

COLORADO
PLATEAU

WINTER/SPRING 2010

Advocate

GRAND CANYON TRUST



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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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On April 14th last spring, a strong cold front began moving into Utah and Arizona, a phenomenon typically preceded by powerful southwest winds. By the next morning, satellite photos showed that sustained winds of 45 mph were lifting an enormous plume of red dust from the northeast corner of Arizona, just north of the Little Colorado River and Interstate 40, and blowing it far north over Utah and western Colorado. Here in Moab, I was driving to a meeting in surreal light filtering through the blinding clouds when mud began to pour from the sky...not a little discolored rain, but a downpour of pure red mud. Windshield wipers weren't remotely up to the task of clearing it and all the drivers ended up on the shoulder of the road hoping for the best. An hour later, the mud turned to rusty hail as the cold front hit, and later still pink snow fell. I was wondering if frogs were about to rain down. It was the third time in 2009 that satellites showed massive dust storms sweeping up from Arizona to deposit their loads on the deserts and mountains of Utah and Colorado and more were to come. For weeks afterward, it was easy to tell the vehicles that had been in the area when the storm hit, because they looked like they'd been mud wrestling.

In this *Advocate* we summarize what is known about the causes and effects of these weird storms and the other novel phenomena we can expect climate change to cause in this part of the world. Probably, the fundamental prediction is that the southwestern United States will see the largest average temperature increase of anywhere in the world during this century, amounting to 8-12 degrees centigrade. Those are Sahara-like temperatures, and the consequences will reverberate through every aspect of life.

In fact, the first of many changes are evident today. In Utah's La Sal Mountains, the decade long drought continued during the 2009 water year with only about 72 percent of normal precipitation. Moreover, when the snowmelt began in mid-April, with a fresh solar-collecting blanket of red dust, it was over within a week rather than taking until early June as has been the norm. That bared the soil forty-five days early,

LETTER FROM THE EXECUTIVE DIRECTOR
BILL HEDDEN



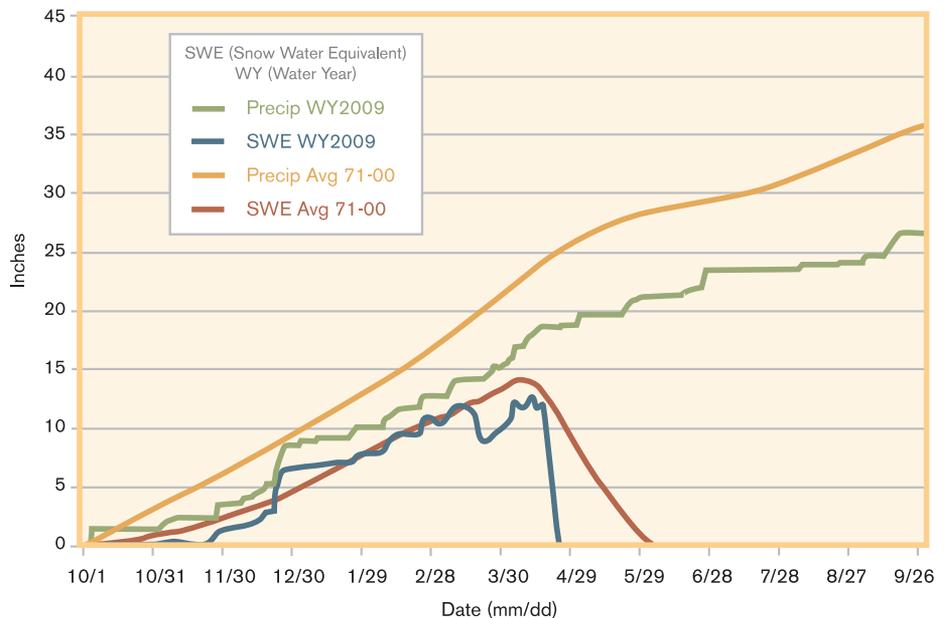
heating it up, drying it out and unseasonably cutting off life-giving stream flows and irrigation supplies. It is exactly the kind of water season climate models predict going forward. Lakes Powell and Mead, today only half full, will continue to shrivel under the baking sun.

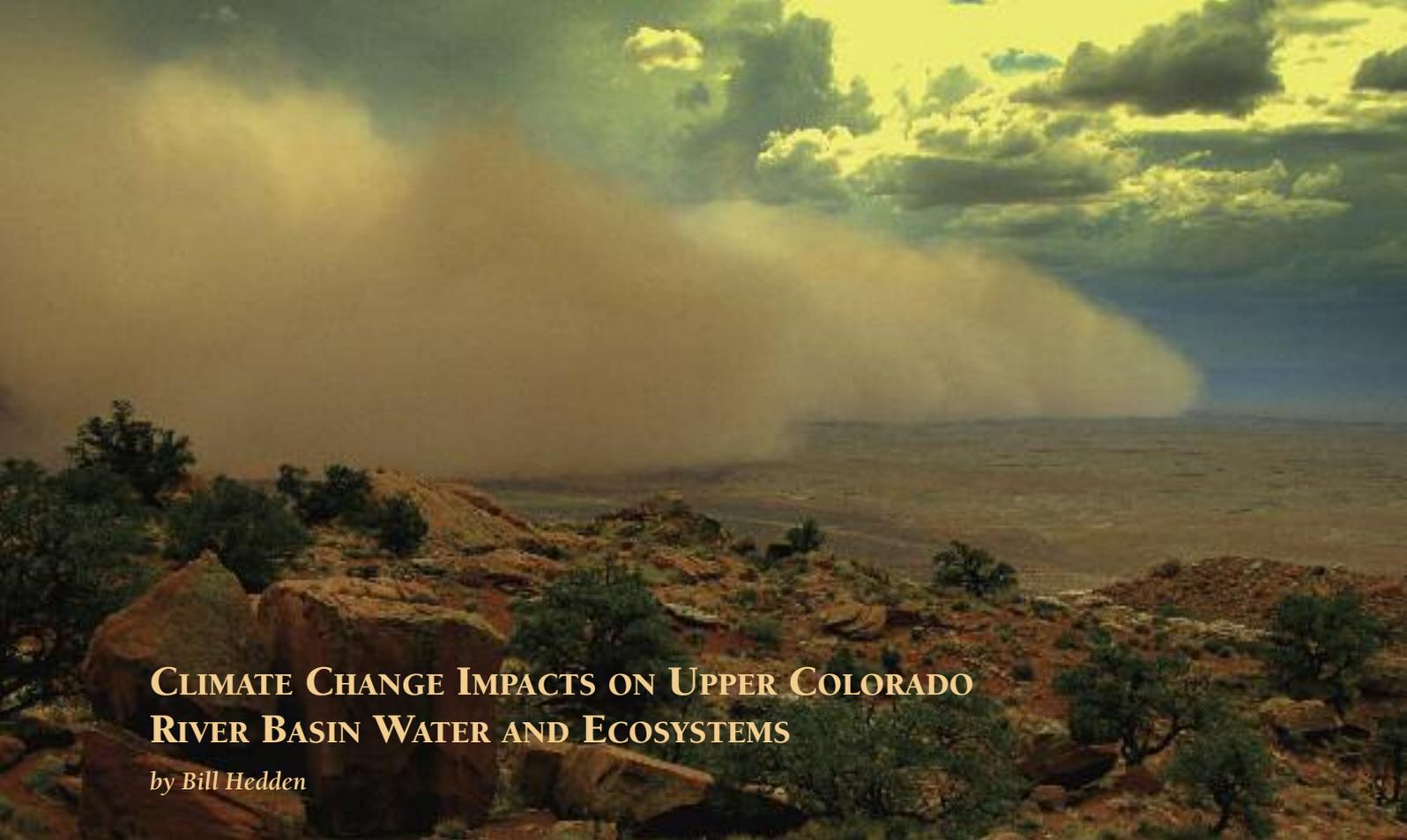
Across the West, iconic aspen trees are dying due to warming and the associated stress and vulnerability to insect attack. Two years ago, 300,000 acres of aspens were dead in Colorado alone, prompting scientists to coin the name *sudden aspen decline* or *SAD*. Surveys of two national forests in Arizona show that 90 percent of the lower elevation aspen have died since 2000. Evergreens are similarly stressed and every mature lodgepole pine forest in Colorado and southern Wyoming is projected to be dead within three to five years from an infestation of mountain pine beetles. Along Colorado's Front Range the affected acreage grew fifteen times as large just during 2007. The implications for forest fires, soil stability and water supplies are dire. The U.S. Forest Service Regional Supervisor Rick Cables described the die-off as "a huge, unprecedented event." I'm afraid we had better get used to unprecedented events as climate change unfolds.

All this is extremely ominous, but the first step in dealing with any problem is to acknowledge that it exists, something that many political figures in the region still fail to do in this case. And a major realization emerging from the science is that our actions on local and regional scales will do much to determine how severe the impacts will be. Obviously, our actions include our global emissions of greenhouse gases, something that tempts us to throw up our hands in helplessness. But, nearly as important will be the myriad actions and decisions we make locally on

the management of land and water. This magazine contains articles looking at some of the choices we face: Will we satisfy our need for electricity by tearing the land apart for uranium and coal? How will the use of our dwindling water supplies be handled without killing our rivers? Are there ways to act on landscape-scales to make our forests more durable? Can we summon the will to protect large core reserves of wild land, both for their contributions to clean air and water and to give other species a chance to adapt to this changing world? It is all sobering food for thought, but I take heart from the fact that there are real prescriptions for hopeful action here. 🐿

LASAL MOUNTAIN SNOTEL for Water Year 2009
Provisional Data, Subject to Change





CLIMATE CHANGE IMPACTS ON UPPER COLORADO RIVER BASIN WATER AND ECOSYSTEMS

by Bill Hedden

Dust storm over House Rock Valley.

THE SETTING AND THE ISSUES

Current climate models predict that large changes will occur in the Upper Colorado River Basin (Fig. 1). During this century, it is predicted that precipitation will decrease by up to 15-20 percent and temperatures will rise by 4-6 °C, if not more (Christensen et al. 2007). Such changes will have profound effects on water and living systems in the Colorado River watershed.

Water from the Colorado River currently supplies the needs of twenty-five million people in seven U.S. states, two Mexican states, and thirty-four Native American tribes (Pulwarty et al. 2005). However, these regions are experiencing exponential increases in human population, and an increase to thirty-eight million people is expected by 2020. Thus, while demands for water will dramatically increase, the number and severity of droughts, caused by decreasing precipitation and increasing temperatures, will decrease Colorado River flows.

Droughts during 2000-2004, caused by both reduced precipitation and a series of the hottest years on record, resulted in water flows in this region that were lower than the driest period during the 1930s Dust Bowl or the 1950s drought (Andreadis and

Lettenmaier 2006). Increased temperatures alone can also play a major role in reducing water flows in this region. For instance, precipitation received during the winter of 2005 was at the 100-year average. However, higher temperatures in January through July resulted in lower soil moisture and flows that were only 75 percent of average (National Research Council 2007).

By 2050, increasing temperatures alone are predicted to increase evaporation, resulting in average soil moisture conditions in the Southwest being worse than the conditions experienced during any of the mega-droughts of this century (Dust Bowl years, 1953-1956 or 1999-2004 droughts). Increased warming is expected to decrease runoff by up to 30 percent through the twenty-first century (Milly et al. 2005). Models predict that the Colorado River Compact and the U.S. agreements with Mexico will be met only 60 percent of the time by 2070 (National Research Council 2007). These predictions are conservative, as the latest Intergovernmental Panel on Climate Change (IPCC) models are now estimating a much higher rise in temperature for this region than previously expected. In addition, current data suggest that changes are happening much more rapidly than model predictions (Pulwarty et al. 2005).

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The lowland regions through which the Colorado River flows are the driest regions of the U.S. Climate change, land use, fire, and the invasion of exotic annual grasses in these lower elevation lands will also affect the storage, delivery, timing, quality, and quantity of Colorado River water. Lower soil moisture resulting from higher temperatures and decreased precipitation are expected to reduce plant cover, thus exposing soils to erosion. Soil disturbing activities, including grazing, energy exploration/development, and recreation reduce or remove the natural components that stabilize desert soils, including live and dead plant materials, physical and biological soil crusts, rocks, increasing soil erosion (Marticorena et al. 1997). A synergistic effect is created when surface disturbance occurs on invaded landscapes during drought years, and large amounts of soil can be lost from an area as a result. Surface disturbance also enhances the invasion of exotic annual grasses in many areas. In wet years, these grasses produce sufficient fuels to carry fire in dry years that follow. Fire consumes the vegetation and leaves post-fire soils exposed to erosion. In drought years annual grasses do not germinate, leaving soils barren and vulnerable to wind and water erosion. Increasing temperatures and decreasing precipitation also decrease soil and ecosystem resilience to land-use impacts. Slower recovery times leave soils exposed, further increasing the frequency and magnitude of erosion events.

Large dust storms have both local and regional effects. Soil fertility is lost with the dust, as nutrients are often attached to dust particles. Dust obscures visibility on highways and thus endangers travelers (Fig. 2). The fine particles found in dust can cause respiratory disease if inhaled and can also carry Valley Fever. Dust also affects water storage and delivery. Most of the

Trends in Annual-Mean Maximum Temperatures, 2001-2100

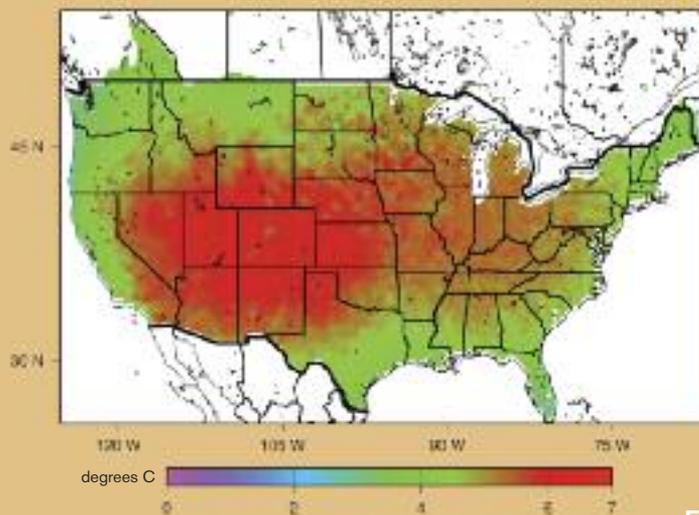


FIG 1



Figure 1. Future higher temperatures are expected in the desert Southwest. Figure 2. A dust storm originating near Phoenix, AZ obscures highway driving in Moab, UT.

dust produced from the Colorado Plateau is deposited on the snowpack of mountains that feed the Colorado River (Painter 2007). The dark-colored dust on the snow surface absorbs heat, which melts the underlying snowpack up to a month earlier than normal (Fig. 3, on page 6). Water storage in the snowpack is reduced, and thus the amount and quality of the later-season water is reduced. A faster melting rate can also mean an increase in flooding and less opportunity to store water in downstream dams. In addition, early snowmelt leaves soils exposed to evaporation, reducing the amount of water entering streams and rivers. Lake cores show that dust from adjacent low elevation lands has increased 5-8 times since about 1850, when large-scale white settlement of the western U.S. occurred. However, land management policies enacted in the 1920s, along with a reduction in overall livestock numbers, has reduced this input substantially.



Figure 3. Dust deposited on the snow darkens the surface, increasing melting rates.

Exposed soils are also vulnerable to erosion by water. As with dust, water erosion has both local and regional impacts. Locally, water erosion reduces the fertility of the soil and can alter which plant communities the area can support. Gullying can drop water tables too low for plants to access. Water erosion also increases sediment loads in streams and, ultimately, large rivers. In the Upper Colorado River Basin, these sediments are often heavily laden with salts and heavy metals, contributing to water quality problems downstream. Thus, both wind- and water-borne sediment is likely to severely exacerbate issues regarding the quality and quantity of the Colorado River water.

Altered water quantity, quality, and delivery time will affect humans directly and indirectly. A reduction in water quantity and quality will directly impact the millions of people who depend on Colorado River water for their livelihoods and survival. Biological resources in this region are also at risk. The severe and extended droughts that will accompany an increase in temperatures and a decrease in precipitation will affect all aspects of managed and natural dryland ecosystems that dominate this region. Alterations at the base of the food chain, such as a decrease in plant cover, will reverberate upwards. The expected loss of nitrogen-fixing organisms and shallow-rooted plant species (e.g., lichens, grasses, some trees) will likely reduce animal populations that depend on these plants for food and habitat (e.g., small mammals), which will then impact their predators (e.g., snakes, larger mammals, raptors). Animals that depend on free surface water (e.g., amphibians, large mammals) will also be at risk. Domestic cattle operations depend on both grass and surface water being available, and thus will be heavily impacted. Insect outbreaks on drought-stressed plants (e.g., pinyon pine) will be more common and will likely lead to a dramatic increase in wildfires. Recovery after disturbances such as fire or off-road vehicles generally depends on water availability and thus is expected to be much slower than in the past.

Plants and animals directly dependent on Colorado River water are also at risk. The Colorado River is home to several endangered fish species, such as the humpback chub and razorback sucker. Riparian areas that line the river are a lifeline for many desert species, including migratory birds and the endangered Southwestern Willow Flycatcher. Extreme climatic events will produce very high and very low water levels, which will both alter riparian areas.

WHAT CAN BE DONE?

To better manage landscapes under future conditions, we will require a deeper understanding of how climate change, land use, and the interaction between land use and climate change will impact natural resources in this region. Unfortunately, most of the science conducted in this region was done during the relatively cool and wet conditions of the past thirty years. Thus we need to test our current understanding of ecosystem processes and management under drier and hotter conditions. We need to develop integrated monitoring and research networks that span large geographic regions and cover both managed and natural ecosystems. And lastly, effective management is going to require the participation of, and communication among, everyone including policy makers, land managers, scientists and the public. 📌

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THE STORY OF BEAMAN'S POINT IN GRAND CANYON *by Jim Babbitt*

The United States Board of Geographic Names in Washington, D.C. recently approved a proposal to name a point on the north rim of the Grand Canyon for Elias Orcutt Beaman. Beaman was the official photographer on the second Powell voyage down the Colorado River in 1871-72. After leaving the Powell expedition at Lee's Ferry in the winter of 1871, Beaman traveled to Buckskin Mountain (the Kaibab Plateau) and took the earliest known photographs of Grand Canyon from the north rim. He also went down Kanab Creek, and photographed Deer Creek Falls and Surprise Valley.

For more than twenty years, I searched in vain for the exact spot on the north rim from which Beaman's historic stereo view was taken. I hiked the rim from The Transept west to Tiyo Point and Point Sublime without success. I then sought out Dr. George Billingsley at the U.S. Geological Survey. Billingsley, an expert on the geology of the western Grand Canyon, looked at Beaman's faded stereo card, and immediately directed the search to the area near Swamp Point and the Rainbow Plateau. The exact view point, however, remained elusive.

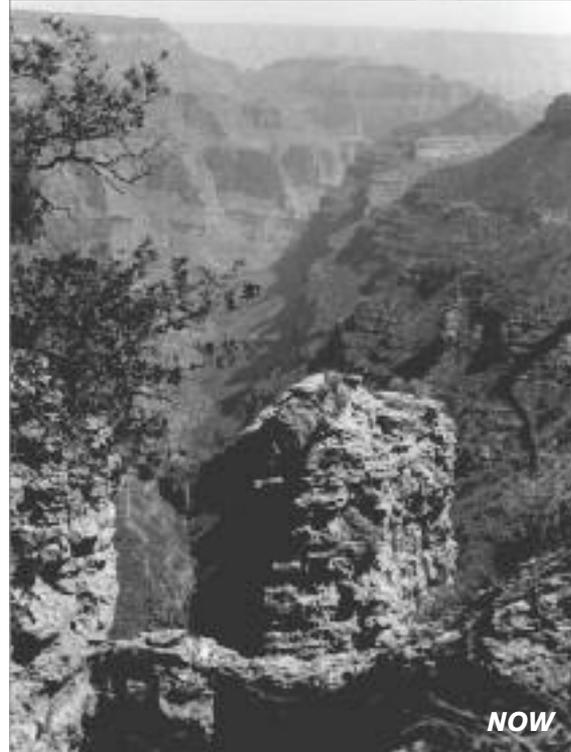
In 1874, Beaman published an article in *Appleton's Journal*, which described his trip to the north rim. He tells of a cold April night spent camped beside Swamp Lake, and describes the immense views of Grand Canyon from the rim nearby. The article confirmed the area around Swamp Point as the focus of my search.

A few years ago, I invited Nikolai Lash to accompany me on yet another scouting mission. We parked along Swamp Point road not far from the north Bass trailhead and struck off toward the rim. Rugged drainages and heavy brush made for slow progress. After several hours of up-and-down hiking, the rim was still not in sight, and I was ready to once again give up the search. Nikolai persisted, saying "Just one more ridge." We ascended a steep slope and arrived at the rim with a breathtaking view of Modred Abyss, with Holy Grail Temple in the distance. Near the rim was a large outcropping of Kaibab limestone—the exact formation shown in Beaman's 1872 stereograph. We had finally found the spot where he stood to photograph nearly 140 years ago. The long quest was over.

A comparison of our contemporary photograph with Beaman's 1872 view reveals little change in the



Elias Orcutt Beaman



Jim Babbitt

vegetation or overall appearance of the area. The same overhanging tree branch appears in the foreground of both views. It is wonderful to think that this part of the north rim remains almost as wild and unchanged as it did when Beaman first visited the area. It is also gratifying to know that this mostly-forgotten but historically significant figure is now remembered with the naming of "Beaman Point."

A search is now underway for another spot from which Beaman photographed the canyon. With G.I.S. help from Google Earth and Steve Fluck, the area has been narrowed down to the vicinity of Violet Point. Perhaps next summer another historic point will be located. Thanks to Grand Canyon Trust staff for helping with this historical sleuthing. 🗺️

UPRISING AT RED BUTTE

by Roger Clark



“IS THIS A SIT-IN OR AN UPRISING?” I ASKED. “BOTH,” MATTHEW PUTESOY GRINNED. THE HAVASUPAI VICE CHAIRMAN WAS SITTING IN A WINDOWLESS CONFERENCE ROOM WITH A DOZEN OTHER TRIBAL REPRESENTATIVES WAITING TO EXPRESS THEIR OPPOSITION TO URANIUM MINING IN THEIR HISTORIC HOMETOWN.

The *Havasu Baa’ja*—the People of the Blue-Green Water—were attending a “scoping meeting” convened by the Bureau of Land Management (BLM). They were determined to be heard, although everything about the process seemed foreign to the people who live along Havasu Creek, deep within the Grand Canyon.

The purpose of the October meeting in Flagstaff was to solicit public comments to a proposed ban on all new mining claims within nearly one million acres of watersheds that drain directly into Grand Canyon National Park. Late last summer, Secretary of the Interior Ken Salazar called for a two-year “time-out” while considering a longer-term ban to protect “local communities, treasured landscapes, and our watersheds.”

Instead of providing written comments, Havasupai elders decided to voice their support for the protective action by praying, drumming, and singing in the middle of the meeting room. Federal officials opted not to intervene, despite pleas by uranium industry representatives to stop the “uprising.”

Secretary Salazar’s two-year moratorium could be extended for up to twenty years. His decision will be based on the “best science and input from the public, members of Congress, tribes, and stakeholders.” The BLM announced in November that it had received an astounding 100,000 comments in favor of protecting the Grand Canyon during the “scoping” phase of the review.

HARD WON VICTORY

Secretary Salazar’s two-year suspension of new mining claims in Grand Canyon watersheds was a hard won victory. More than 10,000 uranium claims have been filed since 2005 when the price of uranium shot from less than \$10 per pound to more than \$100.

In 2008, the House Committee on Natural Resources passed an emergency resolution that required then Secretary of Interior Kempthorne to order a temporary halt to mining in Grand Canyon watersheds. But he refused to respond to the rarely used authority of Congress and rescinded federal regulations requiring him to do so. Environmental advocates, including the Grand Canyon Trust, sued Secretary Kempthorne for failing to act on the emergency order.

The new administration did not respond to the emergency resolution or to our lawsuit, but did decide in July to use the Secretary of Interior’s independent authority and ordered the two-year moratorium. Meanwhile, new legislation working its way through Congress would offer longer lasting protection to Grand Canyon’s watersheds.

Far left: Havasupai Tribal Vice Chairman Matthew Putesoy speaking to supporters at a public meeting in Flagstaff. Left: Tribal members drum and sing during the public comment session. Below: Havasupai elder Rex Tilousi stands to reply to a reporter's question during a press conference prior to the public meeting. Right: Dianna Sue Uqualla offers prayer against uranium mine.



era of uranium mining and milling in the region. Hualapai, Kaibab Paiute, Havasupai, Hopi, and Navajo leaders have all testified in support of the Grand Canyon Watersheds Protection Act.

GUARDIANS OF THE GRAND CANYON

For decades, Havasupai have battled uranium mining and lost. Their lawsuit, filed more than twenty years ago, failed to stop the Canyon Mine from being developed a few miles from Red Butte, one of their most sacred sites.

Havasupai refer to Red Butte as “clenched-fist mountain” and “lungs of Mother Earth.” The prominent point is visible to millions of visitors as they approach the south entrance to Grand Canyon National Park. It is the spiritual center of what was once their traditional homeland.

Their territory encompassed more than three million acres, including much of the Grand Canyon south of the Colorado River and extending to the territorial settlements of Flagstaff and Williams. In 1882, the U.S. Army relegated Havasupai to a 518-acre reservation located in a narrow side canyon in the Grand Canyon.

“The Havasupai have lived in and around the Grand Canyon since before there was a United States of America,” explained Matthew Putesoy. “As the ‘guardians of the Grand Canyon,’ we strenuously object to mining for uranium here. It is a threat to the health of our environment and tribe, our tourism-based economy, and our religion.”

In 2008, Arizona Congressman Raúl Grijalva introduced the Grand Canyon Watersheds Protection Act to prevent further radioactive contamination of Grand Canyon tributaries and groundwater. The proposed legislation recognized the need to put an end to the headlong uranium mining boom that began in the 1950s and continues harming human and ecological health throughout the region. Grijalva reintroduced the legislation in 2009.

SENATORS REFUSE TO PROTECT GRAND CANYON

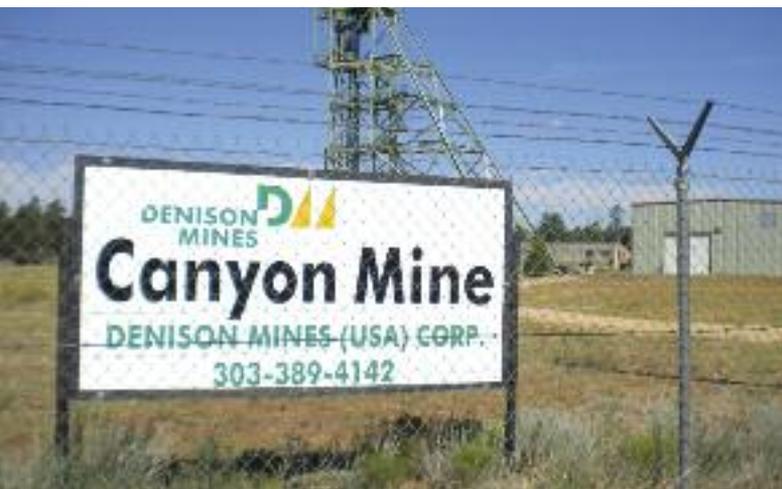
The Grand Canyon Watersheds Protection Act now has nearly fifty co-sponsors and is expected to pass in a full vote of the U.S. House of Representatives. However, Senators John McCain and Jon Kyl have refused to introduce the bill in the Senate and wrote a letter opposing the proposed law to Congressman Grijalva.

The senators dismiss evidence that uranium mining threatens to pollute fragile seeps and springs in the Park and discount public concerns about industrializing one of our nation’s most revered landscapes. They also disagree with two-thirds of Arizona voters who support putting an end to uranium mining around the Grand Canyon, according to a July 2009 poll conducted by Public Opinion Strategies.

Senators McCain and Kyl have also turned a deaf ear to requests by tribal leaders to end the devastating



Taylor McKinnon/CBD



Taylor McKinnon/CBD

Top: Participants assembled at the gathering at Red Butte, July 25, 2009. Above: The Canyon Mine awaiting to begin mining uranium since it was mothballed in the 1980s.

The Canyon mine is one of three uranium mines authorized on public land during the 1980s. But their owners went bankrupt and left behind fenced-in mine shafts and rusting machinery. Now that uranium prices have risen, new owners are moving quickly to reopen them. The two-year moratorium does not apply to these previously approved mines, according to the BLM.

Last July, more than one hundred Havasupai journeyed out of the Canyon to protest the Canyon Mine's reopening. Hundreds more supporters joined them for a four-day gathering at the base of Red Butte.

Within months of the gathering at Red Butte, regulatory agencies issued final permits needed for the first of the three mothballed mines to re-open. Denison, a Canadian-based company, announced that it would soon begin hauling uranium ore from its Arizona 1 mine to its mill in Blanding, Utah. It is also preparing to reopen the Canyon and Pinenut mines.

In November, the Grand Canyon Trust again joined allies in a lawsuit challenging the BLM's approval of the Arizona 1 mine. Our suit cites the agency's failure to update the 1988 environmental assessment and plan of operations prior to allowing Denison to begin mining.

The original owners of Arizona 1 went bankrupt and never demonstrated an economically viable uranium deposit as required to establish a valid claim. More importantly, the BLM never validated the original mining claim for Arizona 1, nor has it validated any of the thousands of uranium mining claims in the region.

ENDURANCE

Havasupai elder Rex Tilousi was deeply disheartened when the government approved final permits to reopen the Arizona 1 mine. Less than a week before authorizing mining to begin, agency officials had flown by helicopter into Supai Village to fulfill a legal obligation to consult with the tribe.

"They came to us and pretended to listen," Tilousi lamented during a community meeting at Supai. "For hours our people told these people why uranium mining threatens our way of life. We told stories, shared our beliefs, and shed tears, all for nothing."

Once again, Havasupai felt ignored and betrayed. But they applauded our legal appeal challenging the government's decision to allow old uranium mines to reopen.

Community members recalled the endurance it took to regain some of their historic territory. After years of lobbying, they finally convinced Arizona's Congressman Morris Udall and Senator Barry Goldwater to introduce legislation to return about 200,000 acres to the tribe.

Federal agencies and environmental groups fought the bill, claiming that the Havasupai could not be trusted to protect the Grand Canyon from commercial exploitation. But they persisted and prevailed when President Gerald R. Ford signed the 1975 law that expanded the Havasupai reservation.

One elder reflected, "It took a long time to win some of our land back then. This time the environmentalists are on our side." 🦿



Tom Bean

KINSHIP *by Rick Moore*

The sun shone brightly in the cloudless sky as we worked our way along the sandstone ledge toward the small prehistoric granary tucked into a shaded alcove in the south facing cliff. Reaching the shade we dropped our packs, feeling the sudden coolness of the air on our sweat dampened tee shirts. The only sound in the slickrock canyon on this windless day was our breathing and the crunch of boots on the rock.

The intact granary had a small doorway with a sandstone sill and a lintel made of three small juniper branches. We carefully peered through the doorway into the dark interior and saw miniature corn cobs scattered on the dusty floor. As I got out my camera, my hiking partner began to closely examine the mud mortar between the rocks in the wall. In well-preserved mortar it is sometimes possible to find fingertip patterns left by masons 800 years ago, which is one particularly pleasing way to connect with the ancient people who called the Colorado Plateau home.

Suddenly a puzzled look came into her eyes and she asked me to shine my flashlight at a low angle across the wall to make the marks in the mud stand out. We were astonished to realize that what had puzzled her were the clearly visible imprints of a small child's toes near the upper right corner of the door. Looking closer, we found matching toe prints on the left side as well. We looked at each other and asked why? What compelled a mother or father, 800 years ago, to press their child's foot into the cool, smooth mud of the granary wall?

Archaeologists have long been answering questions about the people who lived here long ago and there are many good scientific reasons for protecting and

preserving the traces they left behind. However, questions such as those we had about the baby's footprint are most likely unanswerable. But that makes them no less important due to the simple fact that humans need connections and relationships. Finding the baby's footprint established a paradoxical connection between the intimacy of imagining the child's delight as the mud oozed between his or her toes and the fact that it happened centuries ago.

This sense of connection with the inhabitants of another world in another time is a frequent experience when wandering in some of the labyrinthine canyons on the Colorado Plateau. Handprints wave down through the centuries from sandstone walls and smooth-faced boulders. Grass twine tied by ancient hands remains firmly knotted, holding together willows and junipers in small wattle and daub jacal structures. A potsherd still embedded in a mortar joint in a small dwelling catches the eye. The imprint of a prehistoric corn cob, tiny compared to today's mammoth ears of corn, is stamped into another mortar joint.

These small messages from people who lived and loved and laughed long ago, who had children and struggled to make a life in the sandstone canyons and valley bottoms of the Colorado Plateau help set our imaginations free. They provide a context for those of us alive today, saying "We were here." They are a small, important—and particularly poignant—part of a heritage for which we are all responsible. We owe it to those who come after us to preserve the connection between the ancient people who lived here long ago and those who will wander these landscapes in the future. 🐾

TUSHAR COLLABORATION ON TRACK FOR SUCCESS

by Mary O'Brien



The potential for collaboration to achieve innovative, long-lasting solutions to environmental challenges throughout the Colorado Plateau is nearly boundless though not always realized. But there is a second benefit less often acknowledged: a collaboration's ability to flood light on the current constraints to reaching win-win solutions.

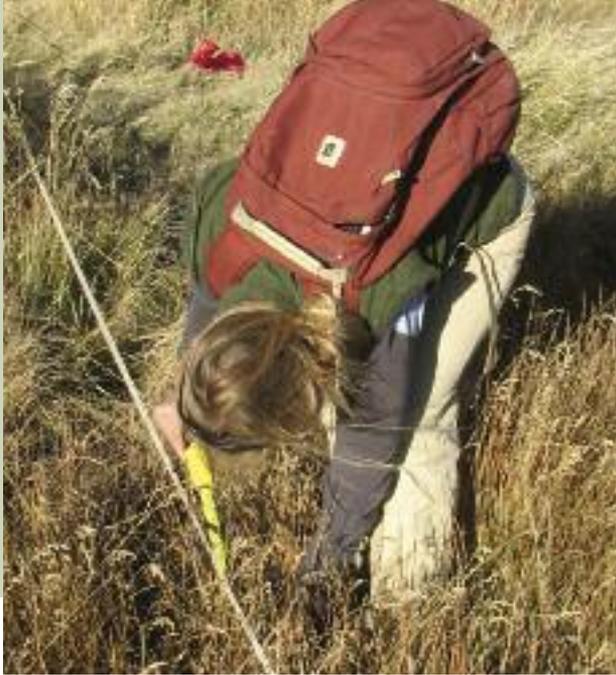
Grand Canyon Trust's Utah Forests Program is in its third year of engagement with the Tushar Allotments Collaboration on the Fishlake National Forest. We are moving toward significant agency response to livestock overuse and natural resource damage on these and similar allotments, but we are also learning just how many players and constituencies will have to be engaged for long-term solutions.

A brief background: In March 2007, the Trust had a choice of litigating or settling a dispute regarding eight cattle allotments on the Tushar Range of Fishlake NF. The Forest was proposing to renew grazing permits on the eight allotments for ten years, but the Trust had observed and photo-documented significant resource problems being caused by the cattle grazing. With five other conservation organizations, the Trust had proposed a "Sustainable Multiple Use (SMU) Alternative"

for better management of livestock on the allotments, and the alternative had been fully analyzed in the environmental impact statement (EIS) that accompanied the proposal for permit renewal.

The Final EIS acknowledged the multiple ecological benefits that would be achieved by implementing the SMU Alternative, and perhaps accurately estimated that implementing the Alternative would require an approximate 50 percent reduction in the number of cattle grazing on the allotments. Unfortunately, the final Record of Decision had rejected all features of the Alternative, claiming economic losses to surrounding counties would be large. On the other hand, University of Montana Economics Professor Tom Power had shown the Forest made some rather simple mathematical errors, which resulted in a 14-fold inflation of the economic losses to the surrounding counties. In fact, the economic losses would be insignificant.

When the Trust and the five other organizations appealed the final decision, thus becoming "Appellants," the Forest Service, as required, initiated an Appeal Resolution conversation. The Appellants proposed a resolution: If the Forest Service would participate in a two-year collaboration on two of the most over-used of the eight allotments, the Appellants would drop their appeal on the six other allotments. The Forest Service accepted the offer. From April 2007-April 2009, twenty-two Collaboration members met in the Beaver Ranger District office, in the field, and in phone conferences. The members included five Forest Service staff (including the Supervisor), six permittee representatives, six Appellants (Grand Canyon Trust, Great Old Broads for Wilderness, Red Rock Forests, Wild Utah Project, Western Watersheds, Utah Chapter of Sierra Club), and representatives of the Utah Division of Wildlife Resources, the Beaver County Commission, and Utah Farm Bureau. The Trust prepared detailed field reports on natural resource damage along six creeks, in seven aspen stands, and at four springs and associated wetlands. By April 2009, the Collaboration had completed recommendations for improved livestock management on the Pine Creek/Sulphurbeds and Ten Mile Allotments (see the Final Report at <http://tushar.ecr.gov/>.)



Facing page: The Forest Service, Great Old Broads for Wilderness, and the Trust building a fence around Dipping Vat wetlands. Left: Trust Restoration Coordinator Christine Albano measuring plant heights. Below: Voles quickly moved into the tall grasses and sedges of this 4-month old riparian permanent range cage.



Among the recommendations:

1. Initiate a 60% reduction of cattle numbers on the Ten Mile Allotment and a 15% reduction on the Pine Creek/Sulphurbeds Allotment; final permit decisions to be made later.
2. On each of the two allotments, reduce, at the rate of one additional pasture a year, the allowable grass utilization from 60% (the usual Forest standard, which allows many grass species to be grazed to about 1.5" tall) to 30% until the entire allotment is at 30% utilization.
3. On each of the two allotments, establish four small (16' X 16'), but permanent, "range cages" to learn of short-term and long-term changes inside and outside the cages in four habitats: mountain mahogany, sagebrush, aspen, and riparian.
4. Fence a wetland and five springs.
5. Do not increase current elk numbers.
6. Finally, after ten years of wrangling, the Ten Mile Allotment permittee must restore and extend the unmaintained north boundary fence between the Ten Mile Allotment and the (rare) livestock-free Cottonwood Allotment.
7. One Ten Mile pasture (Wildcat) containing several creeks with degraded riparian areas will remain vacant two years.

Importantly, the recommendations also include one Collaboration meeting in January 2010 and another in January 2011, at which times information gathered during the previous season on implementation of the recommendations and results will be discussed.

During and after the 2009 grazing season, the Trust and Great Old Broads for Wilderness helped build the wetlands fence and re-read transects on the creeks. We established and read transects inside and outside the eight permanent range cages, and surveyed conditions of springs and the Ten Mile northern boundary fence.

Did the Ten Mile permittee maintain and extend the fence along the northern boundary of his allotment? No. His cattle again descended on the pond in the closed allotment. Were springs fenced? Yes and no; and some well-fenced and others not. Was the Wildcat pasture rested? Yes, but several trespass cattle hammered one poorly-fenced spring and focused feeding on the degraded riparian vegetation in the pasture's creeks.

With grasses and sedges growing tall in one of the permanent riparian cages, voles quickly moved in, providing for diverse vegetation on their mounds. (The Trust is beginning to learn that current Forest Service utilization standards allow grass to be grazed to only an inch or two in height, eliminating cover for voles, who could be playing important grassland roles in providing native diversity and controlling shrubs).

Some mountain mahogany, cottonwood, and aspen are shooting up in their cages. More subtle changes in grasses and forbs will become apparent in these cages in succeeding years.

Was utilization at 30% in the two 2009 pastures? We'll learn more from the Forest Service in January 2010, but apparently "yes" at some sites, and "no" at others.

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HYDROPOWER ECONOMICS AT GLEN CANYON DAM: How Much Does It Cost to Restore Grand Canyon? *by Nikolai Lash*

THESE SANDBARS ARE CONSIDERED VALUABLE RESOURCES . . . for a variety of reasons: they are a fundamental element of the pre-dam riverscape within Grand Canyon National Park; they provide Park visitors, such as river runners and hikers, with recreational areas; they create zones of low-velocity aquatic habitat for juvenile native fish; they are the substrate for unique but limited riparian vegetation in an arid setting, and they are a source of sand for upslope wind-driven transport that may help protect archaeological resources.

—Scott A. Wright, *et al*, *Is There Enough Sand? Evaluating the Fate of Grand Canyon Sandbars*

How much would it cost to restore and protect Grand Canyon, to run the very best flows from Glen Canyon Dam? We know that most of Grand Canyon's resources have declined since the current flow regime was implemented at Glen Canyon Dam in 1996. These flows, called modified low fluctuating flows (MLFF), have not been good for Grand Canyon. The most recent USGS Colorado River Report concluded that nearly every resource of concern in Grand Canyon has declined over the past decade. Beaches have shrunk or disappeared, the 4-million-year-old humpback chub remains endangered, and cultural and archaeological sites are rapidly losing their sediment-based foundations.

Daily fluctuating flows dominate the release pattern from Glen Canyon Dam, dissolving beaches and destructively churning native fish habitat. Scientists have warned that different flows from Glen Canyon Dam are needed to improve conditions; specifically, this means periodic high flows followed by months of steady flows. Periodic high flows under sediment-enriched conditions rebuild beaches and backwater channels, and seasonally adjusted steady flows preserve beaches and provide stable habitat for native fish, including the endangered humpback chub.

The Bureau of Reclamation (Reclamation) is half-way there, demonstrating support for periodic high flows at Glen Canyon Dam. In March 2008 it let loose a 60-hour flood release that built up sand-starved beaches and backwater channels. Unfortunately, the high flow was immediately followed by months of fluctuating flows instead of science-supported steady

flows that would have conserved sediment. Why did Reclamation ignore the scientists who hold almost universally that steady flows are the best way to preserve the benefits of high flows?

USGS scientist Scott Wright stated in his recent paper on sediment health in Grand Canyon that, “the ‘optimal’ intervening dam operation [flows before and after high-flow events] is that which will result in the most tributary sand being available in the mainstem Colorado River for redistribution during high flow events. **It is not difficult to specify this optimum operation because sediment transport theory dictates that a steady flow will transport less sand than an equivalent-volume fluctuating flow.**”

The Secretary of the Interior, who oversees Reclamation, has the discretion and legal responsibility under the 1992 Grand Canyon Protection Act (GCPA) to make changes in dam operations that will benefit Grand Canyon resources. The Endangered Species Act and a 1995 Fish and Wildlife Service Biological Opinion also require such changes and implementation of seasonally-adjusted steady flows (SASF). For years, however, the Secretary and Reclamation have ignored these legal requirements. Due to pressure from water and power interests, the Secretary has resisted operating Glen Canyon Dam in a manner that mitigates downstream resource impacts and complies with the law. As a result, in 2008, Grand Canyon Trust sued the federal government.

Although the GCPA explicitly maintains the existing agreements regarding water supply allocations



Hermit Rapid on the Colorado River.

among the seven basin states, the law actually anticipates the diminishment of hydropower revenue in the bargain to benefit Grand Canyon. Nonetheless, one of the interveners in the litigation, Colorado River Energy Distributors Association, responded to the lawsuit by stating that changing dam operations and running SASF would cost hydropower “hundreds of millions of dollars.” Because this sounded speculatively high and also because running steady flows is fundamental to improving resources in Grand Canyon, the Trust commissioned an economics study that would answer the question of how much more an SASF flow regime would cost over the current MLFF flow regime.

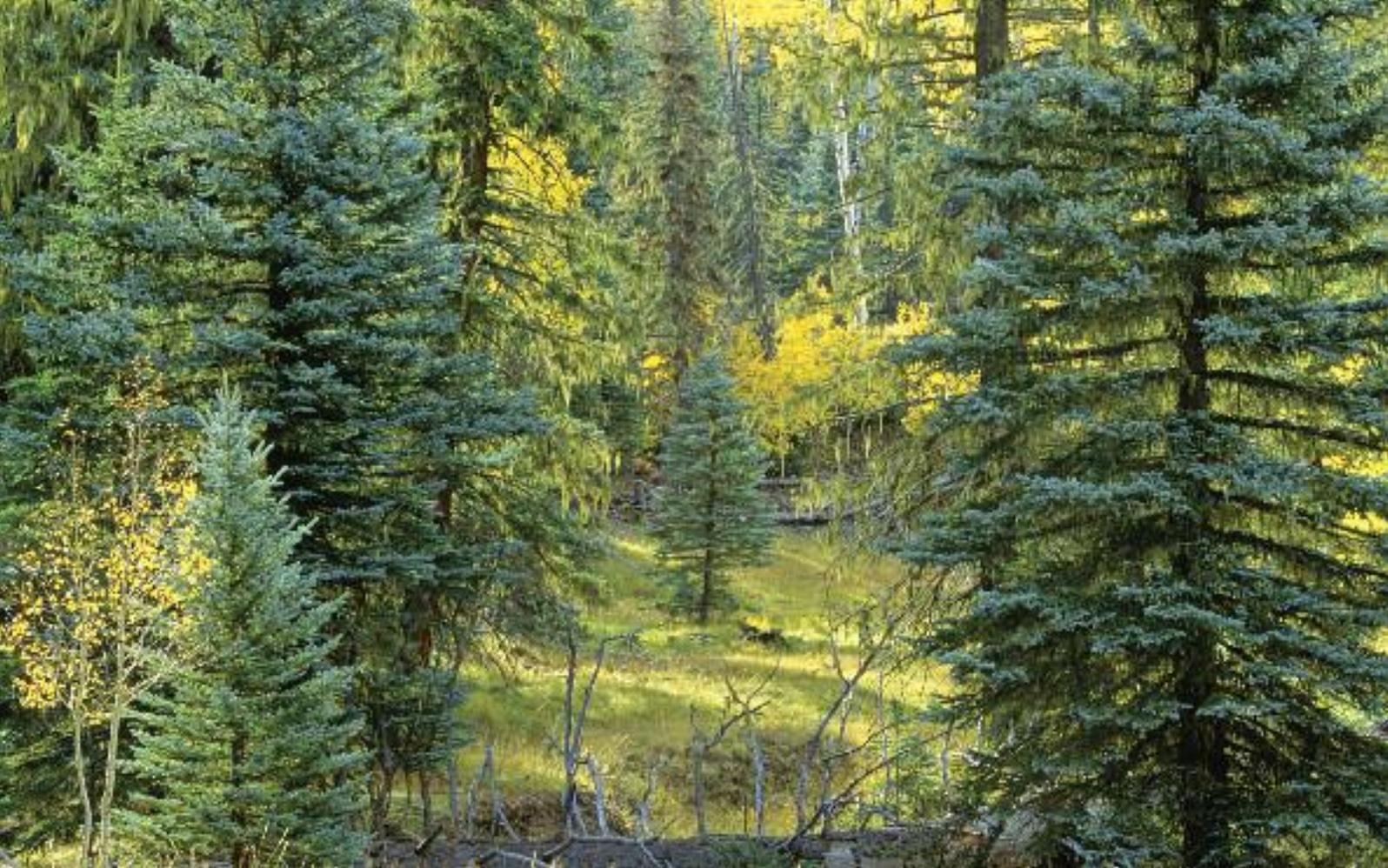
To answer that question, the Trust enlisted the services of David Marcus, a highly regarded energy economist. His report concluded that changing Glen Canyon Dam operations from the status quo to the

pro-Grand Canyon SASF flow regime would cost under \$9 million for an entire year of dam operations. This is a surprisingly small amount of money to achieve what scientists have described as the optimal flow regime for Grand Canyon. It certainly is not the hundreds of millions of dollars thrown around by hydropower advocates. In his report, Marcus summarizes the results of his analysis for water year 2008:

Based on historical data from the most recent water year, and based on actual prices during that year, shifting to SASF in water year 2008 would have decreased the value of Glen Canyon Dam generation, and thereby increased costs to end users, by between \$1.0 and \$8.9 million. Changes in the value of Glen Canyon Dam generation would result in changes in average residential electric bills in the 6-state area served by Glen Canyon Dam of zero for two-thirds of the customers in the 6 states. For the other third of the customers, the average residential household electric bill would have increased by between 1 cent per month and 10 cents per month. In Arizona, where residential customers use more electricity per capita than in the other five states, the average residential bill impact would have ranged from 1 cent per month to 12 cents per month.

Given the irreplaceable natural, cultural, and recreational resources at stake, the cost of protecting Grand Canyon is miniscule. A 2005 U.S. Geological Survey Colorado River study reported that Americans valued protecting Grand Canyon with a seasonally adjusted steady flows regime at 3-4 billion dollars a year. In that context, a cost of between 1.0 and 8.9 million dollars seems like a very small amount to pay to restore Grand Canyon to grandeur—to bring back to vitality its beaches, remarkable ancient native fish, and centuries-old Native American sites. The economic issue turns out not to be the roadblock to Grand Canyon restoration and protection.

(The complete report on hydropower economics affecting Grand Canyon can be downloaded from the Grand Canyon Trust’s website—<http://grandcanyon-trust.org/grand-canyon/downloads.php>.)



Mixed conifer forest, North Rim.

THE INSURMOUNTABLE OPPORTUNITY OF LANDSCAPE-SCALE FOREST RESTORATION IN NORTHERN ARIZONA

by *Ethan Aumack*

Since the mid 1990s, tens of millions of dollars have been directed at protecting communities from the threat of wildfire in northern Arizona. Across the greater 2.4 million acre Mogollon Rim region, 10,000 to 15,000 acres of land within what is known as the Wildland Urban Interface surrounding cities and towns are being treated each year. Thinning treatments are slowly but surely creating doughnut-shaped buffer zones around communities, and the most immediate threats to communities from wildfire are gradually diminishing.

As we have continued to build “safe zones” around forest-embedded communities, the broader community’s attention has begun to shift towards restoration and management of fire in non-urban forested areas—affectionately known as the “back 40.” Non-urban forests account for a vast majority of the Mogollon Rim region, hold unparalleled biological diversity and, due to a legacy of overzealous extraction-oriented management, tip precariously towards sudden and potentially irreversible degradation caused by unnaturally severe wildfire.

Since 2001 and with increasing urgency after the 500,000-acre Rodeo-Chediski Fire in 2002, the broader restoration community in northern Arizona has been working to wrestle the challenge of landscape-scale restoration to the ground. It has been far from easy, and the task is far from over but, working through the Four Forests Restoration Initiative, we are closer than we ever have been to understanding, agreeing upon, and, most importantly, committing to a path towards ecologically appropriate, economically viable, and socially acceptable restoration that will substantially

restore a vast majority of the Mogollon Rim over the next twenty years. A snapshot of some of the most significant challenges, achievements, and opportunities facing us in the effort are described here.

BUILDING A SOCIAL LICENSE

The history of forest management and forest restoration has not been a tremendously uplifting one in the Southwest. Debate, dispute, arm-twisting, and name-calling have pervaded many efforts to further restoration—whether those efforts have been initiated by land management agencies, environmental organizations, communities, industry, or others. While the history of social discourse on small-scale restoration hasn't been a pretty one overall, a committed core of restoration advocates of all stripes has worked consistently over the past decade to build a zone of agreement—sometimes referred to as a social license—for proceeding responsibly with landscape-scale restoration. This license has been shaped in part through collaborative development of restoration principles, and further distilled through collaborative planning and mapping efforts that, in sum, have helped to clarify consensus-supported priorities, targets, and strategies for significantly accelerating restoration across the region. As of 2009, this license is viewed by a vast majority of stakeholders, from the Center for Biological Diversity, to the Grand Canyon Trust, to small and larger-scaled industries, to cities and towns, as sufficient to initiate collaborative, science-based, landscape-scale restoration that would lead measurably towards restoration of vast landscapes covering the entire Mogollon Rim.

LEARNING OUR WAY THROUGH

Natural resource management has long been tinged with hubris and, at times, overwhelmed by it. Managers, advocates, and policymakers alike tend to carry an oversized sense of confidence about effects of our actions, even in the face of significant environmental and scientific uncertainty. Only in retrospect, and in many cases years after the fact, have we learned hard lessons, refined management practices, and instituted necessary conservation measures. Promisingly, those

working in the Four Forests Restoration Initiative recognize at the front end that landscape-scale forest restoration is, by its nature, a process of venturing into the unknown. More importantly, they recognize that we can and must learn our way through the process, asking intelligent questions about the effects of such restoration, systematically gathering information about such effects through monitoring and research, and continually using that information to refine and improve our actions on the ground. They realize that while action is necessary now, we should always commit to learning important lessons as quickly as possible, and retaining sufficient flexibility to change course if needed. Science will play a vital role in our collective learning process, and stakeholders have committed to build a science infrastructure to guide our learning over the years to come.

PAYING THE BILLS

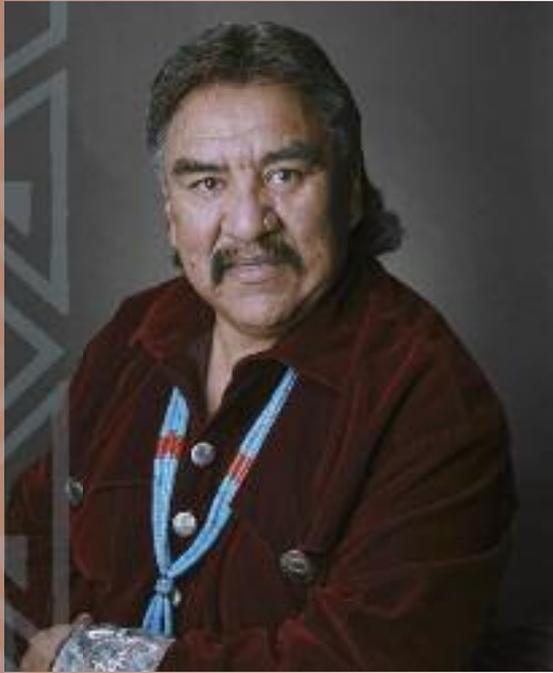
While building the social license for landscape-scale forest restoration, advocates have agreed to aim for restoration of a substantial portion of the Mogollon Rim, necessitating small diameter tree thinning across one million acres over the next twenty years. Historically, such treatments have cost upwards of \$1,000 per acre due to the low value and marketability of small trees being thinned. As the broader community has recognized the need for landscape-scale forest restoration, it has also recognized the need for (and challenges related to) partnering with larger-scaled industries capable of profitably processing bigger volumes of low-value material. Appropriately-scaled industry partnerships can ultimately reduce the cost of treatment by as much as 80 percent, allowing landscape-scale restoration to be considered a viable action, rather than an interesting theory. These partnerships can also create hundreds of jobs and millions of dollars in taxable revenue—creating a sustainable restoration economy in rural communities hurting from our current economic downturn.

Partnering with larger-scaled industry is by no means simple or risk-free. We have seen and still see everyday the ill-effects of overzealously extractive, profit-driven forest management, and have good reason

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THE GREENING OF THE NAVAJO NATION

Hon. Lawrence T. Morgan: Speaker, 21st Navajo Nation Council



The concept of “going green” is not a foreign concept to the Navajo people; our livelihood has always depended on our intrinsic relationship with the land. Historically, the Navajo people had a functional green economy based on a traditional subsistence economy, which ensured a harmonious and vigorous society while maintaining the Navajo value of stewardship of all creation. Today, many of our people still live with traditional green concepts they were raised with, and the Navajo Nation Council is proud to have been the first American Indian tribe to pass legislation that reflects the values we have always had as Navajo people: Legislation No. 0179-09, enacting the Navajo Nation Green Economy Commission (NGEC) Act of 2009, and Legislation No. 0180-09, enacting the Navajo Green Economy Fund Act of 2009.

There are more opportunities today than ever before to move towards the development of a green economy and the creation of green jobs. The NGEC is tasked with seeking appropriate federal, state, and other funding for the Navajo Nation Green Economy Fund, and to network with local, state, national and

international groups to advocate and build Navajo Nation green economy strategies. The Commission will focus on small-scale, community development projects for economic development that empowers local communities. Ultimately, these two pieces of legislation will mean more jobs and greater sustainability for the Navajo people.

The passage of the Navajo Green Economy Commission and the Navajo Green Economy Fund started with a shared vision. Our partnership with various non-governmental organizations, such as the Grand Canyon Trust, has been instrumental in moving the vision of a green economy forward. The Navajo Green Economy Coalition, which consists of various non-profit organization representatives, garnered twenty-three Navajo Nation chapter resolutions and two agency resolutions in support of the Navajo Green Economy Legislation and Navajo Green Economy Fund, ultimately helping to turn ideas into legislative action at the Navajo Nation Council level. Our leadership is convinced the input, guidance, and expertise from the non-governmental organizations will continue to be of incredible worth as we move forward in our planning for a sustainable green economy.

These two pieces of legislation also correlate with the Navajo Nation vision to bring local empowerment back to the chapter house level. In the years to come, and as we begin to transition toward more alternative renewable energy forms as a Nation, it is my vision that chapters will be able to sustain their own local green projects, and the Commission will be tasked with coordinating large-scale green projects throughout the Navajo Nation.

As Navajo people, our collective identity is deeply rooted in the deep respect we have towards our Mother Earth and all her resources, and we must never forget this. By moving towards a green economy, we will be re-shifting into a way of life that has always reflected our core values. I truly believe these two pieces of legislation will serve as the seed to move us toward a vibrant, green economy future, and I am looking forward to the work needed to accomplish this. 🏡

A NEW GREEN ECONOMY ERA FOR THE DINÉ

by Tony Skrelunas



Tom Bean

Dook'o'oosliid—San Francisco Peaks

It is hard to imagine that just over eighty years ago the majority of Diné families living within lands bordered by the Four Sacred Mountains: Sisnaajini—Mt. Blanca, Tsoodzil—Mt. Taylor, Dook'o'oosliid—San Francisco Peaks, and Dibé Nitsaa—Mt. Hesperus, followed the teachings of the Holy Ones with vigilance. These teachings offered the perfect template for living a harmonious life on Mother Earth. For the Diné or Navajo (as they are also called) family to survive and flourish, the elders had to know how to live in harmony with their surroundings. They had to pass on from elder to children, family, community and ultimately to the Nation, rich knowledge about seeds, nurturing plants and animals, hunting, medicine, sheep husbandry, efficient home building, caring for the land, traditional songs and prayers, and offering back to the land.

The original local economic system consisted of trade among the families and tribes. Diné country was varied with some areas offering abundant water and perfect farming opportunities, others abundant grasslands for livestock. Some folks had unique skills such

as how to build a solid home, make pottery and baskets, weave blankets, make clothes, and raise and care for livestock. Others had knowledge of plants and medicine, art, song and dance, culture, and care for the land. Many teachings and landscape monitoring knowhow were passed from shepherd to shepherd. This knowledge taught people and the community how to monitor the land, know when the land needed rest, and the best processes to rest the land.

The Diné also had a robust trade with other tribes such as the Apache, Havasupai, Hopi, and Utes. To this day, the elders among the neighboring tribes cherish memories and stories of the trade of food, hard goods, technology, stories, dances, and the exciting interchange between the cultures.

This system of adherence to the teachings of respecting and ensuring harmony with the earth and community ensured that the local economy was sustainable. It was at its very essence a “green economy.” A balance was achieved between creation of food and livelihood for families to live honorably as humans and as a part of the ecosystem.

TRIBAL LANDS IN THE UNITED STATES CONTAIN 5 PERCENT OF OIL RESERVES, 30 PERCENT OF STRIPPABLE, LOW-SULFUR COAL, AND OVER 50 PERCENT OF THE URANIUM RESERVES. SINCE THE TRIBES WERE FIRST ALLOWED TO SET UP THEIR OWN SYSTEMS OF GOVERNMENT, GAINING ACCESS TO THESE RESOURCES HAS BEEN OF MAJOR IMPORTANCE TO CORPORATE AMERICA.

Since those “times of times,” as many elder Diné refer to that period, the economy has taken a drastically different direction. The modern Navajo Nation government traces its roots back to the period of United States history following the country’s paternalistic policies to acculturate tribal peoples. The Navajo Government grew, with major federal influence, during these historical periods that included the Allotment and Assimilation Era up to 1928, the Indian Reorganization Era from 1928 to 1945, and the Termination Era from 1945 to 1961. Only in the past thirty years have these policies slowly shifted towards real self-determination to the point where tribes now have significant input on how their Nations function and what types of economic development are acceptable.

In whole, tribal lands in the United States contain 5 percent of oil reserves, 30 percent of strippable, low-sulfur coal, and over 50 percent of the uranium reserves. Since the tribes were first allowed to set up their own systems of government, gaining access to these resources has been of major importance to corporate America.

The first Navajo Council was established by the U.S. Bureau of Indian Affairs to ensure that the Diné would have official representatives to approve mineral exploration on Navajo land. This early “Business Council,” as it was initially called, included educated Diné members who, for the most part, supported the federal efforts to “acculturate” the Native Americans.

Since then, the Diné Nation has secured most of its annual revenue from selling its natural resources. The Nation has grown substantially since this time but only recently began making a sustained effort to diversify its economy.

In the past two years, as members of the Navajo Green Economy Coalition and Just Transition Coalition, we have worked with Hopi and Navajo leaders to consider a transition to a more green economy; a new, concerted economic approach that is more in line with cultural values and the historical economy that existed over eighty years ago.

On July 22, 2009 the Navajo Nation Council adopted the Navajo Nation Green Economy Commission Act of 2009 with a vote of sixty-two in favor and

one opposed. The Green Economy Commission will offer leadership, secure and invest funding, and coordinate the development of the green economy.

With the commission created, the next step for the Council was to adopt the Navajo Nation Green Economy Fund Act of 2009. The Act ensures that the Nation, with the credibility of the Commission, can more easily secure federal funding offered, for example, through the economic stimulus bill. It also creates a mechanism to get other money, such as proceeds from future utility-scale renewable energy projects.

These two pieces of legislation required leadership by the Navajo Green Economy Coalition; a mix of grassroots organizations such as the Black Mesa Water Coalition, regional groups such as Grand Canyon Trust, and the Navajo Nation Speaker’s office.

The hard work of the coalition was on full display especially during the week of the Navajo Nation Council session. Most of the mornings started with key coalition representatives and Speaker Lawrence Morgan presenting to Agency Caucuses, and ended each evening with regrouping sessions. A media tent was erected just outside the Council chambers with several youth technicians sending out reports and setting up interviews with national, traditional and internet media outlets. A Green Economy March was also organized where over fifty coalition members, adorned with green t-shirts and signs, marched to the tribal council chambers on the day the Commission legislation was considered.

When the Grand Canyon Trust first started working to mitigate the economic impact resulting from the closure of Peabody’s Black Mesa Mine, we never envisioned such a day. The work we have conducted on projects ranging from Shonto Renewable Energy Company, Leupp Farms, and the Just Transition, created a high level of credibility for the coalition.

We played a senior advisory role to the Coalition and Navajo Nation, providing guidance on how the commission would actually work with communities to develop green projects.

The next phase of our work is to help the Nation implement the measures and we are now working to determine the appropriate role of the Grand Canyon Trust in this important endeavor. 

PEACE IS POSSIBLE

by Laura Kamala

Politics in Utah are typically passionate and off-the-wall. When I first lived here, during the days of the Sagebrush Rebellion, environmentalists were hung in effigy and their personal property destroyed. Decades later some things haven't changed as evidenced by State Rep. Mike Noel's February 2009 statement: "We ought to declare open warfare on environmentalists."

On the other hand, citizens with vastly different perspectives, including environmentalists, are able to come together in a public process, agree to disagree, compromise, and help make reasonable decisions about natural resource policy. There is proof of this in the successful passage of the Utah Recreational Land Exchange Act and the Washington County Growth and Conservation Act in the 111th Congress.

In Utah we now have the opportunity to solve longstanding public land policy conflicts through citizen engagement on comprehensive land bills being proposed across the state.

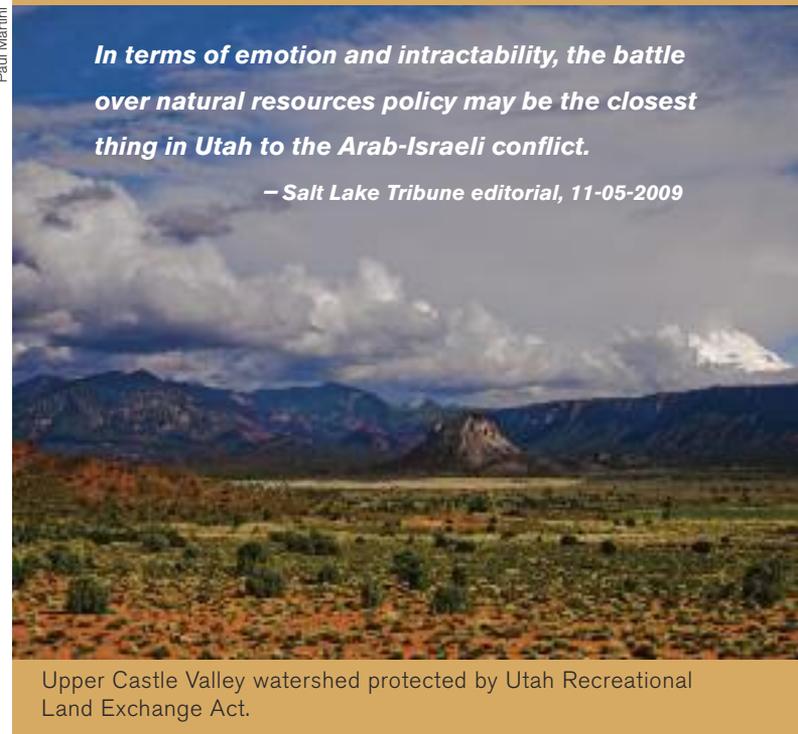
Negotiations aimed at developing legislation are now underway in Emery, Beaver and Piute counties. Grand and San Juan counties propose to commence developing proposals in January, 2010. Through a facilitated public process it will be conceivable to designate Bureau of Land Management wilderness, Wild and Scenic Rivers, new National Conservation Areas, solve state lands conflicts, and possibly expand the borders of Canyonlands National Park to protect the sensitive Canyonlands Basin rim to rim.

Comprehensive land bills should also include wilderness designation to protect forest roadless areas. Tom Vilsack, Secretary of the Department of Agriculture, delivered a speech in August laying out the Obama administration's progressive vision for U.S. forest lands. He called for restoration and protection of healthy, functioning ecosystems. A main goal is to help the forests become more resilient in the face of climate change in order to protect the abundant clean water that forests provide. The administration has also committed to protecting forest roadless areas, regardless of how the courts decide that contentious issue. Secretary Vilsack said, "Americans often assume that our health and wellbeing are separate from the health of the natural world... My hope is that together we can foster a

In terms of emotion and intractability, the battle over natural resources policy may be the closest thing in Utah to the Arab-Israeli conflict.

— Salt Lake Tribune editorial, 11-05-2009

Paul Martini



Upper Castle Valley watershed protected by Utah Recreational Land Exchange Act.

greater appreciation for our forests and that all Americans, regardless of where they live, see the quality of their lives and the quality of our forests as inseparable."

Still, in order to ensure these high ideals, citizen involvement is essential. Those fighting to stop the practice of mountaintop removal—the strip mining of forest lands—for coal extraction in the eastern U.S. are defending their inherent rights to clean air and water.

In 2009, The Red Rock Wilderness bill, which proposes to designate 9.4 million acres of Utah's spectacular wildlands, received a hearing for the first time in twenty years before the House Subcommittee on National Parks, Forests and Public Lands. It's unlikely the Red Rock bill will succeed in Congress given the Utah delegation's solid opposition; Senator Bennett has promised it won't get through the Senate. Notwithstanding this block to statewide wilderness designation, there is fear among elected officials in local governments that the Obama administration will somehow facilitate designation of wilderness as proposed in the Red Rock bill. This apprehension, coupled with a desire to resolve this issue once and for all, compel them to pursue smaller county-wide proposals that assure them a seat at the negotiating table. Utah's lone Democrat, Rep. Jim Matheson, suggests supporters of the Red Rock bill follow the example of the Washington County lands bill "for future legislative success." It may be the way that Utah's unique and fragile public lands finally gain the recognition and protection they so deserve for the benefit of generations to come. 📌



Thanks for Sticking With Us!

by Phil Pearl

Your support of the Grand Canyon Trust has never been more meaningful and important. With a supportive Obama Administration we have an unprecedented opportunity to positively influence planning processes that will guide the management of millions of acres of Bureau of Land Management and U.S. Forest Service land for the next twenty years; permanently protect major areas throughout southern Utah from oil and gas development; stop uranium exploration and mining threats around the Grand Canyon once and for all; respond to the challenges of climate change across the region, including the implementation of the largest forest restoration project in Southwest history; resolve the contentious, decades-old debate to protect and dedicate new wilderness, monuments and parks across southern Utah; and build, through our ever burgeoning volunteer program, the next generation of Colorado Plateau advocates and land stewards. It's an ambitious and achievable agenda.

Ironically, at the same time we have opportunities, the economy has hit everyone hard. Nationally, charitable giving is down more than 25 percent, and it's important to keep in mind that conservation, as a "charitable giving category," receives less than 2 percent of the overall pie. What's more, charitable contributions are expected to decline an additional 7 – 9 percent in 2010.

Fortunately, the Trust anticipated at least some of these economic challenges and took a number of timely and strategic steps to find efficiencies, streamline programs, reduce costs and manage our way through this economic crisis. And, we are a better and stronger organization as a result.

As many of our supporters know, the Trust strives to operate in a very businesslike manner. Our projects and programs are guided by a strategic plan, and every member of our staff has an ambitious annual work plan. We are budget conscious, and we are always on the lookout for efficiencies. We manage our affairs so that we can honor our mission.

We know that there are many important causes and worthy organizations that compete for your support, so we are especially appreciative of how you have believed in us and stuck with us through these tough times.

Inspiring places like the Grand Canyon, and how we care for them, are symbolic of who we are as a people. With this comes responsibility to act on behalf of future generations. With your continued support, we can accomplish many, if not all, of the conservation opportunities described above.

Once again, a heartfelt "thank you" for your support through these tough times!

THANK YOU FOR YOUR SUPPORT THANK YOU FOR YOUR SUPPORT THANK YOU FOR YOUR SUPPORT THANK YOU FOR YOUR SUPPORT

O'Brien: continued from page 13

The collaboration ultimately reveals the need for major improvements in Forest Service utilization standards; reduction in livestock numbers in some allotments; effective enforcement of permit regulations; and extended rest for degraded creeks, pastures, and allotments. None of this is easily implemented under current Forest Service staffing, policies, and regulations. The impressive commitment by the Collaboration participants and Fishlake NF of staff time and money to this collaboration cannot be required before similar changes are made on each allotment similarly damaged in the arid and semi-arid West. For instance, the allotments immediately south of these two allotments are similar in their over-use and resource damage, but under the Appeal Resolution

were granted a ten-year continuation of their current grazing permits.

Grand Canyon Trust is committed to increasing the ability of the Forest Service to bring restoration and resilience to sites damaged by livestock over-use and combined over-use by livestock, elk, and deer. At the same time, the Trust is committed to finding innovative economic solutions for permittees whose management of livestock must change in order to support Forest Service lands facing not only the stresses of over-use, but also climate change. This will take respectful, candid, and solutions-oriented collaborations not only at the allotment level, but also at the regional and national levels of the Forest Service and Department of Agriculture. This is one of the Trust's many long-term commitments. 🐾

Aumack: continued from page 17

to be cautious that the industry tail does not begin to wag the restoration dog. Fortunately, we are currently working to design a restoration implementation plan that allows for and encourages industry involvement, but does so recognizing the clear ecological and restoration context within which industry can and must operate.

CREATING A SYSTEM OF CHECKS AND BALANCES

Even with a strong, collaboratively developed front-end social license, a responsive science and adaptive management system, and appropriately-scaled industry partners helping to pay the bills, landscape-scale forest restoration across the Mogollon Rim requires a system that ensures that such restoration is serving the greatest good for the largest number of constituents over the longest period of time. It cannot become skewed to exclusively support individual ideologies (and there are many in the restoration field), or narrow interests. Commitment to consensus-based collaboration allows and ensures that all stakeholders will pursue restoration implementation strategies that are collectively acceptable and beneficial. Within the Four Forests Restoration Initiative we are currently designing a strong collaborative process that will ensure that the train stays on the track after it has left the station.

After spending more than ten years building the agreements necessary for landscape-scale forest restoration, the partnerships necessary to move it forward in an ecologically, socially, and economically viable direction, and the commitment from the U.S. Forest Service to move forward with implementation, we are on the verge of bringing about what many a decade ago considered to be an impossible task. As we close the chapter on talking, and open the next on learning by doing, we face a new and entirely different set of formidable challenges, a set of “things we think we cannot do.” Let’s now do them. 🐾

Staff Members

Headquarters Office

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Executive Director

Christine Albano
Restoration Program Coordinator

Darcy Allen
Associate Director: Administration

Ethan Aumack
Restoration Program Director

Shannon Baker
Finance Manager

Lauren Berutich
Volunteer Program Coordinator

Roger Clark
Air and Energy Program Director

Steve Fluck
GIS Analyst

Rick Johnson
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Nikolai Lash
*Water & State Trust Lands
Program Director*

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Staff Attorney

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Communications Director

Rick Moore
Associate Director: Programs

Andrew Mount
Volunteer Program Coordinator

Phil Pearl
Associate Director: Development

Adrienne Sanchez
Administrative Assistant

Evelyn Sawyers
Associate Director: Finance

Tony Skrelunas
Native America Program Director

Kate Watters
Volunteer Program Manager

Tom Sisk, PhD
*Senior Science Advisor,
Kane & Two Mile Ranches*

Brett Dickson, PhD
*David H. Smith, Fellow in
Conservation Biology*

Moab, Utah Office

Eleanor Bliss
Executive Assistant

Laura Kamala
Utah Program Director

Mary O'Brien
Utah Forest Program Manager

North Rim Ranch, LLC.

Justun Jones
Kane Ranch Manager

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Grand Canyon Trust
2601 N. Fort Valley Road
Flagstaff, Arizona 86001
(928) 774-7488

www.grandcanyontrust.org

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Advocate Staff

Editor: *Richard Mayol*

Design: *Joan Carstensen Design*

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Headquarters

2601 N. Fort Valley Road
Flagstaff, AZ 86001

(928) 774-7488 ph (928) 774-7570 fax

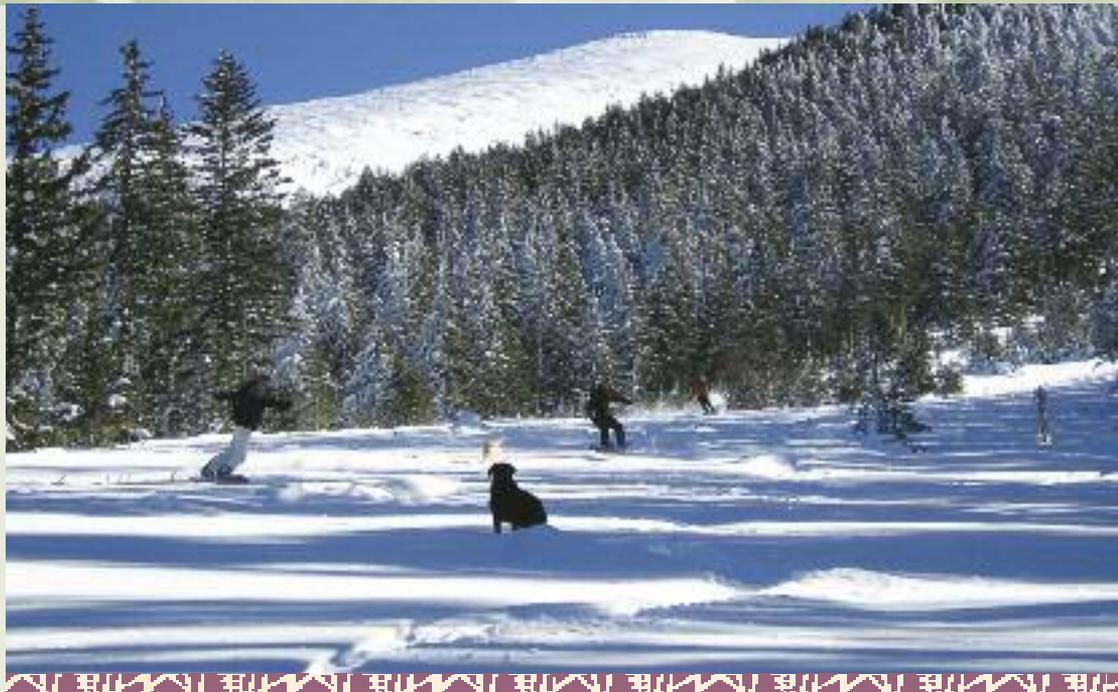
Moab, Utah Office

HC 64, Box 1801, Moab, Utah 84532
(435) 259-5284

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Brett Dickson



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