

Big Bad Boom

Radioactive Déjà Vu in the American West

By Chip Ward

In the American West, we take global warming personally. Like those polar bears desperately hunting for dwindling ice floes, we feel we're on the frontlines of the new weather regime.

The West is drying up. For example, canyon-hugging conservationists and jet-boating gear-heads have argued for several years about whether to "drain" Lake Powell, the 200 mile-long reservoir that once drowned the redrock Eden which was Glen Canyon. But a funny thing happened on the way to debate -- Mother Nature drained it herself. [Almost](#). The Utah reservoir is now reduced by half and the prospects of it ever reaching "full pool" again are less than dim. A recent Natural Resources Defense Council report suggests that Lake Mead, an even bigger reservoir downstream that feeds Las Vegas and Southern California, may be emptied by 2050.

Many desert denizens now view abandoned archaeological ruins like Chaco Canyon and [Mesa Verde](#) in the Southwest as more than the remnants of a collapsed, long-lost Anasazi civilization. They increasingly look like haunting hints of our own possible fate as global warming continues to bake the already arid West.

Ghost towns are nothing new in our boom-n'-bust history, of course, but imagine some future tour guide ushering visitors through the awesome ruins of Las Vegas's Circus-Circus, the Bellagio, or the [Luxor Hotel](#). "They didn't understand the limits of the landscape that enfolded them," she might say, while holding up a golf-ball excavated from the ruins for the crowd to see. "When drought pushed them across the threshold, they didn't see it coming, they couldn't cope, and it all fell apart."

Here we go again... Unfortunately, it's not only the heat that's hitting us hard out here. One of the "solutions" to the crisis of climate chaos is about to kick the citizens of the West right in our collective gut before we even have a chance to go down for the count from heat exhaustion. Nuclear power -- once touted as a "solution" to other problems and recently resurrected -- is now being pushed hard as an alternative to carbon-dioxide emitting coal for keeping the lights on. And, unfortunately for us, its raw material, uranium, is right in our backyard.

So we in states like Utah, Nevada, Arizona, New Mexico, and Montana are poised for a mining boom reminiscent of the one in the 1950s when the nuclear

age began. Then, the West's uranium mines provided the raw material for our metastasizing Cold War nuclear arsenal and the nation's first generation of nuclear reactors. (You remember Three Mile Island, don't you?) Back then, radioactive ore was often dug out by impoverished Navajo miners desperate for jobs. Many of them later sickened and died from exposure to radioactivity.

After uranium has been turned into "yellowcake," fit for further processing into reactor fuel, and then used to power a nuclear reactor, it is supposed to return to our Western landscapes in the form of "spent" nuclear fuel -- something that is lethally dangerous for tens of thousands of years. Our arid landscapes, we are told, are *ideal* for waste that must be kept isolated and dry for at least a thousand years.

In other words, we get it at both ends of the nuclear energy cycle -- and the drier we get, the more appealing we look. First, they dig a hole and take it out; then, they dig another and return it to the ground in far more dangerous shape. Lurking between the mines and the waste dumps are processing mills -- and, of course, we have them, too. Even as debris from toxic slag piles in the old mines and mills of the West is still blowing in the wind or leaching into our watersheds, new slag heaps are taking shape in the fevered dreams of the next generation of speculators.

By now you may have heard about [Yucca Mountain](#), the multi-billion dollar facility under construction in Nevada. Yucca was supposed to be the designated repository for the nuclear energy industry's waste. It has been plagued, however, by faulty science, enormous cost overruns, fierce opposition from local "downwinders," and the problem of [transporting](#) all that dangerous nuclear waste across the nation. After years of local resistance and a torrent of bad press, the Yucca project has finally been stalled and, now a distant threat to public health and environmental integrity, is about to be overtaken by a far more clear and present danger -- a new uranium boom in the arid lands of the West.

A temporary town for a thousand uranium miners is already under construction at Ticaboo in southern Utah. It will remind old-timers here of the now popular tourist destination of Moab, which was essentially a trailer-park city for miners in the 1950s and Ground Zero for the first episode of what local historians label "uranium frenzy."

The newest uranium frenzy has opened with a PR campaign to convince a wary public that nuclear power should be an acceptable, if desperate, last-ditch option to stem the build-up of greenhouse gases in the atmosphere. It has convinced some former skeptics to take a second look at the potential value of non-carbon-dioxide emitting nuclear reactors. But, as Christian Parenti [reports](#) in *The Nation*, the debate about reviving and expanding nuclear power is quickly becoming moot in the United States, if not globally.

Bottom line: Wall Street won't invest because nuclear power is too expensive, too risky, too complex, takes too long to bring on line, and can't compete with other energy sources once massive tax-payer subsidies are removed from the equation. (Senators Joe Lieberman and John Warner have, however, [proposed](#) more than \$500 billion in subsidies to double nuclear capacity in the decades ahead.) But those limitations will not dampen the radioactive rush in the West, especially since the planet's limited supply of uranium is ever more valuable on international markets -- which means mining and processing uranium ore will continue to defile some of our wildest landscapes.

Flimflam capitalism: Speculation makes the hearts of wannabe tycoons pound harder. Back in the 1950s, prospectors would begin a mine, bulldoze an airstrip, fly in potential investors, swing a Geiger-counter over ore that supposedly came out of that bit of ground and... well, you know how it ends, but, strangely enough, investors often don't. Scam or legit, there is money to be made simply in building up the infrastructure of speculative exploration.

Even dry holes can be lucrative for a short while. Economically impoverished and vulnerable locals welcome the temporary jobs and merchants want to sell to all those move-in drillers, heavy equipment operators, and miners. Local politicians, eager for access to the pie, will cut deals to open doors. In Utah, for example, two top legislators signed lucrative "consulting" contracts to pave the way for a developer to get the necessary water for a nuclear power plant and formal permission to build it somewhere in the state. Critics [charge](#) that the legislators also tried to get generous taxpayer subsidies to sweeten the pot.

The first phase of a mining boom is the rush to stake claims. In Colorado last year, 10,730 uranium mining claims were filed, up from 120 five years ago. More than 6,000 new claims have been staked in southeast Utah. Throughout the West, claims are up tenfold. Next comes exploratory drilling. That means carving roads across the wildlands to bring in equipment. Drilling teams will have no trouble financing their road-building adventures, since profits for the metals mining industry are up 1,400% in the past six years.

Such speculation is as basic to industrial capitalism as the raw materials that power its machinery. Witness the inflated fantasies of the recently punctured housing bubble. Even if the mines never materialize, the run-up will leave lasting scars, especially as the new uranium boom follows on the heels of an oil and gas [boom](#), a desperate effort to wring every last drop of fossil fuel from the depleted reserves of the West.

Bulldozers first, four-wheeled locusts next, then dust in the wind: Like some devastating one-two punch, mineral development and motorized recreation are essentially guaranteed to create the next Great American Dustbowl. First, uranium prospectors bulldoze more roads to add to the thousands of miles of roads already carved across open Western lands in previous booms. Next, a

horde of Off-Road Vehicle (ORV) riders take to them, causing more erosion and bio-degradation.

ORV ownership has expanded exponentially throughout the West and most of our deserts have already become weekend ORV theme parks. Those tens of thousands of untrained riders are barely [regulated](#). Enforcement is a joke. They go where they wish and do what they please. Ecological devastation from the exploration and extraction cycle, already substantial, is aided and abetted by the inevitable crush of ORVs. As these riders braid new tracks through lands that otherwise qualify for wilderness protection, they may lose their standing forever, while already compromised wildlife habitats are further fragmented.

The thin and fragile soils of our deserts, barely held in place by a delicate microbiotic crust, have already been overgrazed and overrun. It can take twenty years to grow that protective microbial mat, but one spinning tire can destroy it in one second. If you live to the east of us, expect to see the dust under that "crypto" crust released into your air, as high desert winds churn it up and carry it away. Recent [research concludes](#) that snowpack in the Colorado mountains is melting earlier and faster due, in part, to dust blowing in from Utah and Nevada that covers the snow fields and absorbs heat. The Dustbowl, of course, is another old story. Unlike the dust storms of the 1930s, however, our Western dust may have the added charm of being radioactive.

Guinea pigs in an uncontrolled experiment: If you live downwind from us, you might want to pay a little attention to what's happened to Navajos living on a 26,000 square mile reservation that spans the Four Corners region where Utah, Arizona, New Mexico, and Colorado meet. For three generations now, they have been breathing uranium-laden dust from mine tailings and drinking from wells tainted with minute traces of radioactive mining waste. From 1946 into the late 1970s, more than 40 million tons of uranium ore was mined near Navajo communities.

More than a thousand mines were abandoned on the reservation. For every 4 pounds of uranium extracted, 996 pounds of radioactive refuse was left behind in waste pits and piles swept by the wind and leached into local drinking water. In addition to the hundreds, perhaps thousands, of Navajo miners who sickened and died of cancer and respiratory illnesses -- it's hard to say just how many, since nobody in power bothered to keep track -- epidemiological studies [reveal](#) a terrible ongoing toll. Navajo children living near the mines and mills suffered five times the rate of bone cancer and 15 times the rate of testicular and ovarian cancers as other Americans. Exposure to uranium has also been [linked to](#) kidney damage and birth defects.

Recent [research](#) indicates that, in addition to being toxic and radioactive, uranium is also an endocrine disruptor and can have a devastating effect on health -- even when only scant traces are present in the air we breathe or the

water we drink. Uranium's ability to bind to and deceive hormone receptors evidently interferes with cellular communication that governs metabolism, cell production, organ development, and gland function. Dr. Stephanie Raymond-Whish, a Navajo scientist, believes, for instance, that uranium exposure is one explanation for sky-high rates of breast cancer on the reservation.

No wonder, then, that the Navajo Nation imposed a [ban](#) on uranium mining and milling on Indian lands in 2005. Despite the ban, Hydro Resources Inc. (HRI) is trying to open four major mines near the Navajo communities of Crownpoint and Churchrock. HRI specializes in mining uranium by pumping water and bicarbonate into uranium-bearing strata, then withdrawing the solution and recovering the uranium in it.

Assisted by the New Mexico Environmental Law Center, the Navajo tribal government has been [resisting](#), insisting that it, and not the Nuclear Regulatory Commission, the federal agency that oversees all aspects of the nuclear energy industry, has the authority to keep the company off tribal lands. The tribe fears that the kind of injection-leach mining that HRI plans to do will consume vast quantities of scarce water, while contaminating precious groundwater used for drinking by people and livestock. At just such an operation in Grover, Colorado, groundwater radioactivity was found to be 15 times greater than before mining began.

Nor will mining be limited to Indian lands. As with oil and gas exploration, the likelihood is that nothing will turn out to be off limits. Claims for the right to mine within five miles of Grand Canyon National Park, for example, have jumped from 10 in 2003 to 1,100 today. The Grand Canyon Trust, the Center for Biological Diversity, and the Sierra Club just blocked a mine proposal for nearby Deer Tank Wash because flashfloods could easily carry left-over radioactive materials down into the park. As applications pile up, however, conservationists will be hard pressed to keep ahead of the onslaught of challenges to the Grand Canyon's integrity. So if you want to see this national treasure, fill up this summer on \$4-5 a gallon gas and come soon, before a dusty haze envelops the area, dump-truck traffic becomes the norm, and the wildlife flees.

Virtually all of southern Utah's famed national parks and monuments -- Arches, Zion, Bryce, Canyonlands, Capitol Reef, Natural Bridges, and Grand Staircase Escalante -- are surrounded by potential uranium deposits. Unlike the first uranium boom of the atomic era, which took place in sparsely populated and remote canyons and mesas, the new boom is likely to go wherever uranium is found. To take but one example, the [Powertech Uranium Corporation](#) is opening a mine just ten miles from the sprawling city of Fort Collins, home of Colorado State University.

Here's the reality of the new West -- like the old West: The boom will suffer no limits because speculators and mining companies enjoy so few restrictions.

Manifest Destiny on a mule: In the nineteenth century, Manifest Destiny sometimes rode in on a sleek stallion, armed with guns and a sword, but sometimes it carried a pick and shovel and arrived on the back of a mule. Mining was encouraged and empowered by laws that provided prospectors and investors with every imaginable incentive. Public lands were seen mainly as storehouses for commodities like timber and metals. No ecological context was considered, because none was available -- other than the rantings of that ol' crank [John Muir](#) and the mumblings of defeated Indians.

Today, we know better but, unbelievably enough, the [Mining Act of 1872](#) still rules. That Act is, in fact, the Methuselah of taxpayer boondoggles. It obligates the Department of Agriculture's Forest Service and the Interior Department's Bureau of Land Management to approve applications for exploratory drilling without environmental review. Once ore is found and taken, no payment of royalties is required. The giant mining conglomerate, [Phelps Dodge](#), recently acquired the mineral rights to national forest land in Colorado for just over \$100,000. The company expects to extract \$9 billion in molybdenum from the land. If, to speculators, the prospect of mega-profits is like sex, the Mining Act of 1872 has always been their Viagra.

To add insult to injury, the Act makes taxpayers responsible for any clean-up of the land after the mining companies are through extracting its mineral wealth. Utah, for instance, has 5,000 abandoned uranium mines that have yet to be cleaned up. They were simply abandoned after the first boom 50 years ago.

A massive uranium tailings pile between Arches National Park and Moab [sits](#) right beside the Colorado River, leaking radioactive and toxic debris into water that is eventually used for agriculture and drinking by 30 million people downstream in Arizona, Nevada, and California. Because one enormous flashflood could wash tons of that radioactive milling waste into the river, a \$300 million federal [clean-up](#) is underway. Taxpayers will pay for 16 million tons of uranium milling waste to be moved away from the river.

Almost half the headwaters of Western rivers are polluted by some kind of mining waste. In Colorado, 37 cities and towns depend on drinking water that exceeds federal levels for uranium and its associated nuclides. It would take an estimated \$50 billion to clean up all the abandoned mines and processing sites in the West.

Big, dumb, dangerous cousins: Nuclear power is now offered as an alternative to coal power. But, in actuality, Big Nuke is Big Carbon's mad-scientist cousin. Both externalize their costs: to the land, to the atmosphere, to miners, to consumers, to communities near the mines and refining facilities, and especially to future generations who will live with the long-term consequences of our short-term gains. The damage that both do is, of course, justified as necessary and unavoidable.

In addition to the ecological devastation they cause, their most compelling similarity is that both can get under your skin and make you sick. Westerners who live near uranium mines and mills will tell you that those activities can be as dirty and noxious as coal mines, coal-fired power plants, tar sand pits, and oil refineries. Cancer from inhaling coal dust feels the same as cancer from uranium dust. In the age of carbon and fission, what we refer to as "environmentalism" could just as well be called "embodimentalism," since the decisions we make about what we allow into our air, water, and soil get translated into flesh, blood, bone, nerve, and experience.

Perhaps those iconic cooling towers we picture when we think about a nuclear power plant are like industrial cathedrals, monuments to our hubris and the unsustainable materialism it generates. Our fervent faith in economic growth makes us blind to natural processes, ecological relationships, the long scales of time, and ultimate consequences.

We believe that, because we live above and beyond nature, we can act without context or caution. Our industrial missionaries drive thumper trucks, drill holes, send samples to the labs, and convert investors. Like the conquistadors of old, who searched for gold, they stake their claims on the land for its imagined riches. They declare ownership, no longer for church and king, but for corporation and investors. Ecosystems, communities, and future generations are sacrificed, and still salvation recedes.

Nuclear, coal, gas, or oil: "same old same old," as they say. It's getting hot out here in the West and we need a new story.

After sixteen years on the frontline of campaigns to make polluters accountable, Chip Ward moved into the remote redrock canyons of the Colorado Plateau. There, as a board member of the Southern Utah Wilderness Alliance, he is helping to protect one of America's last great wilderness areas from mineral development and other threats. He is the author of [Canaries on the Rim: Living Downwind in the West](#) and [Hope's Horizon: Three Visions for Healing the American Land](#). A movie, "[The Public](#)," inspired by his experiences with chronically homeless library users and based on an [essay](#) he wrote for [Tomdispatch.com](#), is in production.

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