

# US Senate Committee Investigates World Bank Corruption

By Ryan Shen-Hoover

The US Senate Foreign Relations Committee has launched hearings to investigate the World Bank and other multilateral development banks' (MDBs) response to corruption in projects they fund. This committee is responsible for authorizing funds to the World Bank and other MDBs.

The committee has sent letters to the MDBs regarding specific corruption concerns on the Yacyretá Dam on the Paraguay-Argentina border and the Lesotho Highlands Water Project. In letters to World Bank President James Wolfensohn, committee chairperson Senator Richard Lugar (a Republican from Indiana) asked why companies convicted of corruption in Lesotho are not on the Bank's list of reprimanded or debarred firms. Lugar writes, "The Yacyretá Dam project was budgeted to cost \$2 billion when it began in 1973 and now has a debt of \$10 billion – and it is still not completed ... It is important that the international community learns how Yacyretá's financial position deteriorated to this level."

The first hearing took place May 13. In

opening remarks, Senator Lugar stated, "In the last fiscal year, the multilateral development banks financed projects totaling more than \$35 billion. These projects helped poor countries pursue critical improvements in public administration, transportation, health, education, and many other areas. But even the most innovative policies will not be effective if they are distorted by corruption. It is critical that every development bank dollar reaches its intended recipient. Unfortunately, that is not happening." He stated that the Committee's work would "hopefully result in a stronger anti-corruption infrastructure within the development banks."

Expert testimony gave a range of estimates of the extent of corruption on World Bank projects. According to Jeffrey Winters of Northwestern University, the World Bank "has participated mostly passively in the corruption of roughly \$100 billion of its loan funds intended for development." States Senator Lugar, "Other experts estimate that between 5% and 25% of the \$525 billion that the World Bank has lent since 1946 has been misused. This is equivalent to between

\$26 billion and \$130 billion. Even if corruption is at the low end of estimates, millions of people living in poverty may have lost opportunities to improve their health, education, and economic condition."

Winters, who testified before the committee, pointed out the inequities that now mar the system: "No matter how much money is stolen, the MDBs currently bear no financial burden for the losses." He noted that current immunities for the MDBs "block aggrieved populations from pursuing legal relief from having to repay funds they never received... There is something very wrong about demanding repayment for funds the people never received." He urged immediate debt relief to counter this "criminal debt."

Winters also urged the establishment of an independent international auditing body that would be "empowered to spot-audit all MDB operations, loans, and projects" where career advancement would be "linked to success in detecting fraud and theft of development funds."

More hearings are expected to be scheduled in future. ■



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## China Premier Suspends Plans to Dam Nu River

by Doris Shen-Hoover

In early April, Hong Kong and Chinese papers reported Premier Wen Jiabao's order to suspend plans to build numerous dams on the Nu River – one of only two remaining free-flowing rivers in China. (See *WRR*, February 2004, for more information on this project.) The Hong Kong newspaper *Ta Kung Pao* reported on April 1 that Premier Wen had ordered a “suspension” of the plan, saying that such a controversial large dam plan should be “seriously reviewed and decided scientifically.”

Project proponents say the 13 dams proposed for the Nu would generate over 21,000 MW of power and claim the scheme would bring much-needed economic growth to local people. Critics contend that the impacts to the local ecology and indigenous peoples far outweigh the benefits. They also note the huge potential to save energy in China. In April, China's National Development and Reform Commission (NDRC), the country's economic watchdog, reported that China could reduce its energy use by 100,000 MW by 2020 through demand side management (DSM) policies and efficiency measures. This is more than five times the installed capacity of Three Gorges Dam.

The Nu River hydro scheme has been the subject of unprecedented criticism from Chinese citizens, scientists, journalists and civil society groups, as well as downstream communities and international organizations. Since the proposal to build the dams first surfaced in 2003, Chinese journalists and researchers have worked to inform the public about the area's unique ecological and cultural wealth through field visits, photo exhibitions, radio broadcasts, and news reports.

The proposed dam sites on the Nu River are very close to a UNESCO World Heritage Site known as the Three Parallel Rivers Area. In March, UNESCO expressed concerns over the dams' impacts to the World Heritage Area and requested that an environmental impact assessment of the dams be submitted for review. UNESCO studies show that the



An exhibit on the proposed Nu River dams, by the Chinese environmental group Green Earth Volunteers, drew crowds at a Beijing shopping mall earlier in the year.

Three Parallel Rivers Area contains virgin forests, 7,000 species of plants and 80 rare or endangered animal species.

Also known as the Salween in Thailand and Burma, the Nu River watershed is home to millions of people who depend on it for their livelihoods. People from 22 different ethnic minorities depend on fisheries from the Salween River as a major source of dietary protein. Nutrients carried down by the river also sustain vegetable gardens in the dry season and fertilize large areas of farmland. Dam projects such as those proposed risk drastic impacts to all of these resources.

### Historic Shift

Observers in China believe that the decision by top-level leadership to reject the Nu River projects on environmental and social grounds marks an important change. They

believe that it reflects the central government's growing commitment to openness, environmental protection, and reduction of social inequalities. Environmentalists hope that this approach will be applied to decisions concerning large dam construction in other areas of China.

The news comes at a time when local officials in China's southwestern region have been rampantly brokering dam construction deals in biologically and culturally sensitive areas without central government oversight. Other controversial sites for large dams include the Tiger Leaping Gorge (Hutiaoxia) on the Jinsha River; Tibetan Mugecuo Lake, revered for centuries as a holy and spiritual site, and the Lancang/Upper Mekong, where large dams have already caused severe water fluctuations downstream in Thailand and Laos. Recent reports indicate China plans to

*continued on page 15*

The Bush administration decreed last month that hatchery-raised salmon, which are pumped into Western rivers by the hundreds of millions yearly, could be counted in determining whether a Pacific Coast fish run is endangered (see page 8).

It's ironic that the Bush administration, which bases so much of its policy on a conservative reading of the Christian faith, would choose to "play God" in such a blatant fashion. What else can you call a decision that allows "manmade fish" to be used to raise the counts of natural-born endangered species, a decision that will surely cause more species to go extinct?

Fisheries in rivers across the west have crashed, and numerous "runs" of salmon are either extinct or on the brink of extinction. In the Pacific Northwest, more than 100 salmon stocks have gone extinct. Fish are gone entirely from almost 40% of their historic rivers. Most of the others are at risk. Salmon numbers are severely depressed from San Francisco to the Canadian border.

Dams have been the major culprit in this environmental tragedy, and scientists agree that the best hope for restoring fish is to remove certain dams. Four dams on the Snake River have been recommended for removal, but since President Bush got into office, hopes for dam-removal and river restoration were extinguished. With this latest decision, hopes for saving what few fish runs are left may also go down the drain.

Fish raised in government-run hatcheries make up about 80% of the Pacific salmon population, but biologists have long warned that hatchery fish are a factor in the continuing decline of the native wild species. Experts say the hatchery fish lack genetic diversity and in fact dilute genetic diversity in wild runs. The hatchery fish also compete with wild fish for food and habitat. "[Fisheries experts] say that counting hatchery fish along with wild fish is the equivalent of determining the health of, say, the African rhinoceros by adding zoo animals to the equation," reports the *San Francisco Chronicle*.

In some ways, the remaining wild salmon in the West's most heavily dammed rivers are already living something like a zoo animal's life. The federal government's approach to protecting Pacific salmon – a \$700 million-a-year effort that it has described as the most expensive and complicated of all attempts to enforce the Endangered Species Act – includes vacuuming up salmon and trucking them around dams, making salmon climb numerous fish ladders on a single river, and other cloddish, technocratic approaches. The feds keep the salmon stringing along, when a solution that would actually give fish a fighting chance at recovery – removing some dams in key watersheds – languishes for lack of political will. In the "you're with us or against us" climate of the Bush administration, federal scientists who might have advocated for dam removal would certainly think twice about doing so, given the trend to dismiss or demote scientists who do not agree with its policies.

The debate on whether to include hatchery fish in endangered-species counts followed the Bush team's pattern of quashing scientific opinions that did not support its foregone conclusions. The *Washington Post* reported in late April that "six of the world's leading experts on salmon ecology complained last month in the journal *Science* that fish produced in hatcheries cannot be counted on to save wild salmon. The scientists had been asked by the federal government to comment on its salmon-recovery program but said they were later told that some of their conclusions about hatchery fish were inappropriate for official government reports."

Robert Paine, one of the authors of the *Science* article and an ecologist at the University of Washington, said, "The current political and legal wrangling is a sideshow to the real issues. We know biologically that hatchery supplements are no substitute for wild fish."

What salmon need now are letters, not ladders. Save Our Wild Salmon, a coalition of groups working across the nation to protect wild fish and restore the rivers they depend upon, is working to gather more than 100,000 comments to submit to the Bush Administration on its salmon-unfriendly plans (details on page 8 of this issue). Please join this worthy effort.

Lori Pottinger

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# Dam-Affected March to Brazil's Capital

by Glenn Switkes

**T**he Movement of Dam-Affected People (MAB) organized a May march to the nation's capital, Brasília, to attempt to influence the Brazilian government to enact policies in favor of populations affected by dams. Over 600 activists marched for 13 days, from the dam-affected region of Goia, covering 200 kilometers. They were joined by busloads of other dam-affected representatives from all regions of the country. The march resulted in meetings with high government officials – including the acting president of Brazil, a first in MAB's history – who promised immediate help, and a commitment that social issues surrounding dam construction would be taken into account in future project planning.

Although MAB came away with a host of promises for inclusion of dam-affected families in government social programs, the government did not address their principal demand – a transition to energy sources

## Itaipu: 30 Years of Red Ink

Itaipu, the world's largest hydroelectric dam, celebrated 30 years of operation in May, but is still saddled by a nearly \$20 billion debt. Officials of the binational project (Brazil/Paraguay), which has cost \$25 billion to construct, including interest payments, say that the company should pay off all loans by 2023. Some 75% of all energy sales currently go toward debt payments. Itaipu currently provides about 25% of Brazil's electricity, and there are plans to install two new turbines, bringing the total installed capacity of the dam to 14,000 MW.

Itaipu was financed by the Inter-American Development Bank, and Canadian, Swiss, and US export credit agencies. It displaced 42,000 people. Thousands more were affected by the dam, including Paraguayan indigenous people, who were summarily expelled from their villages without compensation by the Paraguayan and Brazilian military regimes. The project's most notorious environmental impact was the inundation of the Seven Falls (*Sete Quedas*), a natural wonder of the world.

which cause less social impacts.

Gilberto Cervinski, of MAB's national office, criticized the way impacts of dams are evaluated by government agencies, "The government treats the problem as an environmental problem, to be handled by (Brazil's) environmental protection service. We're treated as if we were animals, but this is not an environmental question, it's a social problem."

The Brazilian government plans to auction the right to construct 17 large hydroelectric dams (including new dams in the Amazon region) to private investors and state electric companies in October. The winning bid will be based on who offers to sell electricity to the national grid at the lowest price.

Brazilian energy planners say that new dams will be offered only after social and environmental impacts are fully assessed, and construction licenses are obtained for each project. However, the government has been pressured by the dam building industry and energy-intensive industries to expand electrical generation, and the October auction will include projects which have yet to complete the environmental licensing process. Brazil's environmental protection agency, Ibama, responsible for dam licensing, says it is not able to accurately assess the social impacts of large dams.

MAB calculates that 300,000 families have been displaced in Brazil, and that 100,000 additional families will be dislocated for dams currently being planned.

MAB has received continual attention by the government of Luis Inácio "Lula" da Silva, but, according to Cervinski, "We're meeting nearly every week with the ministries, but there are no concrete results." MAB's demands include far-reaching proposals, such as changing Brazil's energy mix to include more renewables (which the government, whose policy is to rapidly



The MAB march arrives in Brasília.

Photo: Roosevelt Pinheiro/Abra

expand hydroelectric power generation, is unlikely to enact), and more practical measures of support for dam-affected communities (which have gotten some attention by government officials). On this latter front, government steps include loans to small farmers, resettlement of more families, and educational programs for dam-affected communities.

MAB also asked for 50,000 food baskets as emergency food aid for families who were not compensated for losses caused by dam construction. The government authorized distribution of only 9,000 baskets. "How do we divide these?" asked Cervinski.

MAB also participated in Congressional hearings, which resulted in 50 federal deputies declaring themselves members of a "Parliamentary Front in Defense of Dam-Affected People." Deputy Luci Choinacki said "We need to find a way to generate energy with less social and environmental impact. Water must be a public resource and not private property. The type of development being proposed is not in the best interests of the majority of the population, nor for the better part of humanity."

Concrete results from the march include announcements that more than 8,000 dam-affected families will be resettled under the government's agrarian reform program, that dam-affected farmers will have increased access to the government's small loans program, including approval of US\$120,000 in training funds, approval of an additional \$320,000 in grants to MAB from anti-hunger and job training programs, and funds for education programs. ■

# The World Bank at 60: Lessons Unlearned

by Peter Bosshard

“From India to Bolivia, Kenya to Nepal can be found the ruins of now-defunct water and sanitation programmes that have never yielded more than a fraction of the benefits expected,” the UN’s Water Supply and Sanitation Collaborative Council said in mid-March. “Simply pouring billions more dollars into a cracked vessel will not lead to the achievement of the Millennium Development Goals but to more years of failure and frustration.”

For decades, large dam projects have symbolized the conflicts over the appropriate development paradigms of governments and financial institutions. During the past 60 years, the World Bank has funded about 550 dams which have displaced at least 10 million people. The independent World Commission on Dams found that these projects led to “the impoverishment and suffering of millions.” They have also triggered massive resistance around the world.

Today, the World Bank not only wants to increase the volume of lending for large dams and other infrastructure projects; it also wants to weaken the social and environmental policies with which Bank projects are supposed to comply.

## A Period of Reforms

Ten years ago these conflicts came to a head over the Sardar Sarovar project in India’s Narmada valley. “The Bank is more concerned to accommodate the pressures emanating from its borrowers than to guarantee implementation of its policies,” an independent investigation about this dam found. In 1993, the Bank had to withdraw from the Narmada valley under public pressure.

The embarrassing loss of face in the Narmada valley led to greater caution concerning large dams and other megaprojects. The World Bank also created an investigative body, the Inspection Panel, which looks into the complaints of people affected by Bank projects. Over the past 10 years, the number of large new dam projects has decreased significantly across the world.

The World Bank’s learning process was not only caused by social and environmental concerns. The Bank has realized that better management of existing infrastructure often makes more sense than new construction projects. About 40% of the water and power supply are lost in many countries because of technical problems and corruption. “There is no point investing in generation if the

power does not reach the consumer,” a senior World Bank manager in India commented in December 2000. “The most important element of power sector reforms is to combat the widespread theft, graft and corruption,” another senior Bank representative added in 2001.

Several reports about the lessons of past experience recommended that the World Bank shift away from large “brick and mortar” projects and instead focus on improving infrastructure efficiency. For years the World Bank has tried to encourage efficiency through privatizing power and water utilities. In contrast, decentralized irrigation and energy projects that are based on community initiatives are hardly ever supported, in spite of their great potential.

## The Pendulum Swings Back

Conservative governments such as those in China and India were never happy about the World Bank’s cautious approach towards large infrastructure. With support from the United States, these governments recently managed to initiate a new change in course. In early 2003, the World Bank officially endorsed a high-risk strategy, which includes renewed financing for large dams. In July 2003 this strategy was embodied in a new Infrastructure Action Plan. As part of this plan the Bank intends to double support for infrastructure projects in India, a hotspot of global dam building, in the next two years. Large dams will be included.

In public, the World Bank claims to have learned lessons from its experience with earlier high-risk projects. On paper, the Bank embraced some of the recommendations of the independent World Commission on Dams. And it recently published a useful sourcebook about how to assess alternative project options in the power and water sectors in a participatory, balanced way.

As the Infrastructure Action Plan is put into practice, far away from the public relations headquarters in Washington, things look quite different. “This is all Washington speak,” the Bank’s senior water advisor comments as he is asked about implementing the new sourcebook about the participatory assessment of alternative options. “In India,” he says, “things are done differently.” The Bank simply relies on the government for the assessment of project options. It does not seem to care that the Indian government prepares water and power sector projects

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## World Bank to Poor: Let Them Drink Coke

The World Bank Water Lecture Series seemed to be channeling Marie Antoinette this year. Two centuries ago, Madame Marie famously said of France’s starving peasantry, “Let them eat cake,” eventually prompting the French Revolution and her own death by guillotine. More recently, the Bank’s privatizers have equated the ability to buy the occasional soft drink or beer with proof that they can (and should) pay for water. A Bank report on the lecture series states that Jamal Saghir, the director of its Energy and Water Department, “noted the need to understand consumer perceptions and expectations and said that many customers are willing to pay for beverages such as beer or cola at full cost recovery, but are unwilling to pay for partial cost recovery of water resources.” We’re betting that Mr. Saghir has never had to choose whether to use his last bit of change to purchase a cola or clean water.

The Bank has for years been pushing the privatization of state-run enterprises (including water supply) on borrower governments, and has been a major force behind the move to charge users the full cost of supplying services such as water (so-called “full-cost recovery”) in order to improve the economic viability of water utilities to make them more attractive to the private sector. For example, in 2001 the Bank insisted that Ghana’s government increase water tariffs by 95% as a condition for a structural adjustment loan, in preparation for the privatization of the water sector. Civil society efforts managed to shelve the privatization of water supply. Activists there are working toward improving the public sector’s handling of water supply, rather than “throwing the baby out with the bathwater.” The debate has garnered international attention. Rudolf Amenga-Etego, of the NGO the Ghana National Coalition Against Privatisation of Water, was one of this year’s recipients of the prestigious Goldman Environmental Prize.

Lori Pottinger

# Reflections on the World Bank Campaign

by Aviva Imhof

This year marks the 60th anniversary of the World Bank and the IMF, and more than 15 years of campaigns on World Bank policies and projects by affected communities and NGOs. While in Washington for the Bank's spring meetings (and attendant protests), WRR talked to two experienced World Bank campaigners about their experiences and lessons learned in working for reform of these institutions. Jaro Colajacomo works with Italy's Reform the World Bank Campaign and has been working on World Bank/IMF issues since 1998. Elias Diaz Pena works with *Sobrevivencia* (Friends of the Earth Paraguay), and first encountered the World Bank while fighting Yacyretá dam in the early 1990s.

**WRR: What do you see as some of the main successes of the movement challenging the World Bank over the past decade?**

**EP:** I think one of the main successes has been the creation of the Inspection Panel. Even though it is very far from what we wanted, it is still a very useful tool. It has helped in the Yacyretá case because it encouraged local affected people to believe that they had a right to be heard and that the authority building the dam was not all-powerful. It also helped to better organize affected communities.

**JC:** Another major success is the attention that is given today to human rights and governance issues at the country level and the recognition that people have rights before a World Bank project is approved. Although the rights-based approach has not yet become part of World Bank policy, it is at least not marginalized inside the Bank, and most Bank officials recognize the importance of fundamental human rights. Most of the other successes have resulted from international attention to World Bank projects. International public opinion, NGO work and parliamentary attention has brought some results in the field. Affected people have been encouraged by the political space opened to them by the international attention to these institutions and the projects they are funding. Another success is the adoption by other financial institutions, in particular private banks and export credit agencies, of some of the World Bank's safeguard policies and basic corporate responsi-



Activists protest large dams at the World Bank's spring meeting in Washington, DC.

bility standards. The World Bank's standards have created an international norm that other institutions feel pressure to comply with.

**WRR: Have the safeguard policies had a measurable impact on people's lives?**

**JC:** In the cases I have followed, yes, from the point of view of compensation and mitigation measures that go to communities. Because safeguards take time to be implemented, the project is usually delayed, which allows time for improvement. However, if we were to measure the number of people who have received some compensation and mitigation versus how many people suffered from the indirect impacts of a project, many more people probably lose out than gain from World Bank projects. In this case, it would be better not to have the project.

**WRR: What do you see as the most critical problem with the way that the Bank does business?**

**EP:** The Bank is still very far from being a democratic organization and still very far from really fulfilling the purpose it should serve, which is contributing to improving the lives of the poor. Our aim is very far-looking because we want to stop the Bank from being held hostage to powerful corporations, just as our governments are hostages of these corporations. We need to liberate the Bank from this power that is controlling it. This will be very difficult because we have to work within democratic means and democratic rules. It is

long-term work. We want the Bank to shift their finances from large-scale projects which only respond to very narrow economic interests and cause large social, economic and environmental impacts on local communities. We want the bank to change from this ineffective model to instead financing ecosystem restoration, sustainable production systems and projects that are identified as local priorities. It is going to be difficult, but we have had some small gains in the past decade and we hope to have bigger gains in the next decade in this direction.

**WRR: What can be done to reinvigorate our movement at a time when we're facing a backlash from the Bank on a variety of issues?**

**JC:** The movement will reinvigorate itself. If the new destructive projects now being proposed by the Bank are carried out in the south, the affected people will be the first to protest and look for international support. What northern activists need to do is to be more strategic in directing our questions to the financial institutions and be braver in asking for either the Banks to close down, or if this is not possible, then redirecting loans and shutting down those arms of the Bank that are acting more in the interests of corporations than of the poor, such as MIGA (the Multilateral Investment Guarantee Agency, which provides political risk insurance to corporations). We have to be strategic when supporting our southern partners. ■

# Drought: The Ultimate Wrench in The Colorado River System

by Elizabeth Brink

**T**he warm, muddy, often unpredictable river that shaped the Grand Canyon's ecosystem over millions of years now runs cold and fast through the ancient canyon. This vision may match some people's romantic notion of a river, but it is utterly unnatural in this parched section of the Colorado Plateau.

More than five years of drought is doing what environmentalists have only dreamt about – draining Lake Powell, the reservoir just upriver from the Grand Canyon that submerged hundreds of miles of scenic canyons and countless archaeological sites.

The damage from the Glen Canyon Dam's 186-mile-long reservoir, which began filling in the mid-1960s and was full by 1980, has long been recognized. In 1992

Congress passed the Grand Canyon Protection Act, directing the Interior Department to devise ways of making the dam's water releases less harmful to the canyon's downstream ecosystems, and more like the river's natural flows.

But it is increasingly apparent that the modified flows, adopted eight years ago, haven't worked. The failure has left some experts pessimistic that such incremental fixes can work, and there is a growing belief *continued opposite*



Photo: Kevin Moloney

*The drought stricken Colorado River. More than five years of drought has dramatically lowered reservoirs on the river, and harmed downstream ecosystems.*

## The Endangered Colorado

Radioactive runoff, toxic rocket-fuel chemicals and human waste threaten the health of the Colorado River as much as the growing number of people who use it, according to a conservation group that put the Colorado at the top of its annual list of rivers at risk. The 1,400-mile Colorado is the nation's most endangered river for 2004, a title bestowed by American Rivers to focus attention on waterways facing uncertain futures.

Although the Colorado has been caught for years in squabbles over how much water-thirsty Western states can take from it, American Rivers cites water quality rather than quantity.

"The Colorado River is not yet the most polluted river in the country, but it could become so if the current problems are allowed to fester," said Rebecca Wodder, the group's president. Cited are three pollution sources that spew millions of gallons of contaminated water into the river each year:

- An abandoned Atlas Corp. uranium-tailings site on the river's bank just outside Moab, Utah. An estimated 110,000 gallons of radioactive groundwater seeps into the Colorado daily.
- A defunct war-munitions complex near Las Vegas. Ammonium perchlorate, a rocket-fuel additive, continues to contaminate Lake Mead.
- Septic-tank systems in river communities. Seepage from the systems has increased nitrate levels in the river just miles from where water is diverted into the Central Arizona Project Canal and a canal to Southern California.

The ongoing drought has worsened the river's pollution problems.

"We've spent per gallon more money putting the Colorado River to use for people than any other sizable river on Earth," said Bill Hedden, executive director of the Flagstaff-based Grand

Canyon Trust. He said the endangered river status for the Colorado highlights "problems that people have created; there are decisions on the table that could provide answers to these things."

Among pending decisions that could have major impacts on the river's water quality:

- The Department of Energy is about to release its statement on cleanup at the Moab site. Environmental groups want the tailings moved, but a plan to leave them in place would cost millions of dollars less. "It's true the cost of capping it in place would be less," said Sarah Fields, who works for the group Living Rivers. "But over the long term, it would probably cost a great deal more."
- Congress is considering requests from the Defense Department to exclude some current and former military sites from certain environmental rules. That could affect efforts to fully remove perchlorate-tainted soil from the Nevada complex.
- The Bush administration has proposed cuts in a federal loan program that helps communities upgrade water and wastewater systems to reduce polluted runoff. Lake Havasu City voters approved a \$500 million bond issue to help retire thousands of leaky septic systems in that community, but the problem is larger, and the federal funds are a critical part of the solution.

"Our voters have stepped up to the plate to correct our local problem, but that doesn't have much of an impact on all the other areas that are developing up and down the river," said Charlie Cassens, a spokesman for Lake Havasu City. "We can't do it alone."

The Colorado also was the most endangered river on American Rivers' list in 1991, then due to the environmental effects of Glen Canyon Dam.



Photo: Dave George

*The Colorado River in the Grand Canyon.*

that the widespread ecosystem damage cannot be mitigated unless the dam is decommissioned.

"The Grand Canyon river corridor is getting nuked," said David Haskell, a retired National Park Service career officer who directed the Grand Canyon's science center from 1994 to 1999. "It's in the final stages of having the natural ecosystem completely destroyed and replaced with a man-made one because of the presence of the dam."

Today, the Colorado is suffering the added insult of protracted drought. Five years ago, the vast reservoirs at both ends of the Grand Canyon were essentially full, brimming with water that supported a region rich in swimming pools, lawns, farm irrigation and ornamental fountains. Today, these reservoirs are both half empty as drought in the region enters its fifth consecutive year, making this the driest five-year period on record.

### Historic Miscalculation

Part of the problem dates even further back, to a miscalculation in 1922, when hydrologists overestimated the average flow of the Colorado River and locked the number into a multistate agreement called the Colorado River Compact. The compact, along with a subsequent treaty with Mexico, requires Lake Powell to release 8.23 million acre-feet of water each year below the Glen Canyon Dam no matter how much comes in.

Continuing research into drought cycles over the past 800 years strongly suggests that

the relatively wet weather across much of the West during the 20th century was a fluke. Scientists who study tree rings, ocean temperatures and other meteorological data say the development of the modern urbanized West – which now supports millions of people and some of the nation's largest cities – may have been based on a colossal miscalculation.

"If we're only in the middle of this drought, then Lake Powell might be very close to some very dramatic problems," said Dr. John C. Dohrenwend, a retired geologist for the US Geological Survey (USGS) who lives near the reservoir.

If water levels continue to fall, Glen Canyon Dam could be unable to generate electricity as early as 2007, some hydrologists say. And it would be reduced to something resembling the old riverbed channel of the Colorado River not long after that.

"What is unusual is not the drought periods, but the above-average wet periods," said Dr. Robert Webb, a hydrologist with the USGS who specializes in the Colorado River.

Insufficient water for the turbines would be only the beginning. At that point, much of the lake bottom would be exposed, creating a vast environment for noxious weeds like tamarisk and thistle. The next step in the spiral would come at what is called "dead pool," where decades' worth of agricultural chemicals at the lake bottom would begin mixing more actively with the reactivated river. The question then, environmentalists say, is what would happen to the Grand Canyon, just south of the dam.

The riverbanks actually appear more verdant now than they used to be because there are no longer major flood flows to wash out vegetation. But most of the growth is invasive tamarisk, which is shunned by the canyon's desert bighorn sheep and displaces native willow and cottonwood that offer more diverse bird habitat. It is also unnaturally thirsty for a desert plant: along the Colorado River, tamarisk is estimated to absorb and transpire one half million acre-feet or 61 billion gallons of water each year.

Choked off by dozens of dams, the Colorado River system is like a body without nourishment. Fine sands and silts are loaded with nutrients for aquatic life that become food for insects that, in turn, become food for fish and birds. The sediment builds spawning beds for fish and sand bars where plants can grow and river rafters can sleep.

"At all sorts of levels the sand is the foundation of the system," said Ted Melis, a USGS scientist with the Grand Canyon Monitoring and Research Center who has studied the river for years.

Now the Grand Canyon's only sand comes from two tributaries below the dam, the Paria and Little Colorado rivers, which contribute less than 10% of the river's historic volume of sediment.

With less sediment flowing through the river downstream of the dam, long-buried Indian sites have become exposed, as have a native fish called the chub, which depended on the murky cover of muddy water to hide from predators. There are also worries at the downstream Hoover Dam, whose Lake Mead serves Nevada, Arizona and California. This huge reservoir could drop low enough as early as next year to force officials to declare a drought emergency.

The top water official in the Bush administration, Bennett W. Raley, said recently that the federal government might step in if the states could not decide among themselves how to cope with dwindling supplies. Raley said he wanted the states to consider a water bank, in which unused water could be leased or sold across state lines. Some previous efforts to create banks, with federal oversight, have been contentious because they were seen by smaller states as a means to funnel more of the river to water-guzzling California.

But the notion of cutting private water deals on the Colorado is gaining broader acceptance, in large part because of the drought. The most celebrated example was a deal last year to sell irrigation water in the Imperial Valley of Southern California to the urban water district of San Diego.

Some advocates for agriculture fear that water-to-the-highest-bidder could ravage ranches and farms if owners were induced to sell their irrigation rights. But private-market supporters say the reality is that farmers own most of the West's water at a time when most residents live in urban areas, and ultimately they will need to concede more water for urban uses.

There is some concern that if the Colorado River goes into crisis, the ensuing tangle of litigation over water rights, endangered species and border disputes could undo the system of Western water law that has evolved over the last 100 years.

Some say that would be a good thing.

"The law of the river is hopelessly, irretrievably obsolete, designed on a hydrological fallacy, around an agrarian West that no longer exists," said Professor Dan McCool, director of the American West Center at the University of Utah. "After six years of drought, somebody will have to say the emperor has no clothes." ■

# The Snake: A River Most Endangered

by Erin Barnes

**C**irca 10,000 B.C., glacial Lake Missoula in present-day Montana rose and toppled the ice dam that held it back. Great floods carved out channels in the water's rush to the sea. In this grand geologic marvel, the Snake River connected to the Columbia, forming a waterway from Idaho to the Pacific Ocean.

The Pacific Northwest was once defined as anywhere salmon swim. The Snake, America's seventh largest river, is home to hundreds of distinct populations of anadromous salmon and steelhead. When Lewis and Clark's expedition traveled to the Northwest, they recorded in their journals that the salmon were so thick one could walk across their backs to the other side of the river. Such stories continued as recently as the 1890s. Historically, 16 million adult salmon re-entered the mouth of the Columbia as they swam back to their natal streams to spawn, inhabiting nearly every creek from California to Alaska. About half of these salmon reached eastward across southeastern Washington and into Southern Idaho through the Snake, traveling up to 977 miles inland to spawn.

These salmon climbed 6,500 feet, higher than any other North American salmon, on their journey home to Redfish Lake in Sawtooth, Idaho. Just before spawning, the sockeye turns bright red, giving the lake its name.

In 2003, only two sockeye returned to Redfish Lake. The Snake River Coho became extinct in 1988. Today, 26 different stocks of wild salmon and steelhead are endangered or threatened with extinction. Scientists predict that many species of salmon could be

lost forever unless serious steps to save them are undertaken.

What brought such abundance to its knees was the Northwest's dam building years, stretching from the 1930s to the 1970s. More than 200 dams have been built in the Columbia River Basin. Salmon populations were able to survive with a few dams in place, but situations significantly worsened after 1975, when the fourth and final dam was completed on the Lower Snake River. These large dams kill salmon runs cumulatively, with approximately 15% of a salmon run lost at each dam per season. Before the Lower Snake dams were built, Snake River salmon only had to pass four dams. Now, forced to pass eight dams on their way to the ocean and the same eight on their way back to their streams to spawn, populations hover on the brink of extinction.

As with all technological change, there have been winners and losers. In the Northwest hydrosystem, the losers have been many. Perhaps today, the Pacific Northwest is better defined as anywhere fishing communities are devastated by the loss of salmon.

## The Salmon People

Since time immemorial, ancestors of Native Americans lived along the river nourished



A tribal fisherman holds up his catch in the Columbia River.

by the prolific food supply. For example, the Nez Perce people shared homelands with the salmon along the Snake in north-central Idaho, northeastern Oregon, and southeastern Washington. For millennia, salmon have been of central importance to the diet, economy, culture and religion of such river communities. In 1855, native peoples of the region were secured sacred promises by the United States "to take fish at all usual and accustomed places." These are not simply words, but a moral and legal obligation to ensure that there are salmon in Northwest streams. So far, the US government has failed to meet those treaty obligations.

To the commercial fishing industry, the economic value of historic runs – assuming a 50% harvest and 1998 dollars – was conservatively estimated at \$500 million per year. In the 1990s, the actual economic value of Columbia-based salmon fisheries dropped as low as \$2 million.

Snake River fall chinook range widely, far south into California waters and north to Alaska. However, the commercial fishing industry is governed by fundamental principles that protect the weakest fish populations. Wherever endangered populations of salmon swim, harvest of other species is limited. Snake River fall chinook, like the Snake River sockeye, are now threatened with extinction, so fishermen throughout those spawning areas are not able to take advantage of recent healthy runs.

Commercial fishermen, some of whose families have been fishing these waters for three or four generations, used to freely fish the west coast from mid-April until the end

## You can help: Send a message to the Bush Administration

SOS is working to gather more than 100,000 comments to submit to the Bush Administration. Here are the main points to make:

1. Salmon are important to the culture and economy of the Northwest, and integral to healthy ecosystems.
2. Please restore wild salmon to abundant, self-sustaining, harvestable populations.
3. Please include the removal of the four lower Snake River dams as a mandatory recovery action in your new Federal Salmon Plan.
4. Please include my letter in the comment period for the revision of the Federal Salmon Plan.

It is extremely important that you add your name, and the names of other salmon advocates to the public record in support of effective salmon recovery in the Columbia-Snake Rivers.

Please send your letter to:  
President Bush, c/o Save Our Wild Salmon, 2031 SE Belmont Street, Portland, OR 97214

You can also visit [www.wildsalmon.org](http://www.wildsalmon.org) to submit your comments via email. For more information or to get involved, please contact: Brady Bennon, 503-230-0421, ext 17, [brady@wildsalmon.org](mailto:brady@wildsalmon.org).

of September. Those kinds of seasons are no more and the fishing families have suffered.

Half of the economic benefit from harvesting Columbia River fall Chinook accrues to the economy of British Columbia and roughly another 30% to Southeast Alaska. Declines from the Columbia affect those economies proportionally. Continued declines also cause curtailment of harvest in all those areas, but most adversely affected are Southeast Alaska and coastal communities as far south as San Francisco.

Sport fishermen and recreational water users, too, have lost their Pacific Northwest. Salmon don't bite when rivers have been turned into hot, slack waters of a reservoir.

Economic studies by Don Reading of Boise, Idaho estimated the value of salmon fishing during the 2001 season at \$90 million to Idaho alone. In Riggins, Idaho, for example, anglers spent \$10 million representing 23% of the total sale of all goods in town.

Canada, too, has gotten a raw deal in the salmon mismanagement as the US government fails to uphold its end of the Pacific Salmon Treaty. The treaty commits the US to conservation efforts as well as assuring "free passage" of fish from the Columbia River.

In addition, salmon are a keystone species. Over 300 species and ecosystems depend on salmon to sustain life. Without salmon, there is no food for eagles, bears, wolves and larger fish. Forests depend on decomposing salmon carcasses for important nutrients.

## Playing Politics with Salmon

The Bush administration's policies have been very hard on salmon. If not for transitory favorable ocean conditions, Pacific salmon along the entire west coast could have moved faster toward extinction as federal support has been stymied or stripped of key provisions.

This March, when a team of scientists – solicited by the federal government to write a recommendation on the federal government's hatchery policy – realized it would be ignored, they published their opinion in *Science* magazine. That article denounces the idea of counting wild and hatchery salmon together when considering Endangered Species Act protections.

Despite behests by the science community and interested parties, the Bush Administration pushed the policy forward and allowed political expediency to again trump sound science. On May 28, NOAA



Sockeye salmon. In 2003, just three sockeye returned to Idaho's Redfish Lake to spawn.

Fisheries, under the direction of the Bush administration, announced its proposed hatchery policy and the proposed listing determination of 27 stocks of Pacific Coast salmon and steelhead. This hatchery policy, if finalized, would count some hatchery salmon, those bred in plastic buckets and concrete pools, and wild salmon the same when considering a species for protections under the endangered species list. The policy results in the immediate "downlisting" of only two species. More importantly, this policy leaves the door wide open for lawsuits to request the delisting of any of the 27 stocks.

NOAA's policy doesn't just harm salmon; it hurts fishing communities by changing the direction and purpose of hatchery fish. Hatcheries were created to be an economic mitigation tool to compensate for the losses to tribal, commercial, and sportfishing groups due to salmon decline. This policy confuses the purpose of hatcheries and wrongly renders them a long-term recovery tool. The hatchery system was never intended to be nor should it be used as a long-term recovery method for wild salmon and steelhead.

Meanwhile, the fishing community continues to wait for a decision regarding "summer spill," the process of diverting some water from power production to push juvenile salmon over the dams. Although it's

unanimously considered the most effective method of aiding young salmon's journey to the ocean on the heavily dammed river, spill is being jeopardized by the Bonneville Power Administration (BPA). BPA, which markets power from federal dams on the Columbia and Snake rivers, does not own the water that flows through its turbines and yet continues to count spill as an economic cost. No other diversion of water from hydropower is considered a cost.

Furthermore, a torrent of other policy failures have made salmon survival even more difficult. For example, federal dams have violated the Clean Water Act every summer. Increased logging and mining have threatened critical habitat and spawning beds. A decision by the Bush administration to bolster irrigation withdrawals in the Klamath Basin (California/Oregon) caused the largest adult fish kill ever recorded on the west coast, costing fishing-dependent communities at least \$20 million. Simultaneously, the benefits of dredging the Columbia River have been artificially inflated by federal agencies, and used to pad the case for major salmon habitat destruction.

Each decision that makes in-river migration more difficult for salmon increases the reliance on the very expensive and very ineffective process of trucking and

*continued on page 14*

# Making Energy Work Smarter, Not Harder



The following is an excerpt from *Beyond Dams: Options and Alternatives*, a new report by IRN and American Rivers. The report discusses alternatives to large dams (with a focus on the United States), and includes sections on energy, water supply and flood management. This extract focuses on energy efficiency measures.

In the US, about 2,400 hydropower dams generate roughly 10% of the nation's electricity. While many of those dams will continue to operate profitably, some dams no longer produce enough power to justify their benefits. By taking a look at longer-term alternatives, communities can eliminate the need for an existing or proposed dam.

It has long been recognized that programs designed to reduce energy needs represent an environmentally beneficial and, in many cases, cost-effective alternative to seeking new or eliminating existing sources of power. Such programs can motivate people to be more careful about the way they use energy, offer financial assistance in making homes and businesses more energy efficient (for example, by improving insulation or by installing high-efficiency appliances), or find ways to shift energy usage from on-peak to off-peak periods. Together, these types of measures have come to be known as demand side management or end-use efficiency.

End-use efficiency represents an opportunity to reduce the need for electrical generation and consequently the need for obsolete or new hydropower dams. Energy efficiency measures can reduce pollution and greenhouse gas emissions, save money and create jobs. Many efficiency measures and technologies are cost-effective at today's electricity prices, and the use of full-cost environmental and social accounting of electricity supply options makes them even more so. According to the Colorado-based Rocky Mountain Institute, up to 75% of the electricity used in the United States today could be saved with cost-effective energy efficiency measures.

Since 1973, the United States has acquired more than four times as much new energy from end-use efficiency as from all expansions of domestic energy supplies put together. The energy savings already achieved have cut Americans' energy bills by more than \$200 billion a year, compared to what they would collectively be spending if they used energy at the same rate as in

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**According to the American Council for an Energy Efficient Economy, a comprehensive push for energy efficiency could cut the nation's energy use by more than 10% by 2010 and by more than 20% by 2020, saving up to \$500 billion in energy costs.**

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1973. Most US hydropower dams in existence today produce very little power; 80% of federally regulated dams produce less than 50 megawatts of power, which is enough electricity to power approximately 50,000 homes. In fact, it has been said that the energy produced by Edwards Dam,

which was removed from Maine's Kennebec River in 1999, could have been met by replacing 75,000 standard light bulbs with energy-efficient bulbs.

Despite the demonstrated effectiveness and promise of implementing these measures, actual investments in energy efficiency and the savings from them continue to be small, and have declined in recent years. (*Editor's Note:* At this writing, the Bush Administration is considering cutting energy efficiency programs by 10% as part of its 2005 budget.)

In the late 1980s, new regulatory tools were designed to create incentives for utilities to invest in demand side management strategies. Complex mechanisms for cost recovery, lost-revenue recovery and shareholder incentives were implemented, and, as a consequence, many utilities began investing heavily in energy efficiency as a means to balance supply and demand. With the advent of retail competition in the energy sector, however, these mechanisms became increasingly obsolete. Indeed, the mere threat that utilities might eventually have to face competition caused their demand side management spending to plummet nearly as fast as it rose.

End-use efficiency programs may include a number of strategies, including the following:

- Offering financing for energy efficient homes and buildings in the form of energy efficient mortgages;

*continued on page 15*

## Case Study: Pacific Northwest

Energy conservation in the Northwest has saved enough energy to power two cities the size of Seattle during the last 22 years, and the potential exists to acquire more conservation savings by 2025, according to the Northwest Power Planning Council. The council put forth a plan that will save the equivalent of 5,800 MW of electricity through energy efficiency and conservation by the year 2025 (by comparison, the nation's largest hydropower dam – Grand Coulee – produces 6,800 MW). This figure includes 2,600 MW the region has already conserved since Congress passed the Northwest Power Act in 1980. The power act directs the council to prioritize low-cost conservation before it encourages the development of new generation plants.

Building codes that promote energy-efficient design, weatherizing the home, and compact florescent lights are among the developments that have helped to reduce electricity demand since the council's first 20-year power plan went into effect in 1983. In laying out a power plan for the next 20 years, council analysts say the region should be able to conserve 3,200 MW. The region has defied long-term projections with its end-use efficiency programs. In the 1970s, power planners projected a Northwest energy shortfall, prompting many of the region's utilities to embark on an ill-fated nuclear power program. Deep shortages never panned out, however, due largely to conservation.

For more information on this Pacific Northwest energy efficiency case, see the Northwest Power Planning Council at [www.nwccouncil.org](http://www.nwccouncil.org).

# Renewables Could Invigorate Africa's Energy Jobs

by Ryan Shen-Hoover

Something remarkable is happening at the Bethel Business and Community Development Centre (BBCDC) just outside Mount Moorosi, Lesotho. On this formerly barren campus which has been contoured to catch capricious rains, 50 students are preparing themselves to become renewable energy entrepreneurs and technicians among thriving new trees and solar-powered buildings. During BBCDC's two-year residential course, students build solar-powered pumps, install photovoltaic panels, refurbish solar water heaters, assemble solar ovens, and even help run a micro-finance facility that provides loans for photovoltaic purchases. The level of interest in renewable energy in this remote corner of the world is testament to one of its most overlooked benefits: job creation.

In countries like Lesotho, where unemployment has reached 45% in recent years, job creation is critical to improving quality of life. So, while BBCDC's students learn to appreciate the environmental benefits of solar power, the main reason they enrolled is to learn marketable skills.

Employment in Africa's energy sector has been increasingly difficult to find in recent years. Over the past two decades, conventional energy jobs have declined in spite of rising electricity demand. South Africa's energy demand has doubled since 1983, yet over the same time period employment in the country's energy sector has been halved, primarily due to increased efficiency in the coal-mining industry. Conventional energy sources like coal and natural gas now create an average of less than two jobs per megawatt of electricity produced in South Africa. Most of these jobs are in mining.

Renewable energy technologies, however, have the potential to create far more jobs than conventional energy sources. Energy economists estimate that biomass and geothermal energy projects produce 3.8 and 5.7 jobs per megawatt respectively, and many countries are already seeing large numbers of jobs created as a result of wind power projects. India's Tamil Nadu state created some 9,000 rural jobs when it developed 800MW of wind power. Germany's extensive wind industry employs 15,000 people. Elsewhere, new research reveals the huge potential to create jobs by growing the green energy industry: in the US, a group called the Apollo Alliance has

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**The findings are clear –  
if you invest in renewables,  
you get jobs.**

*Richard Worthington*

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developed a plan to create 3.3 million new clean energy jobs and achieve energy independence in 10 years; and in the UK, a new report states that the renewable energy industry there could sustain up to 35,000 jobs across the UK by 2020. The UK study found that, on average, 10 full-time jobs can be sustained per new megawatt of renewable energy produced.

In Africa, solar photovoltaic development holds even more promise for job creation. Twenty-four people are required to process, assemble, and install 1 megawatt's worth of solar panels, and 11 more people are needed to distribute, sell, and service it – a total of 35 jobs. Solar power, while still relatively expensive, is a viable alternative in many distant rural areas far from national grids.

## South Africa's Promise

A report commissioned by the Sustainable Energy and Climate Change Project (SECCP) released late last year conservatively estimated that, if South Africa set a target of generating 15% of its energy from renewable sources by the year 2020, renewable sources would create 36,373 new jobs in the country's energy sector – a figure greater than the total employment of the national energy utility, Eskom. Importantly, these new jobs would not displace jobs in the conventional energy sector.

"The findings are clear," says the SECCP's Richard Worthington, "if you invest in renewables, you get jobs." The nation is now reeling from massive unemployment (officially set just under 30% but climbing to 50% by some estimates, when those who have given up finding work are included).

Worthington notes that it's not just the number of jobs created that is important, but where they are created. "Apart from the environmental benefits, the study clearly establishes the social benefits of using renewable energy to supply electricity," he says. The new jobs will be decentralized and often rural, thus spreading job opportunities

and reducing social strain on urban centers. Renewable energy jobs are also typically cleaner, healthier, and create opportunities in a wide variety of fields. Wind energy development, for example, involves meteorologists, surveyors, engineers, metalworkers, construction workers and computer operators.

Worthington believes the report "obliges South Africa's Department of Minerals and Energy (DME) to firstly, create the regulatory environment that will lead to investments in renewable energy, and secondly, to force parastatals like Eskom to invest much more money in clean renewable energy technology, instead of throwing good money after bad as it continues to develop dirty conventional energy technologies." The DME's current goal is to have only 0.15% of the country's total electricity capacity produced by renewables by 2012.

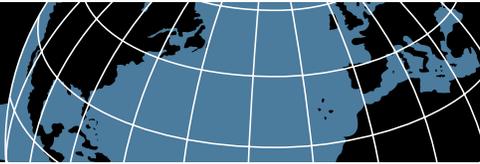
Clean energy jobs will require greater amounts of investment in skills training, but a growing number of organizations like the BBCDC are poised to meet this need, offering low-cost training in applied settings. Along with courses in solar technology, the students there study woodwork, metalwork, business development and management, and environmental education. Graduates should be well-equipped to find work in the renewable energy sector.

Without official support for expanding the clean-energy industry, such skills training will be for naught. But at least in South Africa, the winds of change seem to be slowly picking up speed, with a growing solar-water-heater industry, new wind farms and other developments across the nation.

A recent conference on urban energy issues in Cape Town challenged South African cities to strive for increasing their renewable and cleaner energy sources to 10% by 2020; to reduce energy consumption by at least 20% in all municipal operations by 2005; to require solar water heaters and insulation in all new middle to high income housing by 2005, and to develop public demonstration centers and programs for sustainable energy. The benefits of such a shift would be seen in cleaner air and water, reduced health problems – and a sunnier jobs outlook. ■

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*The "Employment Potential of Renewable Energy in South Africa" study can be downloaded at <http://www.agama.co.za/pdf/EPRESAFinal-Nov2003.pdf>.*



## UPDATES

**TWELVE STEP PROGRAMS:** IRN's recent report, "12 Reasons to Exclude Large Hydro from Renewables Initiatives," apparently hit a chord with the dam industry. In May, the National Hydropower Association (NHA) released its rebuttal to our report, "Why Hydropower Should Be Included in Renewable and Sustainable Energy Initiatives." The first reason in the list is (why didn't we think of this?) "Hydropower is renewable." End of discussion? Well, no, they do go on. Hydro also "helps the air we breathe," "helps fight global warming," "is cost effective" and, our favorite, "has overwhelming public support."

In its efforts to take the national temperature on hydro, the NHA contracted with the Washington, DC firm Bisconti Research to poll Americans on hydropower's image. According to the NHA, the firm found that 93% of respondents (1,000 people were polled nationally) find hydro to be "an important energy source for the future." What the NHA fails to mention is that the same survey showed 92% called natural gas an "important energy source for the future," while 89% believe solar to be similarly important.

Bisconti Research apparently likes working with controversial energy groups; it has also worked with the nuclear power industry on improving its image ("use messages to show that small amounts of radiation aren't harmful" and "shift the imagery to show beneficial uses, as part of nature" were two helpful recommendations).

Meanwhile, a shorter version of IRN's own "12 Reasons" report has been turned into an international declaration and endorsed by 260 citizens groups, networks and coalitions from 61 countries.

"The 260 groups that have endorsed this declaration are saying no to the large hydro lobby's attempts to hijack concern over poverty and climate change to promote their destructive technology," says Patrick McCully, Campaigns Director of IRN. The declaration was released on the first day of a major ministerial meeting on renewables held in Bonn, Germany. The declaration aims to "ensure that large hydro is barred from support under any initiatives announced in Bonn is key to the success of the conference in boosting the global spread of clean and renewable energy."

The declaration states that funds to reduce the climatic and other environmental impacts of energy production and consumption, to advance sustainable development, and to increase energy security should be used for the promotion of "new renewables." The most important new renewables are modern biomass, geothermal, wind, solar, marine energy, and small hydro (10 MW or less) compliant with the recommendations of the World Commission on Dams.

**US:** New research by the Container Recycling Institute (CRI) reveals that over one trillion aluminum cans have been trashed rather than recycled in the US in the past 40 years.

"Whether buried in landfills, burned in incinerators, or strewn as litter, these trashed cans represent a lost opportunity to recycle millions of tons of valuable aluminum metal," said Pat Franklin, executive director of CRI. The trashed cans have the energy equivalent of over 550 million barrels of crude oil – enough to supply the total residential energy needs of about 35 million American homes, CRI reports. Stacked end-to-end, these wasted cans would extend 76 million miles. According to CRI, the trillion wasted cans weigh in at 17.5 million tons: a quantity of scrap aluminum worth about \$21 billion at today's market prices.

"The cumulative environmental damage from the failure to recycle this metal is the real issue," said Franklin, "not the buried tonnage or the dollar value of the wasted cans. While we are trashing millions of tons of cans that could be used to make new cans, multinational companies like Alcoa and Alcan are forging ahead to build brand new aluminum smelters in pristine environments all over the world." These smelters are often accompanied by large dams built just to power the energy-intensive aluminum production process.

According to CRI, the US beverage can recycling rate has been declining since 1992. In 2003, only 44% of the cans sold were recycled – the lowest rate since 1980.

"The recycling picture is getting worse, not better, but it could be turned around," Franklin said. "We could achieve a recycling rate of 80-90% with a national bottle bill." Beverage container deposit laws, or "bottle bills," exist in 11 US states, and routinely result in recycling rates of 70-95%. The soft

drink, beer, and grocery industries have lobbied hard against deposit systems, preferring taxpayer-funded residential programs.

## LAW AND ORDER

**US:** A Superior Court judge declared a US\$600 million water privatization contract to be invalid in December because city officials had not carried out an environmental impact study. The decision will likely affect the further spread of water privatization in the US.

The ruling was a victory for three groups – the Concerned Citizens Coalition of Stockton (CCCOS), the Sierra Club and the League of Women Voters – which had sued the city last year, after it hurriedly approved the deal just before citizens were to vote on the issue. OMI-Thames Water, the company that had been awarded a 20-year contract in 2003, had already started operations.

The contract, the largest of its kind in the western US, would have transferred the costs of upgrading the city's aging sewer pipes and treatment plants to OMI-Thames Water, a joint venture of American and British firms.

If the city accepts the ruling or loses an appeal, it will first have to carry out an environmental review before striking any new deal. It must also seek voter approval of any future large-scale utility privatization contract, according to new local legislation passed last year.

**EFFICIENCY STANDARDS:** A federal appeals court in January overturned a Bush administration decision to weaken energy-efficiency standards for new air conditioners, a move which could save American consumers \$21 billion and avoid the need for up to 200 new electricity plants by 2030. In response to a lawsuit filed by a coalition of environmental organizations, consumer groups, and state representatives, the court has ordered the US Department of Energy to restore the efficiency standard passed by Congress during the Clinton Administration. This standard would require a 10% increase in home air conditioner energy efficiency over the standard that is currently in place. This will benefit consumers, the environment, and create a more reliable national power grid, according to the non-profit organization, the American Council for an Energy-Efficient Economy (ACEEE). The ACEEE estimates that by the year 2030 the stricter standard could save consumers a total of 250 billion kilowatt hours, and prevent the emission of over 50 million metric tons of carbon, largely by avoiding the need to build new power plants to meet peak power demands.

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Peak power demands occur during the summer months when air conditioners account for approximately one-third of total national electricity use. The improved standard could help prevent future power blackouts by reducing peak power demands by an estimated 20,000 MW. This reduction will also help alleviate the tight US natural gas market, the main power source during peak demand times.

## WATERY WORLD

**US:** A new report by Taxpayers for Common Sense and the National Wildlife Federation reveals that the US Army Corps of Engineers, famous for building many of the most destructive river development schemes of the century, is preparing to move ahead with \$12 billion in wasteful, destructive projects, with little oversight from Congress. If constructed, the 29 projects highlighted in the report would threaten more than 640,000 acres of wetlands and shoreline areas; about 6,500 miles of rivers and coastlines; eight national parks, seashores and wildlife refuges, and the Great Lakes.

The report singles out particularly bad projects, including a \$319 million irrigation scheme in eastern Arkansas, which, say critics, would do massive damage to two national wildlife refuges and destroy critical habitat for a large wildlife population. The report also slams the Corps' ongoing effort to barge salmon around four dams on the Lower Snake River in the Pacific Northwest (see page 8 for more on this river), a proposal to deepen the Columbia River estuary which poses new threat to endangered fish, and a costly project that would make the Upper Mississippi River more hospitable to barge traffic.

The authors of the investigative report, *Crossroads: Congress, the Corps of Engineers and the Future of America's Water Resources*, sourced tens of thousands of pages of Corps documents and conducted dozens of interviews to rank the most environmentally and fiscally wasteful water projects in the nation. The report provides an action agenda for Congress and the Bush Administration to redirect the Corps toward more responsible, cost effective projects that protect the environment and use tax dollars wisely.

*Crossroads* reveals that the Corps consistently uses flawed economics, minimizes the environmental damage its projects will cause, relies on outdated approaches and perpetuates wasteful federal subsidies.

For each of the past three years, the Bush administration has recommended positive steps to reduce waste in the Corps' program by proposing budget cuts to many of the

most wasteful Corps projects that are highlighted in *Crossroads*. Unfortunately, the administration has failed to follow through and defend those budget cuts.

"Congress needs to change the rules of the game for the Corps by cutting bad water projects and permanently redirecting the agency to use tax dollars wisely to restore America's waterways," says National Wildlife Federation water specialist David Conrad.

**US:** As much of the West faces a sixth year of drought, climate scientists are warning that things could get much worse before they get better. Climatologists note that mountain snow packs have been declining in the Pacific Northwest's Cascades and the Rocky Mountains. Warmer temperatures have resulted in more rain and less snowfall in winter. About 70% of the water in Western rivers comes from spring snowmelts. Scientists now believe that the relatively wet past century may be the exception rather than the rule.

A recent study, published in the journal *Climatic Change*, predicts that by 2050 the Colorado River, which supplies water to 30 million people in Southern California and the Southwest, would be unable even to meet today's demands. (See page 6 for more on this river's troubles.) The study predicts that reservoir levels will be reduced by over a third and releases by as much as 17%. Reduced water flows could cut hydropower generation by as much as 40%.

The study also reveals that the Columbia River system in the Pacific Northwest will be so taxed that there will not be enough water to supply drinking water and power dams and support salmon.

"I've been on a lot of projects and I've never seen one before this where the news was all bad, but that was the case here," said Tim Barnett of the Scripps Institution of Oceanography, lead author of the study. "The model we used is the least sensitive to (increases in) greenhouse gases of all the models in the world, so this is really the best-case scenario. It's going to be a water crisis of, I think, largely unimagined proportions."

**JAPAN:** With demand for water drying up and citizen outcry against new dams on the rise, the government has ruled out starting any new dams on the nation's seven major river systems, the *Asahi Shimbun* reported in April.

The Ministry of Land, Infrastructure and Transport said its water-demand projections were out of date, and that numerous planned dams were not needed at this time. Water demand has been on the decline nationwide for the past decade. Demand for

water for agricultural use has remained almost flat, while that for industrial use has been declining due to water recycling efforts.

The drop in demand has led some local governments to cancel their water rights at the dams currently under construction. Yet the Ministry remains adamant that 14 dams already under construction are necessary, and construction on them will continue.

Dam projects that will be put on hold because of changing demand include one proposed for the Tonegawa river system. It was scrapped after the Tokyo Metropolitan Government cancelled its water rights at a dam located further upstream.

## A BETTER WAY

**FUEL CELLS:** As California enters another year of possible electricity blackouts, some local businesses are going "off-grid" to keep the wheels of industry turning. At the Sierra Nevada Brewing Company, for example, 250 kilowatts of fuel cells will be installed to run the company's beer-making equipment. The rolling blackouts during California's 2000 energy crisis hampered the brewery's operations. "You can't afford to be without power, because the beer will go bad very quickly," said the company's vice president, Steve Harrison.

Harrison said the company hopes to switch the fuel cell's primary power source from natural gas to methane extracted from anaerobic digester gas that is created by the grain and waste byproducts of the brewing process. The brewery hopes to become energy-neutral, creating as much energy as it consumes.

A California incentive program made the project economically feasible. The company will receive 40% of the funding for the multimillion-dollar project from the California Public Utilities Commission's Self Generation Incentive Program. The program, which began in 2001, provides up to \$66 million per year in incentive funding for clean and renewable energy systems including fuel cells, solar and wind power.

The program has also provided funding for fuel-cell installations at the Los Angeles Department of Water and Power and a wastewater treatment plant in Santa Barbara. Both facilities are harvesting methane gas from the sewage-treatment process to power the fuel cells.

The CPUC program has provided grants to more than 500 self-generating energy projects (most of which are solar), which when completed will provide energy equivalent to 83,000 homes moving off the grid, according to Pacific Gas and Electric.

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barging salmon around the dams. And all the while, President Bush refuses to listen to the many arguments to remove the Lower Snake River dams.

Decades of mismanagement have created a mechanized river, in which salmon are born in concrete pools, tagged with microchips for research, taken in truck rides to the ocean, and left exhausted, confused, and forced to jump up fish ladders and swim through hot slack water to return to their natal streams to spawn.

### Public Comment Needed

Salmon may have a second chance. For the last four years, the Federal Salmon Plan, the federal government's plan of actions to recover salmon as required by the Endangered Species Act, has been under-funded, under-implemented, and now finally it has been ruled illegal by a federal court judge. While the plan is being rewritten, the administration is accepting public comments, and a barrage of public concern could change the face of the Federal Salmon Plan.

In the past several years, numerous studies and hundreds of scientists have concluded that removing the four dams on lower Snake River must be included in any effective salmon recovery plan. Even the invalidated Federal Salmon Plan acknowledges, "Breaching the four lower Snake River dams

## Who's Who in the Fight to Save the Snake River

For the past twenty years, the **Pacific Coast Federation of Fishermen's Associations (PCFFA)** has been the American west coast's largest trade association of commercial fishing families, assuring the rights of individual fishermen and fighting for the long-term survival of commercial fishing as a productive livelihood and way of life. PCFFA is, in fact, a federation of 25 different port and fishermen's marketing associations spanning the US west coast from San Diego to Alaska. [www.pcffa.org](http://www.pcffa.org)

Founded in 1990, **Idaho Rivers United (IRU)** has over 2,000 members, and is Idaho's premiere river conservation group. IRU is a result-driven, campaign-oriented, grassroots driven protector of our rivers and fish. [www.idahorivers.org](http://www.idahorivers.org)

With a combined membership of over 6 million, the **Save Our Wild Salmon Coalition (SOS)** is a nationwide coalition of conservation organizations, commercial and sportfishing associations, businesses, river groups, and taxpayer advocates working collectively to restore self-sustaining, healthy and abundant wild salmon to the rivers and streams of the Pacific Northwest. [www.wildsalmon.org](http://www.wildsalmon.org)

would provide more certainty of long-term survival than would other measures." Removing those dams, coupled with smart investments in regional energy and transportation infrastructures, offers a win-win solution to recover the salmon, strengthen Northwest economies and communities, honor treaties with regional tribes and Canada, and uphold US federal laws.

A free-flowing Snake River will restore salmon to self-sustaining, harvestable populations and bring economic recovery to long-suffering fishing communities. The Bush

administration's new federal salmon plan should be legal, scientifically credible, cost-effective and include removing the four lower Snake River dams.

Just as breaking the ice dam in Missoula allowed millions of salmon to swim to sea and back, so will the removal of the four Lower Snake river dams allow free passage for migrating salmon once again. Perhaps then the communities that depend on salmon could once again flourish and thrive. ■

*The author is with Save Our Wild Salmon.*

**World Bank** continued from page 4

without any transparency and public participation. As in other countries, large projects which deliver prestige, bureaucratic power, contracts and kickbacks are politically more attractive than small-scale alternatives supported by local communities.

An internal Bank evaluation warns that the planning process in India's water sector is "top-down, bureaucratic and fragmentary," and that "most users and beneficiaries have been excluded from decision-making". Yet the Bank's senior water advisor readily admits that he has not read this evaluation. His attitude exemplifies the Bank's lacking willingness to learn from past mistakes.

### Farewell, Environmental Standards?

The World Bank not only wants to increase the volume of lending for large dams and other infrastructure projects. It also wants to weaken the social and environmental policies with which Bank projects are supposed to comply. A recent strategy document of

the financial institutions calls these policies "obstacles to timely quality lending."

The new strategy proposes that future projects should be implemented not according to the Bank's own social and environmental standards, but rather in line with the standards of borrowing governments. This approach will first be adopted in a few selected countries, but once the principle is accepted, there will be strong political pressure to generalize it for all lending operations. It is ironic that the World Bank tries to enforce the same strict conditions regarding economic policies in all borrowing governments, but is much less concerned about international standards regarding the environment and human rights.

NGOs around the world are mobilizing against the new strategy of the World Bank, and many of the new high-risk projects will run into massive resistance. This resistance may be successful, but the Bank's new strategy will still prevent more sustainable alternatives from being supported. "Increasing the

funds available for further large scale, delivery-oriented infrastructure will achieve very little without a re-think of how and for whom such funds are to be spent," says the report of the UN's Water Supply and Sanitation Collaborative Council. ■

### Further Reading

- *Gambling with People's Lives*, 45 pp. September 2003. Critically analyzes the World Bank's new high-risk strategy.
- *The World Bank at 60: A Case of Institutional Amnesia?* 14 pp. April 2004. Examines whether the Bank has learned lessons as it starts to implement the new strategy.

Both documents, and other information on the role of the World Bank, are available at [www.irn.org/programs/finance/](http://www.irn.org/programs/finance/)

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# “Respecting” WCD Guidelines Enters Legislation for First Time

by Patrick McCully

Efforts to push governments to adopt the recommendations of the World Commission on Dams (WCD) made a small but significant step forward in April when the European Parliament adopted language requiring some large hydro projects to “respect” the WCD’s “criteria and guidelines.” This is the first time that a level of compliance with the WCD has been adopted into law.

The WCD language is contained in the European Union’s “Linking Directive.” This law regulates the admission into the EU’s internal Emissions Trading System (ETS) of credits generated by two of the Kyoto Protocol’s carbon trading schemes – the Clean Development Mechanism (for developing countries) and Joint Implementation (mainly aimed at the former Communist countries). The EU’s carbon trading system is supposed to start in January 2005.

The Linking Directive states that hydropower projects greater than 20 MW capacity approved by Member States must

“respect” the criteria and guidelines of the WCD if credits from these projects are to enter the ETS. If the quantity of carbon allowances granted to major polluters under the ETS is consistent with the EU meeting its Kyoto target, the ETS is likely to be the largest single source of demand for carbon credits in coming years. The Linking Directive is therefore likely to reduce the value of credits from non-WCD compliant hydro plants larger than 20 MW, making these projects less likely to be developed for the global carbon market.

IRN worked with a coalition of NGOs, in particular Greenpeace, CDMWatch, and Climate Action Network Europe to urge the EU to exclude credits from all large hydro (>10 MW) and to ensure that credits from small hydro could only enter the ETS if the projects complied with the WCD. The European Parliament’s Environment Committee agreed with these positions, but the member state governments refused to accept this, some of them insisting that there should be no

restrictions on hydropower credits. The final text is a compromise between these different positions. (The UK government pushed the 20 MW limit for small hydro as this is the limit used in the UK’s renewable promotion scheme).

NGOs will now need to monitor how governments will interpret the Linking Directive’s language on the WCD. “Governments and companies must now make clear that they will apply the highest standards to hydroelectric projects,” says Mahi Sideridou of Greenpeace European Unit.

NGOs were extremely disappointed at the final Linking Directive text as a whole, in particular because it fails to set a clear limit on the number of carbon credits entering the ETS from outside, thus lowering the incentive on EU member states to cut emissions domestically. ■

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*For the Linking Directive text and more information see <http://irn.org/programs/greenhouse/index.asp?id=letters.html>*

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- Offering rebates to consumers for purchasing efficient equipment and to manufacturers for designing and producing it;
- Setting energy efficiency standards;
- Implementing consumer education programs about conservation and efficiency measures available to them;
- Implementing programs like the EPA Energy Star program, in which products, homes and other buildings are identified and promoted if they meet energy-efficiency standards; and
- Improving efficiency on the supply side, such as reducing losses through distribution systems.

## Advantages

Programs around the world have demonstrated that efficiency measures can significantly decrease electricity demand, thereby reducing the need for hydroelectric dams and other generation sources. In most cases, these demand reductions can be achieved at less cost than constructing new power sources, and provide more jobs in the long run.

## Disadvantages

The principal drawback of depending on efficiency to decrease energy demand is the perceived incremental and diffuse nature of an approach that depends on changing the behavior of many individuals, or on retrofitting many relatively small devices. These characteristics can prove challenging for energy planners who prefer more quantifiable and predictable approaches.

## Costs

Many simple strategies implemented by consumers are very low cost, such as \$5-\$15 for a compact fluorescent light bulb. Larger programs that provide incentives to consumers for replacing inefficient large appliances can cost millions – up front. In most cases, however, the cost of the measure is paid back many times over its lifetime. Replacing an old refrigerator with a newer, energy-efficient model may cost \$700 to \$1,500 up front but could save as much as \$180 a year on a homeowner’s energy bill. ■

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*The full report is available at [www.irn.org](http://www.irn.org).*

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nearly double national hydropower capacity to over 120 gigawatts by 2010.

Tashi Tsering, Environment and Development Program Director at the California-based Tibet Justice Center, remarks, “We welcome this decision by the Chinese leadership that respects people’s concerns about these projects. We urge Wen Jiabao to strongly consider revoking the dam project on Mugecuo Lake which is a unique, sacred and spiritual site that is rich in biodiversity.”

The future of the Nu River hydro scheme rests in the environmental impact assessment process by the Beijing Institute of Surveying and Design. Environmentalists believe it is critical that China’s State Environmental Protection Agency (SEPA) and other governing bodies ensure this study is conducted according to the highest standards set in its environmental impact assessment laws.

Dam builders and the prefecture government in the Nu River area, however, appear to be proceeding with the dams, regardless of the environmental review process. To counter this, environmentalists are organizing to raise public awareness about the project, and are committed to continued protection of the Nu River. ■