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SEDIMENT-AL JOURNEY

Challenges BuRec's Birthday

As the last of the fireworks exploded over the Bureau of Reclamation's (BuRec) $600,000 centennial party at Hoover Dam, a ceremony of a much different sort was underway 250 miles upstream. A river restoration crew labored well into the next morning to deliver three tons of sediment to Grand Canyon's suffering river ecosystem. With the last grains of sediment deposited, Living River's first Sediment-al Journey was proclaimed a success.

Five nights earlier it all began at a rally on the banks of a free-flowing Colorado above Canyonlands National Park. Accompanied by music, dancing and calls for river restoration, a brigade of activists loaded 300 bags (25-pounds each) of sediment from a sandbar in the middle of the river. The bags were paddled ashore and loaded into a dump truck emblazoned with banners reading "Reclaim the Bureau," and "Return the Sediment, Return the Flow, Save Grand Canyon from Glen Canyon Dam."

The caravan then began its journey downstream supported by 85 environmental and social justice groups demanding immediate action by BuRec to correct the damage Glen Canyon Dam has caused to Grand Canyon's river ecosystem. More sediment was gathered at the Journey's second rally at Antelope Point, on the Navajo reservation adjacent to Lake Powell reservoir. Max Goldtooth, a Navajo medicineman and water activist stated, "We've not taken care of our rivers and that's why we're having these droughts. Our offerings are blocked in their journey to the ocean by these dams."

The next day road vehicles were abandoned for a flotilla of nine boats to float the 15 miles of the Colorado River below Glen Canyon Dam. Just as the native fish are no longer able to survive in Grand Canyon, we too shivered in the 46 degree water released from the dam. The lack of natural sediment was also fully evident in the crystal clear water. But amidst the 800-foot sheer walls of this, the un-inundated section of Glen Canyon, we made the first offering of sediment back to the river.

Sediment-al Journey, below Glen Canyon Dam

Sediment was scheduled to be deposited following the conclusion of a rally held early in the day at Lee's Ferry, the launch location for Grand Canyon river trips, but the National Park Service banned the release of any of our sediment. "It's obscure why they want to arrest me for attempting to comply with the Grand Canyon Protection Act, and for attempting to do my part to heal the river," said Dr. Brent Blackwelder, President of Friends of the Earth.

Following a rally in Grand Canyon National Park the next day, the Journey held its final event at Hoover Dam, a few hours in advance of the BuRec's centennial celebration. Visitors to the dam were treated to river restoration melodies, dancing fish and the truth about the impacts of BuRec's devastation of the Colorado. "It's time for BuRec to get on with the task of decommissioning Glen Canyon Dam," the Sierra Club's Marcia Hanscom told the crowd gathered at Hoover Dam. "Grand Canyon deserves better and so does the Colorado River."

That was the message picked-up by the media at each stop along the 700-mile journey. So although our truckload of sediment, which was finally delivered to the Grand Canyon later that evening represented just .000003% of the amount which it should naturally receive, it represented a significant step toward building public awareness and interest in the reform of the Bureau of Reclamation and restoration on the Colorado River.

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GRAND CANYON

LR Takes on New River Management Plan

The National Park Service (NPS) is getting underway on rewriting its management plan for the Colorado River through Grand Canyon National Park. With four of the Canyon's eight native fish species extinct, two more headed in that direction and little action on behalf of the Park Service to uphold the Endangered Species Act against the impacts of Glen Canyon Dam, Living Rivers initiated an organizing effort to demand that this new plan address the declining ecological integrity of the river.

When first announced, NPS implied that this new river plan would principally focus on human recreation on the river and defer all comments pertaining to river ecology to the Bureau of Reclamation's Adaptive Management Program for Glen Canyon Dam. This runs counter to the first goal of its existing 1989 plan, "To preserve the natural resources and environmental processes of the Colorado River corridor and the associated riparian and river environment."

Joe Alston listens to LR's Junior Habitat Security Force

"The Park Service's failure to preserve natural process is rationale to elevate this objective to the highest priority, not to eliminate it from their management objectives altogether," said John Weisheit, Living Rivers Conservation Director. Weisheit and other Living Rivers staff and volunteers took this message on the road for two weeks in August. Dubbed the "Habitat Security Tour," the crew conducted outreach at public meetings pertaining to the river management plan in Denver, Salt Lake City, Flagstaff, Las Vegas and Phoenix.

Clad in life-like endangered fish costumes of Humpback Chubs and Razorback Suckers, and sporting Living Rivers Habitat Security jumpsuits, participants were greeted with a friendly message about the need for swift action on behalf of NPS to reverse the native habitat decline in Grand Canyon's river corridor.

"You're certainly getting your message out," said Joe Alston, Superintendent of Grand Canyon National Park, and "We want you to know that we do care about the fish."

In the letter delivered to Mr. Alston, in Denver, Living Rivers also reinforced that the ecological changes occurring in Grand Canyon's river corridor represent a significant violation of the NPS's Organic Act (1916) which requires that NPS preserve its lands unimpaired for the enjoyment of current and future generations. Specifically the letter demanded that the new river management plan identify means to:

- Restore essential sediment and nutrient flows from the mainstem Colorado River into Grand Canyon.
- Restore natural flow regimes to properly transport this sediment within Grand Canyon, when and where the sediment belongs.
- Restore natural seasonally variable water temperatures in the mainstem Colorado River through Grand Canyon.
- Develop a restoration and recovery program for the Colorado River corridor in Grand Canyon that includes the full recovery of all species known to be native to Grand Canyon prior to the operation of Glen Canyon Dam.
- Implement a non-native eradication program to minimize alien species in the Grand Canyon River corridor with a priority on those that prey on, compete with, or otherwise impair the health of native plants and animals.

To further this effort, Living Rivers has also helped to form the Grand Canyon Wilderness Alliance, a nationwide coalition working to ensure this new river management plan addressees a range of issues. In addition to ecological integrity, high on the Alliance's list is ensuring the river corridor is managed as wilderness, eliminating the use of motorized rafts, and improving access for private river runners, who currently must wait up to 20 years to run the river as commercial outfitters are given 80 percent of the permits.

Public comments on the proposed scope of the Grand Canyon River Management Plan are being accepted until November 1, and additional public meetings are scheduled for Washington DC and San Francisco. Please send letters demanding that the Park Service address the river's ecological integrity in the plan. Direct them to: Colorado River Management Plan, Grand Canyon National Park, PO Box 129, Grand Canyon, AZ 86023. Email: grca_crmp@nps.gov

CLIMATE CHANGE
Uncertainty for the Colorado

The Environmental Protection Agency (EPA) and the United States Geological Survey (USGS) have published studies concerning global climate change and how these predicted changes could affect our future water supplies. As the Colorado River is the major supplier of water for 30 million people, these important studies forecast scenarios for both a severe sustained drought and also for years of severe flooding.

The results suggest the following for the Colorado River basin:

- streamflow can increase or decrease by as much as 30 percent
- the 400-year average virgin streamflow for the Colorado River at Lee's Ferry in northern Arizona totals 13.5 million acre-feet per year (16.4 was the original projection)
- the 20th Century was a wetter century than normal, with an approximate 20 percent higher yield
- high magnitude floods can stress spillway mechanisms and overflows will damage areas of development; dam failures are possible.

The above data does not compliment the "Law of the River," the working document that governs the allocations and delivery systems for the seven states of the Colorado River basin and Mexico. Nature's variations and man's miscalculations will make it more and more difficult to plan for the long-term management of our water resources.

The data suggest that in the last 400 years there have been many severe sustained droughts in the Colorado River basin, with the longest occurring about 1579-1598. During that 20-year cycle it has been estimated that a 20 percent reduction in streamflow occurred for the Colorado River basin. Within that 20-year period there was a five-year cycle where streamflow was reduced by 34 percent. Says Robert Webb at the USGS Desert Lab in Tucson, "It is impossible to predict the weather for the next 20 years. We do know that as more and more people become dependent upon the available surface water and as our groundwater reserves become depleted, that it is going to be harder and harder to project and meet our upcoming operation plans."

In modeling the affects of a severe sustained drought, it has been demonstrated that current water allocations will especially stress the upper basin states because their water rights are largely junior to those of the lower basin. The lower basin will be affected in another costly scenario: an increase in the salinity of their water at levels above legal standards and the associated costs to mitigate that increase.

A severe sustained drought for the Colorado River basin will also bring reservoir levels to near dry conditions and will effectively reduce hydropower by as much as 36 percent. However, it was noted in the reports that such a reduction in electricity would not cause major disruptions for most regional power grids. For Lake Powell, reservoir levels would drop 230 feet to the elevation of the generator's intake pipes (penstocks) and would subsequently leave boat ramps and marinas high and dry. Compounding the situation would be the 30 miles of sediment plugs for both the Colorado and San Juan River arms.

According to John Dohrenwend, a retired USGS surficial geomorphologist, "As the rivers erode through these sediment deposits, the sand and silt will be mobilized and deposited closer to other reservoir facilities, including Glen Canyon Dam. Such sediment transport would significantly diminish the life expectancy of Lake Powell reservoir." Because of the legal mandate to deliver on average 8.23 million acre-feet of water per year to the lower basin, Lake Mead reservoir levels would not be as drastically reduced. However, Lake Mead is still projected to experience diminished reservoir levels that would have similar sediment impacts on its water quality and recreational access.

Since 1942 there has been a reduction of sediment inputs into the reservoirs of the Colorado River basin. Current storage of normal erosional materials now occurs in the side streams and arroyos of the Colorado, Green and San Juan Rivers. Large destructive floods, such as occurred from about 1862 to 1941, will eventually transport this stored sediment into the many reservoirs of the basin. The deposition and storage of this sediment would greatly reduce the water storage capabilities of the reservoirs and consequently tax the flood control features of the dams. Catastrophic flood events have been projected to even remove dams, which would consequently destroy the water delivery structures downstream. With no infrastructure to deliver water to the farms and metropolitan areas of the Southwest, the region's economic base would be severely compromised.

Richard Hereford of the USGS at Flagstaff, notes that, "Based on the remains of flood deposits in the vicinity of Lee's Ferry, Arizona, we know that streamflows of 500,000 cubic feet per second have occurred in our historic times." Glen Canyon Dam is designed to bypass flood flows but much depends on the duration of the flood, the volume of the flood and how much reservoir storage is available. In 1983, when the reservoir was full, spillway damage did occur when the total discharge at the dam was only 92,600 cfs, which also caused millions of dollars in flood damage to the lower basin.

With the scientific information currently available on climatic scenarios, obviously the current system of water allocation and delivery systems in the thirsty West is seriously flawed. It is therefore absolutely necessary to continue the process that will modify the various aspects of water law, policy and infrastructure with rigor and vigilance.

BuRec Commissioner
John Keys
Wants to hear from YOU!

At the end of September BuRec will release a draft environmental assessment for experimental operations of Glen Canyon Dam to restore native fish habitat in Grand Canyon. In 1996 such tests failed and these will too. Join Living Rivers and the Grand Canyon Coalition in telling BuRec to stop testing, and start fixing, the Grand Canyon. Meetings are to be announced for Phoenix and Flagstaff. Living Rivers Habitat Security Force will be there. Check Living Rivers website for details, including advise on, and where to send in your comment letters..

FOSSIL CREEK DAMS
APS Files for Surrender

Arizona Public Service Company (APS) has filed with the Federal Energy Regulatory Commission (FERC) a long-awaited "application to surrender" its license for operating the Childs-Irving Hydropower Plants at Fossil Creek. The Application to Surrender marks perhaps the most significant milestone yet in Living Rivers battle to restore Fossil Creek and the surrounding riparian habitat.

The Childs and Irving plants are 90 and 100 years old respectively and draw the entire flow of Fossil Creek out of the streambed and into a series of penstocks, flumes and tunnels for hydropower production. The plants produce a miniscule amount of power in comparison to the major damage they wreak on Fossil Creek, a perennial stream in the central Arizona desert.

The United States Forest Service (USFS)however is somewhat concerned. "Although the Forest Service strongly supports the goal of surrender and decommissioning to restore full stream flow to Fossil Creek, the Forest Service opposes certain provisions of the settlement agreement." Of particular concern is the USFS's request that "Additional or different structures are retained in the project site." Before the agreement was signed, each of the significant 52 components of the plants was considered, studied and its removal or retention painstakingly negotiated. To reopen these negotiations would be an unnecessary bureaucratic burden.

Living Rivers and the other environmental groups involved in the initial negotiations are still highly engaged and prepared to battle for nothing less than the initial goal: full flows to Fossil Creek. No compromise is acceptable.

NAVAJO DAM
BuRec Says "No" to Decommissioning

The Bureau of Reclamation (BuRec) has released its draft plan for the re-operation of Navajo Dam, the largest dam on the San Juan River. Under requirements of the Fish and Wildlife Service to take steps to reverse the decline of native Razorback Sucker and Colorado Pikeminnow habitat in the San Juan, BuRec is proposing flow recommendations to reduce the likelihood that the river will run dry, as it nearly has with increasing frequency.

In assessing the decommissioning alternative proposed by Living Rivers and others, BuRec states "It would result in the loss of reservoir storage needed to allow for contract water deliveries to the San Juan-Chama Project, the NIIP [Navajo Indian Irrigation Project] and other contractors..."

The NIIP has yet to be fully completed, and has been a money loser from the start. The Navajo Nation could generate far more revenue were it to sell water to users downstream, than to continue with the NIIP. The San Juan-Chama water is primarily used to supplement Rio Grande instream flows for endangered Silvery Minnow. Rio Grande water users should get their own water budgets in line, not divert water from the San Juan, which has its own instream flow needs to protect endangered fish.

BuRec is recommending that flow levels out of Navajo Dam be as low as 250 cubic feet per second. With increasing diversions occurring over the 171-mile river corridor downstream of the dam, Living Rivers believes this will not be enough water to prevent stream dewatering.

Comments on the Draft EIS will be accepted until November 4, 2002. For additional information contact Living Rivers.

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