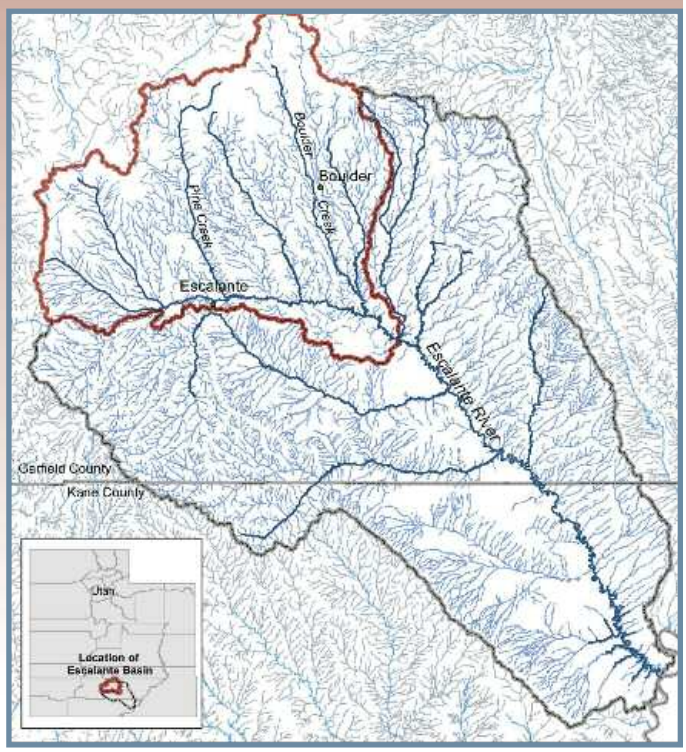
Consider for instance, the 1,278 miles of small waterways (many are ephemeral, with only periodic flows) and 172 miles of larger waterways within just the Upper Escalante River Basin (outlined in red, Fig. 1) in southern Utah. Most of these waterways lie within the Dixie National Forest, and every one is bounded on both sides by banks, roots, trees, shrubs, grasses, sedges, flowers, and a dizzying variety of wildlife homes—or should be.

"It is interesting to contemplate a tangled bank clothed with many plants of many kinds, with birds singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth..." wrote Charles Darwin of a healthy riparian area.

Tangled riparian areas hold fast during floods; support beaver's needs for creating ponds, meanders, and wider riparian areas; create overhanging shade to hide and cool fish; and extend the time of water's journey down from the mountains to communities and rivers below. A healthy riparian area packs more biodiversity than any other habitat in the West.

Fateful: Having momentous consequences; of decisive importance

FIGURE 1



Facing page: Overhanging grasses in a 20-year-old exclosure on Birch Creek, Fishlake NF nearly conceal creek. Mary O'Brien
Left: Map of Upper Escalante River basin (red outline). ECONorthwest

Too many of the three forest's riparian areas, however, display abused, denuded, trampled, or steepened banks of shallow-rooted, exotic Kentucky bluegrass, with the once-upon-a-time floodplain perched thirstily above the stream. The prime cause is the livestock grazing practices, which for many decades have remained over-sized, under-controlled, and astonishingly resistant to change, economic sense, the needs of any other species, public engagement, and science-based warnings.

The Forest Service has historically focused on timber sales and fire suppression, but in the past two decades has made remarkable strides in rethinking forest health, fire, and agency practices. Similarly, in the past decade, the Forest Service has seriously begun "right-sizing" its vastly proliferated, poorly-maintained, and unenforced road and off-road vehicle route systems. In contrast, administration of the intensive and extensive livestock grazing occurring on most national forest lands has scarcely crossed their radar screen.

This may be about to change in southern Utah. The Regional Forester and the Supervisors of the Dixie, Fishlake, and Manti-La Sal National Forests are signaling that changes are due in livestock management if grazing is to be ecologically, socially, and economically sustainable in southern Utah. The major question now is the process by which needed changes will be considered by diverse stakeholders and the Forest Service.

Four multi-year projects of the Trust's Utah Forests Program have encouraged and will contribute to whatever change process is ultimately chosen: cottonwood, aspen, and willow measurements; beaver habitat assessment; reference areas agreements; and collaboration and monitoring on individual livestock allotments.

Cottonwood, Aspen, and Willow Recruitment Measurements

In 2008, the Trust documented the frequent lack of recruitment of willow, cottonwood, and aspen at sixty-nine sites on the Dixie and Fishlake NFs, and the Forest Service accepted that we had identified a real problem. The sprouts were being arrested at 2'-4' height, unable to grow up into the overstory and reproduce. The willow family is key in riparian areas because their deep roots anchor the banks, their varied heights and soft wood host numerous bird and other species, and their canopy cools the water and drops plant and insect detritus into the streams.

Since 2008, we have continued to document this problem and converse with the three forests. In early 2011, the Utah Forest Restoration Working Group (UFRWG), a multi-agency, multi-stakeholder collaboration group cosponsored by Grand Canyon Trust and the Rural Life Foundation Stewardship Center, and including the Utah Division of Wildlife Resources and three of the five Forest Supervisors in Utah, completed *Guidelines for Aspen Restoration on the National Forests in Utah*. While the *Guidelines* focused on upland aspen, but not riparian aspen, three Ranger Districts are now partnering with the UFRWG to plan and monitor *Guidelines*-based aspen restoration projects. The success of the UFRWG collaboration is a major reason the three Forest Supervisors and Regional Forester are now talking about collaborative processes in which guidelines for riparian management might similarly be approached.

Beaver Habitat Assessments

Beaver dams change everything. They create ponds, sub-irrigate valleys, expand riparian areas, support wildlife species, attenuate flood force, make life easier for native fish, and increase complexity of streams by

U M Creek outside the Water Flat exclosure is compacted with hoof-sheared banks, no overhanging grasses, and heavily browsed willows. Mary O'Brien

creating side channels and meanders and depositing woody debris. However, beaver need the willow family (cottonwood, aspen, and/or willow) to eat and/or build sturdy dams. The willow family is happy to resprout when cut down, but the resprouts need to have a chance to grow above ungulate (elk, deer, sheep, and cattle) browse height before being browsed again.

In 2011, Jeremy Christenson, the new Utah Forests Program Wildlife Associate, will expand on our 2010 assessment of active and inactive beaver sites for sufficiency of food and other conditions that attract and retain beaver. He will assess as many as possible of the eighty-seven creeks and bodies of water considered by the Utah Division of Wildlife Resources (UDWR) as potential reintroduction sites for beaver on the Dixie, Fishlake, and Manti-La Sal NFs.

Reference Areas Agreements

One Memorandum of Understanding (MOU) between the Forest Service and the Trust regarding protection of a multi-habitat reference area has been finalized, and seven more have verbal acceptance and await only their formal MOU. These eight reference areas, variously located in healthy ponderosa pine, sagebrush, aspen, meadow, springs, riparian, and/or beaver habitats, can help everyone see the differences between healthy or recovering conditions and those exhibited by similar habitats that are overused on the three forests. The differences can be stark, and the Trust will begin systematic comparisons in 2011. Partners include Cedar Breaks NM, Bryce Canyon NP, and two sets of private landowners whose lands are appropriate reference areas for the adjacent Dixie National Forest. One proposed reference area is comprised of 160 private acres west of Escalante that are surrounded by Dixie NF. The water table on this private property has risen two feet during the last eighteen years due to grazing the sedge-dominated riparian area only in the fall, after the plants have coarsened.

Individual Allotment Collaborations and Monitoring

Since 2005, the Trust has been measuring and photographing problematic conditions on particular livestock allotments, collaborating with the Forest Service and permittees regarding management on several allotments, proposing improved management in dozens of National Environmental Policy Act livestock management decision documents, and reading thousands of pages of Forest Service monitoring data and reports.

Problematic conditions most obviously and perhaps most frequently occur in the riparian areas, where cattle lounge for shade and water; trample and collapse banks (as well as small beaver dams); browse cottonwood, aspen, and willow sprouts; reduce overhanging grasses to 2" tall stubble; favor exotic Kentucky bluegrass over deep-rooted sedges and rushes; trample trout nests (redds); pollute the water; and leave raw, eroding banks and incised, ditched streams.

In all of this work, the Trust maintains positive communication channels, as often as possible out on the ground, with landowners; local, regional, and national Forest Service personnel; scientists; conservation advocates; permittees; and the Utah Division of Wildlife Resources. Every time we raise concerns we also propose solutions, because livestock damage to these national forests is neither necessary nor economically, ecologically, or socially defensible.

This leads us to believe that a fateful collaboration process regarding riparian management on the three National Forests of southern and central Utah is inevitable. If such a collaboration is undertaken, it will be the first time the issue of ecologically, economically, and socially sustainable livestock grazing on these national forests has been systematically spotlighted in southern Utah, and the Trust will commit its considerable skills, significant amounts of time, and all its heart and vision to this task of restoring tangled banks.

The Kane and Two Mile Ranch Outdoor Classroom

by Christine Albano

Building partnerships with the academic and scientific communities has been a hallmark of the Kane and Two Mile Ranch Program since its inception. While our emphasis has primarily focused on building opportunities for applied research that can help to inform public lands management decision-making, we have also strived to foster the next generation of scientists and land stewards by promoting place-based education inspired by the natural and cultural histories of the Kaibab Plateau, the Vermilion Cliffs, and surrounding landscapes. We have accomplished this, in part, through service learning opportunities provided by our Volunteer Program and by supporting graduate and undergraduate student research and internships at Northern Arizona University (NAU) and other institutions. Beyond this, integration of the Kane and Two Mile landscape into field course curricula has been a powerful way to cultivate a heightened understanding of Colorado Plateau landscapes and the associated management challenges and opportunities confronting these lands in the future.

Since 2006, the Conservation Biology course at NAU has used the Kane Ranch and its headquarters to center their annual research projects on important land management issues such as protecting endangered cacti, monitoring and controlling invasion by cheatgrass, and evaluating and mitigating grazing impacts on soils and vegetation. The datasets and reports resulting from this work have provided valuable information that can be used by land managers to help inform decision-making. This spring, students in NAU's Kaibab Plateau Restoration Ecology class, sponsored in part by Grand Canyon Trust, will explore the pressing natural resource issues on the Kaibab Plateau through presentations by tribal representatives, as well as local experts on wildlife management, forest and woodland restoration, and invasive species management. Through this field-based course, students will have the opportunity to integrate what they've learned from these experts to design and implement an applied research project that addresses "real-world" questions about restoration ecology on the Kaibab Plateau. Through both of these courses, the knowledge that is gained in the classroom grows into a deeper understanding of place and our relationship to it, as students become active and observant participants on the landscape, and make tangible contributions to future management through project-based learning.

Cultural resource education opportunities also exist on the Kane and Two Mile ranches and this year will mark our fourth year hosting NAU's Archaeological Field School at Two Mile Ranch headquarters in Vermilion Cliffs National Monument. This course has connected students with the cultural history and resources of the Monument and surrounding lands while also providing important information to the Bureau of Land Management. Perhaps most importantly, students are able to see first-hand the challenges that scientists and land managers are faced with in preserving cultural resources amid myriad threats, such as vandalism, roads, and other developments on public lands.

As the Kane and Two Mile Ranch program continues to mature, we look forward to broadening experiential learning and education opportunities for students from across the West. By involving them with this place and connecting them to its past and present, they are far more likely to become a part of its future.

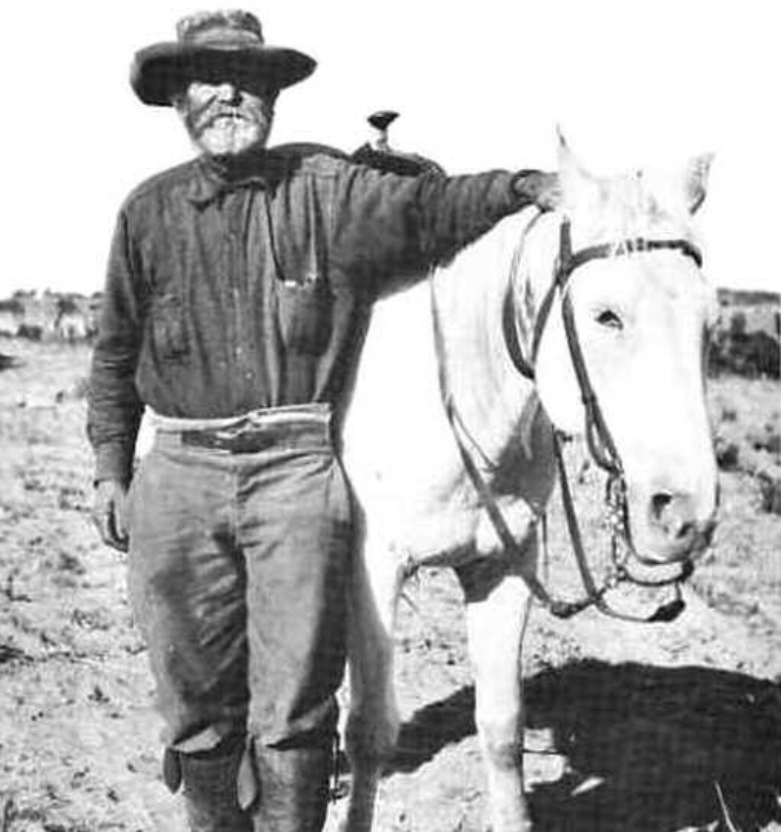
The Trust's Christine Albano (glasses) instructs NAU Conservation Biology students.

Exploring the Past of the Arizona Strip

by Rick Moore

In 1915, Neil Judd, who became one of the most well-known archaeologists in the Southwest, traveled by train, Model T, horse and buggy, and pack mule to the Arizona Strip, where he spent part of the next five years visiting the region's archaeological sites. During his travels, Judd wrote that he "drew rein at Cane Springs, headquarters of the Grand Canyon Cattle Company (now the Kane Ranch owned by the Trust), for a dinner of canned corn and peas with the cowboys." Judd's summary of his findings in 1927 titled *Archaeological Observations North of the Rio Colorado* is one of the earliest studies of Arizona Strip archaeology.

Sixty years later a much more intensive look at Strip archaeology came with the publishing of *Man, Models, and Management: An Overview of the Archaeology of the Arizona Strip and the Management of Its Cultural Resources*. Co-written by Jeffrey Altschul and Helen Fairley, *Man, Models, and Management* has been recognized for the past twenty-two years as the definitive study of Arizona Strip archaeology.



Joseph Hamblin, son of famed Mormon pioneer Jacob Hamblin, guided Neil Judd on his trip to the Paria Plateau in the 1920s. "Joe's Tank", the headquarters for Hamblin's ranch is now owned by the Grand Canyon Trust.

Almost twenty-five years after *Man, Models, and Management*, 120 archaeologists, students, and enthusiasts gathered at Page, Arizona for a symposium called *Discovering the Archaeology of the Arizona Strip Region*, hosted by the Kaibab Vermilion Cliffs Heritage Alliance. The symposium focused on what has been learned in the last twenty-five years and to assist with developing a research plan focused on the eastern portion of the Arizona Strip, much of which is encompassed by the Trust's Kane and Two Mile ranches.

Topics ranged from the early days of ranching by Mormon pioneers to the creation of a GIS database of the stone projectile points found on the Kaibab Plateau. Rock art discussions included the protection and management of the rock art in Snake Gulch and documenting rock art below Glen Canyon dam with high-resolution panoramic photography. The results of recent surveys of several thousand acres looking at land settlement patterns and agricultural use in the Vermilion Cliffs National Monument were presented, as were the results of a survey of at-risk cultural resources in House Rock Valley.

For the past three years, the Heritage Alliance has sponsored a field school based at the Trust's Two Mile Ranch headquarters. Posters based on work done by field school students were presented at the symposium summarizing work on historic ranching sites, excavations at the West Bench Pueblo, and the use of domesticated turkeys in prehistoric times.

Helen Fairley, co-author of *Man, Models, and Management* spoke about the seminal report and how it might be used as a springboard to launch the new research effort. David Wilcox, with the Museum of Northern Arizona, talked about the importance of archaeology on the Arizona Strip and how it fits into the larger picture of Southwestern archaeology and Chris Downum, with Northern Arizona University, concluded with a moving summary of the importance of continuing efforts to better understand how people lived during the past millennia on the spectacular and diverse lands of the Arizona Strip.

The pre-eminent annual gathering of Southwestern archaeologists, known as the Pecos Conference, will be held August 11-14 on the Kaibab Plateau. The three day event draws hundreds of archaeologists and the Kaibab Vermilion Cliffs Heritage Alliance is proud to be helping host the event.

Reigniting Honorable Sharing

The Colorado Plateau Intertribal Gatherings by Tony Skrelunas

For hundreds of years before the arrival of Europeans, Colorado Plateau tribes had sustainable societies, which had developed traditional science, achieved knowledge of medicines for healing many ailments, and developed advanced architecture, farming and agricultural techniques. They had sustainable economic systems, which everyone contributed to and benefited from. For example, it was vital for someone to know as much as possible about proper harvesting of plants used for a variety of daily purposes. Tribal societies adhered to natural laws that were taught orally to ensure a constant state of balance. Such knowledge was highly valued and was traded. Elders accepted their responsibilities and were highly regarded as part of the knowledge transfer process.

Today, many tribes want to ensure the continuance of the knowledge transfer systems that meant so much to their communities and that achieved cohesion within the tribe. In British Columbia, the Coastal First Nations have made major strides towards this goal by organizing a regional effort entitled the Great Bear Initiative. With agreements—based on tribal knowledge—to protect their resources, they have achieved major protection of both their lands and their neighbors. Through this effort, they will preserve an ecological treasure that contains a quarter of the world's temperate rainforest and one fifth of its wild salmon.

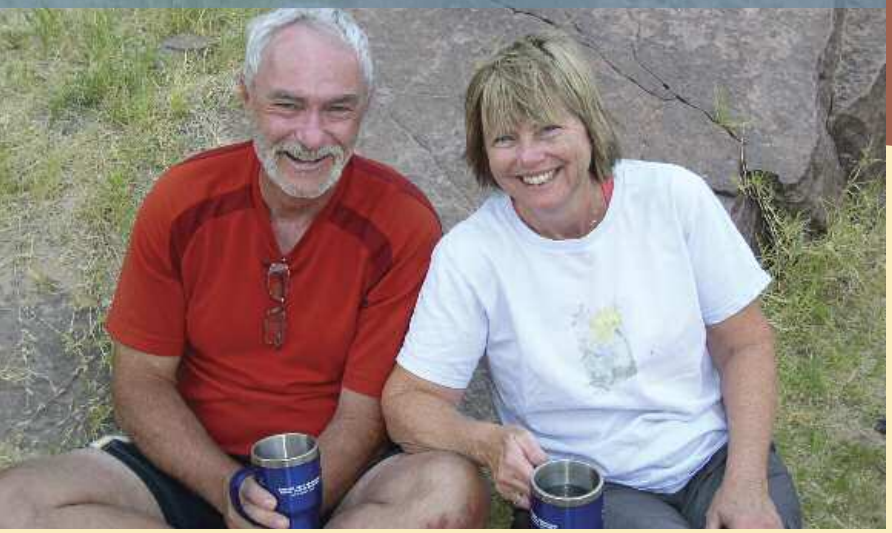
Like the coast of British Colombia, the Colorado Plateau is one of the most biologically diverse regions in North America and it is also regarded as the most linguistically and agriculturally diverse area in the country. Over a third of the Plateau is Native American lands, and for centuries Plateau tribal ecological knowledge guided the use and management of these lands. Much of this tribal knowledge remains intact today, but is in danger of being lost. The long-term protection of the Colorado Plateau must include the tribes as key stakeholders and it will be lasting only if it also includes the revitalization of their cultural and linguistic heritage.

Tribes once shared teachings, culture, and trade with each other. Over the past year and half, members from eleven different tribes who have attained the wisdom of the land have come together three times to once again share cultural traditions, native seeds, stories, and strategies to protect their land and culture. At those Gatherings, smiles appeared on the elder's faces, some gleeful with anticipation, as they sat together sharing their stories.

Local Hualapai youth dancers share traditional dances with Intertribal Conversations on the Colorado Plateau participants. The youth dancers brought reassurance that traditions are still alive and strong among the Hualapai people.

The participants of the Gatherings have decided to address four critical areas: water, health, sacred sites, and language and culture. Youth are being engaged in the process through projects and seminars designed with input from the elders. Support will be provided for tribal led efforts to record, archive, and share the stories and teachings of the elders. Like our brothers and sisters of the Coastal First Nations, we aspire to determine an effective strategy to use traditional knowledge to protect native lands on the Colorado Plateau that at its very core is tribal.

A Member's Perspective on Grand Canyon Trust
Steve and Debi Quarry



My wife Debi and I have been proud Grand Canyon Trust members since 1992, and over the past few years have made more of an effort to get to know the people and work of the organization. We did a terrific Colorado River trip with the Trust in 2009, a weekend trip to the Kane Ranch and, last autumn, a two-day hiking trip in the Grand Staircase-Escalante National Monument and Capitol Reef National Park. Through these trips we've learned a tremendous amount about the region and the Trust's efforts to protect this spectacular part of the world. Suffice it to say that we had no idea how broad and far-reaching Trust programs are, nor did we understand the political complexity of the issues they work on.

The people we've met on Trust trips tend to be very interesting and from all walks of life: thoughtful and appreciative, not environmental evangelists. They share our views on the spectacular beauty and importance of protecting the Colorado Plateau for future generations, and seem aligned with the Trust's approach of leveraging both science and politics to find practical solutions to issues. I love that Trust members range from high profile leaders (even movie stars!), to ordinary working citizens like me linked by a common interest.

We also appreciate the consideration the Trust gives to the human and cultural aspects of conservation. Its effort to help build a viable green economy on the Navajo reservation is a good example of this.

The Trust is a great organization with smart, creative people who really care about the future of this region. Knowing the organization as we now do, we're extremely grateful the Trust is out there serving as our Colorado Plateau advocate.

Six ways you can get involved and help the Trust:

1. If you can, give generously. The rewards of saving this wild place—the largest concentration of national parks, national monuments and wilderness areas in the world—are priceless.

2. If you cannot give generously, help us connect with people who can. People who believe in our mission are our best advocates and fundraisers.

3. Pledge monthly. The Trust has instituted a program where you can make an annual pledge and have this debited from your checking or credit card accounts on a monthly or quarterly basis.

4. Gift appreciated stocks or real estate. If you have highly appreciated stocks or real estate, avoid the capital gain taxes and potential estate tax liabilities by gifting these assets to the Trust. You'll realize a state and federal income tax deduction equal to the value of the donation. We can also structure a gift annuity, which involves transferring these assets in return for a contractual fixed income payment over time.

5. Donate your time. Volunteer for a habitat restoration project, see the storied landscape you love, and meet great people with similar interests.

6. Name the Trust in your will. You have an opportunity to create a timeless legacy for yourself and your family.

If you are interested in learning more, please contact Phil Pearl at 928.774.7488 x237 or e-mail him at ppearl@grandcanyontrust.org.

continued from page 5

We're making progress on other fronts too—we've had a productive dialogue in Piute County, which we hope will result in good land-use legislation of which all the stakeholders can be proud. We hope that process will spur others and that we can begin talking about protections for entire landscapes, not just extraneous parts of ecosystems bisected by political boundaries. Our partners have been breaking ground as well—engaging oil companies to strike a balance between responsible resource development and wild lands protection. Our conservation partners have recently made two revolutionary deals with gas drillers, and they are working on more. These deals will pave the way for legislation and, with the hardest negotiating out of the way, permanent protection is in the cards. We can have success—there is room for dialogue, but that doesn't mean negotiating purely to make friends at the expense of our principles. We can work together, but the superheated steam generated by the "above the fold" debate must be released, and that is done by taking seriously a real dialogue among all the players. We must set aside the bombast and allow trust to grow in its place. There really isn't any other choice if we want to find the solutions necessary to safeguard our outstanding resources for future generations.

continued from page 15

energy initiatives, the Navajo Nation is pursuing utility-scale wind and solar projects wherein revenues would be derived from tribal ownership and profits rather than leases. Diné Power Authority's director, and former champion of coal, is excited about the possibility of a partnership to locate a photovoltaic manufacturing facility on the Navajo Nation…more signs that a transition to clean energy is underway.

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The beautiful cover photo of Beaver Creek in Utah is the work of the Trust's Tim Peterson, our Utah Forest Wilderness Program Director. A seventh-generation westerner, Tim cares deeply about our public lands. He came to the Trust in January 2010, bringing twelve years of on-the-ground field experience inventorying and advocating for wildlands in eight western states. He is currently working on wildlands protection efforts in Piute County, Utah and on initiatives to restore the Escalante River watershed. Tim enjoys spending time hiking in, fishing, floating through, and photographing the backcountry he seeks to protect.

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.