Las Vegas Accused of Engineering Massive Water Grab: Is This the Future of the West?

Climate change is going to make life harder, water scarcer, and decisions about the future tougher.

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Las Vegas exudes an all-you-can-eat mentality. People walk between casinos carrying giant cups of slushy liquor; advertisements blare from speakers on the streets pitching the best shows, best food and best deals; escalators take you across streets and directly into malls. You spend your time buying something, eating something, or watching something. Either way, it's consume, consume, consume.

But this hunger is hard to satiate and it takes its toll, revealing the city's central dichotomy — it is a destination of both the high-brow and the down and out, the high rolling and the thrifty, a megaphone of riches and poverty. And nowhere is this more apparent then in one of Las Vegas' most contentious relationships — with water. If you walk the Strip, you'll see gondolas floating on canals of aqua pool water, misters spraying overheated tourists in the hot sun, pirate ships docked in rocky coves, and fountains everywhere you look.

The abundant water is a mirage, although it wasn't always. Las Vegas got its name, meaning "the meadows," after Spanish explorers found artesian springs in the area. And long before that, in the Pleistocene, much of Nevada was plunged under the depths of massive Lake Lahontan. There are only vestiges of that great lake left, and the early artesian wells found near Las Vegas have long ago quenched the thirsty, but nevertheless, the thirsty keep on coming.

When groundwater reserves ran low in the 1940s, the region turned to Lake Mead. Today, the Las Vegas area gets 90 percent of its water from the no-longer-very-mighty Colorado River as it is corralled behind Hoover Dam in Lake Mead. And now that's threatened. A new federal study released in December found that the over-allocated Colorado River will be further stretched by climate change, drought and climbing populations. By 2060, the river will be short of what its dependents in seven U.S. states need by 3.2 million acre-feet a year. (An acre-foot of water is roughly enough for one suburban family per year.)

So what's a city -- or really, its water manager -- to do? A smart gambler wouldn't bet on the Colorado.

Patricia Mulroy is putting her money someplace else — and it's likely to be a whole lot of money. Mulroy heads up the Southern Nevada Water Authority, an agency responsible for providing water for seven water agencies in and around Las Vegas. How smart her idea is depends on your perspective.

SNWA is in the midst of an $800 million project to insert another "straw" into Lake Mead. This is the third intake pipe built for the lake — the last two proved not deep enough to keep up with the lake's falling levels. But this is just part of the plan. Another part comes with a bigger pricetag — estimated as high as $15 billion -- and involves building hundreds of miles of water pipelines and related infrastructure to tap water from four rural valleys in eastern Nevada's White Pine and Lincoln counties.

SNWA sees the water pipeline as a necessity, while others see it as amight-makes-right water grab. The project also speaks volumes about how we're planning for the future and what we're prepared to sacrifice if times get tough. And indeed, those times may already be upon us.

Threatened Communities

Most people can conjure Las Vegas in their minds — either they've been there or they've seen it immortalized in movies, TV and photos. Fewer people may know what Baker, Nevada looks like, or the kind of folks who live there. Census data from 2010 puts the number of residents at 363. The only reason it appear on maps is that it's the nearest town to Great Basin National Park. If you've never heard of GBNP that's because it's the second least visited national park in the country — which, in many ways is a great shame; the park is astoundingly beautiful and rolls from high desert sage up to 13,000-foot Wheeler Peak.

The area has that desert resolve, a sense of endurance, a slow plod from the last ice age forward. There have been thousands of years of human history on top of the lifting and tilting of the earth that set things in place, and the erosion that's come since. There have been the Fremont and the Shoshone and the Paiute and the Spanish and the Mormons and the homesteaders. There are people today living in houses insulated with 1800s-era newspapers stuffed into the walls. But the oldest residents of

the area are Great Basin bristlecone pines, the oldest living tree.

Bristlecone pines grow in harsh, high-altitude conditions, just below the treeline. Unlike ancient sequoias and redwoods, bristlecones are far from towering — they're short, sinewy and sprout green, brush-like needles. They can live for thousands of years — some are nearly 5,000 years old.

Baker and GBNP sit on the eastern edge of Nevada in the Snake Valley, abutting Utah. It's gritty, but beautiful. Population density may be low, but the people who live there are not insignificant and neither are the vast swathes of land, though they appear desolate. In neighboring Spring Valley, you'll find even less people.

"Neighbor?" asks Spring Valley rancher Hank Vogler, who lives about 50 miles east of Ely (the nearest "big" town, population 4,288). "I don't know what that term means." Vogler raises sheep and cattle in the rugged high desert at more than 6,000 feet. He has access to small quantities of stock water rights — enough to keep his animals — but nowhere near the amount that's used for irrigating agriculture. "All of my water rights together wouldn't fill a swimming pool in Las Vegas," he says. He's got enough water to make a living, but not a fortune. His entire livelihood is tied to that water — what he can pump out of the ground, or what seeps to the surface after a rain. And he believes his family will be one of the first sacrificed if SNWA builds its pipeline.

"I'm just collateral damage," Vogler says. "I was born with a double recessive mutant gene to be what I am -- a dumb-ass sheeper -- and I don't want to do anything else. I don't want to be a banker, don't want to be a lawyer, I hate politicians. This is me, this is what I'm supposed to do."

Vogler has spent 29 years in the area -- about the same amount of time as the people in Las Vegas have been scheming for his water. The Las Vegas Valley Water District filed the first water rights permits for the pipeline with the State Engineer in 1989. It sought groundwater rights in five valleys — Spring, Snake, Delamar, Dry Lake, and Cave. The Southern Nevada Water Authority, at Mulroy's urging, was formed in 1991 and it's been working ever since for the rights to pipe what's beneath eastern Nevada to the Las Vegas area.

In 2012, they moved a whole lot closer to that goal. In March, the State Engineer gave them some — but not all — of what they were hoping for. He granted SNWA 83,900 acre-feet of groundwater rights in Spring, Cave, Delamar, and Dry Lake valleys. They wanted over 100,000 acre-feet and access to Snake Valley, as well. But that may come with time. Then, at the end of December, the Bureau of Land Management permitted the building of the project, which will mostly rest on federal lands.

It's not a small project. The BLM's decision gives SNWA permission to build a main pipeline, with two laterals, totaling 263 miles; power lines 251 miles long; three pump stations; six electrical substations; a water treatment facility; an underground water reservoir and permanent and temporary roads.

By the time they get done building it all, Vogler estimates that they'll need even more water to quench thirsty Las Vegas. "They won't quit until they drain the entire state of Nevada for Las Vegas," says Vogler. He's heard about the water authority buying up ranches and along with it, water rights, in his valley for years. Vogler doesn't own enough water for a pricey buyout offer. "I didn't even get an opportunity to tell them I wouldn't sell to them anyway," he says.

But Dean Baker did get the chance. In his 70s, he runs Baker Ranch along with his three sons. The biggest patch of green you'll see for many miles in eastern Nevada, the ranch sprawls 12,000 acres from under the shadow of nearby Great Basin National Park's Wheeler Peak in the town of Baker (which gets its name from its founder, George W. Baker, no relation to Dean and the present Bakers who've owned the ranch since the 1950s).

Dean Baker's clan does go back five generations in eastern Nevada and western Utah. Over time they've built the ranch into a large enterprise, producing over a million pounds of beef and thousands of tons of hay, some of it used to sustain California's dairies.

They use pivot irrigation, creating bright green circles in the otherwise vast expanse of dusty brown and muted green. As a result, over the years Dean Baker has seen springs dry up and groundwater levels drop. In places, he says the drawdown has been significant. But the Bakers have learned to work within the limits of the desert, and they've learned a thing or two about how much water is in the area — and so have the wildlife that have moved from the springs to the ranch's irrigated acres and ponds. Baker boasts of the migratory birds, antelope, deer, cranes, grouse and ducks that visit his ranch.

Baker's water has caught more than the attention of the wildlife -- he's also been actively wooed by the SNWA, which pursued him for years to sell so it could claim his vast water rights. He could have made a fortune. Similarly sized El Tejon ranch in Spring Valley sold to SNWA for $32 million. Because ranchers have been some of the biggest opposition, the water authority has worked to buy their cooperation, along with their water, for outrageous amounts of money. George Knapp

reported for KLAS-TV:

According to the county recorder's office, the assessed value of the El Tejon Ranch was $396,000. Multiply that times three for the approximate market value, it's around 1.1 million, but SNWA bought it for 32 million.

The assessed value on the 440-acre Phillips Ranch is $56,000. The market value is $168,000, but it sold for $2.1 million to SNWA. The 1143-acre Harbeck Ranch is $85,000 assessed, $255,000 market value, and purchased for $4.8 million.

... Another Spring Valley ranch, 7,300 acres, was purchased six years ago for 4.4 million by Vidler Water Company, which wanted to swap it for land closer to Las Vegas. Instead, it sold the ranch to SNWA for $22 million, a tidy profit to which Vidler makes no apologies.

Dean Baker got to do what Hank Vogler never had the chance to do – tell SNWA he wasn't interested. "Piles of money do not make families any happier," Baker says. "The next generations aren't as productive. What could make me any happier than to look at these nice heifers?" he says, gesturing to the cows beyond the windows of his home office. "Las Vegas is only orientated to money, not to productivity," he says. "But we are food producers for the world. And our employees, some of them have been here for 40 years and two generations. They are the ones that make this place what it is."

A New Dust Bowl?

Even though Baker hasn't sold out, ranchers like he and Vogler may be endangered anyway. And they're not the only ones. What few local businesses that are around are up in arms, including Terry Marasco who owns the Silver Jack Inn and cafe in Baker and has been educating residents for years against the pipeline. Without tourism from the national park, Marasco's business would be left high and dry. "And the environment is not worth the sacrifice," he says.

Where he lives, Pat Mulroy's name is as cursed as William Mulholland's is in Owens Valley. In fact, Owens Valley has become a kind of prescient chant. Anyone who opposes the pipeline mentions the ill-fated valley just east of the Sierra Nevadas in California. In 1913, under Mulholland's supervision, the Los Angeles Department of Water and Power completed a 223-mile-long aqueduct that diverted water from Owens River to the quickly growing city of Los Angeles. That, combined with another aqueduct that took surface and groundwater from the valley in the 1970s, has turned the once-lush agricultural lands into a dangerous dust bowl. Jane Braxton Little reported for *High Country News* in 2000 that it was "by far the single largest source of particle air pollution in the United States, federal officials say, and it's a hotspot for PM10, the tiny particles that penetrate deep into the lungs."

Owens Valley is on the far western edge of the Great Basin, a massive bowl filled with 90 smaller basins and 160 mountain ranges, with no drainage to the ocean. It stretches from Salt Lake City to Southern Oregon to Death Valley, and encompasses almost all of Nevada and the SNWA's pipeline project. The towering Sierra Nevada mountains that hug the Nevada-California border catch most of the rain, which falls on the west side of the range, leaving Nevada on the east, with little precipitation. Some valleys, like the Las Vegas valley, get only three to four inches of rain a year. But even with little rainfall and a harsh climate in many parts of the basin, life has flourished.

Kevin Grange writes about GBNP for National Parks Conservation Association, "With more than 77,000 mountainous acres, five distinct habitats, 71 kinds of mammals, 18 types of reptiles, and 800 different plant species, the Great Basin contains a stunning diversity of flora and fauna. "

What would happen to the valleys marked for water withdrawal by the SNWA pipeline? There are four valleys already approved and the fate of Snake Valley --home to Baker Ranch, Marasco's business and Great Basin National Park -- has yet to be decided. Because Snake Valley extends into Utah, the decision on how much water to take awaits an agreement between Nevada and Utah officials. "It is a momentary stay of execution against that valley, but it could be rescinded at any moment and the people there know it," said Bob Fulkerson, the state director and cofounder of Progressive Leadership Alliance of Nevada (PLAN).

Even if water is not taken directly from the valley, it could still be affected by pumping from neighboring valleys -- or from dust if the Owens Valley prophecy holds true. And it could. Even the building of the pipeline would require a lot of water. "It is estimated that between 5.5 and 8.7 million gallons of construction water would be needed for every mile of pipeline," the BLM's Environmental Impact Statement (EIS) says. "Approximately one water supply well would be needed every 10 miles along the pipeline alignment, and would need to be capable of delivering up to 800 gallons per minute. Impacts associated with the construction of water supply wells could result in localized drawdown effects."

And that's just construction. The drawdown effects of the actual pumping of nearly 85,000 acre-feet of water a year could be significant as well. According to the BLM's EIS, "At the full buildout plus 75 years time-frame, there are two distinct drawdown areas. The northern drawdown area encompasses most of valley floor in Spring Valley, southern Snake Valley, and

northern Hamlin Valley. The southern drawdown area extends across the Delamar, Dry Lake, and Cave valleys in an elongate north-south direction and extends into the eastern margin of Pahranagat Valley and northwestern margin of Lower Meadow Valley Wash."

And over time these two drawdown areas could merge into one long, very dry area approximately 190 miles north-south and 55 miles east-west. If the water is drawn down far enough, the desert vegetation's tenuous hold on life will be quickly relinquished, and with it, the soil it holds in place. Cue dust storms!

The SNWA believes that with the plan that's been approved by the State Engineer there won't be any impacts – "it's all about how you make the withdrawals and where you make those withdrawals," said SNWA's J.C. Davis.

Others disagree. The Center for Biological Diversity has been litigating against the pipeline, fearing it would be "an epic environmental disaster." The organization issued a statement saying, "The project's 'environmental impact statement' reveals that more than 137,000 acres of wildlife habitat will be permanently destroyed or changed because of the lowering of groundwater tables — by up to 200 feet in many areas. This will drive declines in species like mule deer, Rocky Mountain elk, sage grouse and Bonneville cutthroat trout. At most urgent risk will be species associated with the springs and wetlands that will dry up as the water beneath them is sucked away."

Tod Williams, a park ranger in charge of resource management at GBNP said that pumping in Snake Valley could impact several riparian areas of the park, but at this time it looks like the park is not fighting the project. "In 2006, Mulroy neutralized the most significant source of opposition when she struck a deal with the U.S. Department of the Interior, which was worried that the project could harm springs in three national wildlife refuges and Great Basin National Park," Matt Jenkins wrote for *High Country News*. "The government agreed to drop its protests in exchange for a promise from the Water Authority to fund a program that is now monitoring groundwater levels and the project's potential effects on wildlife."

Environmentalists like Rob Mrowka, an ecologist with the Center for Biological Diversity, worry not just that impacts will be inevitable, but mitigation that's promised and monitoring of wells won't come to fruition. "Given the over $15.5 billion price tag of just constructing and financing the pipe, promises to mitigate the impacts are frankly laughable," said Mrowka.

Boom and Bust

Nevada is no stranger to boom and bust. It was the goldrush and silver-rush that drew the first big populations bursts, after all. Las Vegas has followed in the state's footsteps with massive increases of residents and visitors. Like a teenager, the city keeps quickly outgrowing its britches — and its resources. In 2010 Clark County, home to Las Vegas, had 1.95 million residents -- 575,000 of those gained since 2000. The area was also averaging nearly 40 million annual visitors. Between 2000 and 2008 it added 310,000 jobs.

The influx created a construction boom that imploded with the financial crash in 2007. Between 2009 and 2010 the area shed 100,000 jobs and construction came to a standstill. Zillow reported in 2011 that the median sales price for homes had declined 55 percent since 2006 and unemployment is some of the highest in the country, with the *Business Journal* reporting, "Las Vegas' jobless rate shot up by 7.9 points from 5.0 percent in July 2007 to 12.9 percent in the same month of [2012]. The nationwide increase was 3.6 percent during the corresponding period."

Before the bust, Las Vegas was scrambling to meet the demand for water, as drought (and perhaps climate change) sent water levels at Lake Mead to record lows as population climbed. But Mulroy and the SNWA were financing their solutions — the pipeline and Lake Mead's third straw — based on revenue coming from connection fees of new houses to water services. But a stalled housing market in recent years has meant a steep fall-off in revenue. Circle of Blue's Brett Walton reports that from 2007 to 2010 revenue from connection fees fell from $188 million to $3.2 million.

Revenue has also been impacted because Las Vegas residents use less water per capita than they used to. When drought hit in 2000, folks took notice and again in 2001 when the drought continued. "But by 2002, the drought was practically biblical," said SWNA's Davis. "The Colorado River got 24 percent of normal runoff and Lake Mead dropped like somebody pulled the drain plug. We realized we had to change the way our community thought about water."

The SNWA implemented programs like cash for turf removal and plumbed the Las Vegas valley to capture water that goes down the drain. It is then diverted either for irrigation or treated to Clean Water Act standards and piped back to the Colorado River, giving the water authority a credit.

And despite what passes for water profligacy on the Strip, the biggest water guzzlers are property owners with lawns. "Although the fountains are nice targets, it's people living in the Mojave Desert as if they've lived in New England who are the biggest water wasters," Fulkerson says. Resorts on the Strip use just 3 percent of the water – the biggest use for them is the air-conditioning cooling towers.

The Pacific Institute reported that in SNWA's service area per capita water use fell by 31 percent between 1990 and 2008. Although since population soared 160 percent, it meant that the total amount of water delivered still increased by 77 percent.
But the region is planning for more booms and now there is less money to finance the supply it thinks it will have. A study the agency commissioned by Hobbs, Ong & Associates and Public Financial Management found that SNWA would need $7.3 billion in bonds to pay for the pipeline and interests payments could tack another $8.2 billion onto that — putting the total around $15.5 billion.
Bob Fulkerson of PLAN thinks residents will end up with the burden — rates have already been on the rise, and, "The economic impacts of the pipeline would be devastating to the rural economies but it would also jack up water rates on people on fixed incomes in Las Vegas on a project that's not even necessary," he said.
Davis says that the water authority would use bonds financed by a combination of connection charges, rate increases and reliability surcharges (which also falls to customers).
Sharlene Leurig, a water financing expert at Ceres wrote in the *Guardian,* "The bottom line is that warming trends, price-sensitive demand and growing populations are creating unprecedented challenges to our western water resources. How water managers solve these challenges – and pay for them – should be less about pie-in-the-sky solutions and more about old-fashioned conservative thrift."
Thrift indeed. Researchers at the Pacific Institute think the problem can be greatly helped by better efficiency and conservation. In its 2007 report, "Hidden Oasis," the Pacific Institute found:
While data limitations prevent a full end-use analysis of all water users in the Las Vegas Valley, our review of single-family residential customers, hotels, and casinos indicates that installing water-ef?cient ?xtures and appliances could reduce current indoor water demand by 40% in single family homes and nearly 30% in hotels and casinos. Installing water-ef?cient landscapes could further reduce current outdoor demand by 40% in single-family homes. In total, we estimate that water conservation and ef?ciency improvements for just these three sectors could reduce current water diversions by more than 86,000 acre-feet per year. Behavioral changes and efforts in other water-using sectors can produce even greater reductions.
Its estimated savings of 86,000 acre-feet a year is just slightly greater than what the State Engineer has granted SNWA for its pipeline. Although it is unclear how much the region has already done since the 2007 study, Davis says, "We don't think we've done all we can." He says the water authority has more ambitious conservation goals for the future, which includes a restriction for new homes that doesn't allow grass in the front yards and only allows 50 percent cover in the back.
And, of course, more could be done if you factor in smarter growth.
Unfortunately, there is a whole lot of development around Las Vegas that is anything but smart by desert standards. Take Lake Las Vegas in Henderson. The lake itself is a manmade 320 acres filled with drinkable water piped from Lake Mead, which evaporates in the hot sun at a rate of 3,000 acre-feet a year. Surrounding it are more than 3,000 acres of golf courses, casinos, hotels, and high-end homes. The conglomerate of owners declared bankruptcy in 2008 but somehow emerged from it in 2010, although today the community looks like a ghost town in places as hotels have closed up shop, homes sit empty and golf courses have browned.
While Lake Las Vegas wallows in its own folly, the mistake may be repeated on an even grander scale. The Web site for Coyote Springs says, "Perhaps the most important aspect of any community is not where it stands, but where it is headed." But where exactly is it headed? Located about an hour north of Las Vegas, Coyote Springs' visionary Harvey Whittemore has big plans — 43,000 acres of plans that include 150,000 homes, 10 golf courses, schools, parks, shopping centers and everything you could possibly want in a community. So far, according to Henry Brean and Francis McCabe of the *Las Vegas Review-Journal* it's got a golf course and a single full-time resident: a dog named Mitch.
Like all desert developments, it hinges on water. Whittemore has rights to a lot of it — he just doesn't have an affordable way to get it to Coyote Springs. That is, unless a pipeline would be built nearby him. The odds of that are looking better and better.
Whittemore has friends in high places. As George Knapp writes for *Las Vegas City Life*:
He bought [the land] for $23 million, then sold part of his water rights to Pat Mulroy's Southern Nevada Water Authority for $25 million. Sweet deal, huh? Although you might think the authority would look at Coyote Springs as a competitor for scarce water resources, in practice, the two entities have been bosom buddies from the start. The authority has spent millions of public dollars on water projects that seem to mostly benefit Whittemore's development.
More important, the granddaddy of all public works projects, the proposed rural water grab (aka Pat's Pipeline), which could cost $10 billion or more, would be a major boon for Coyote Springs because it will -- conveniently -- run right alongside the project and bring billions of gallons of rural groundwater to what ranks as one of the driest spots in the driest state in the

country. If the pipeline is built (and if the real estate market bounces back), Coyote Springs would be worth a fortune. Without the pipeline, Whittemore would have to build his own water system to bring water from other valleys. The cost would be tremendous, maybe a dealbreaker.

Big Decisions

Baker business owner Terry Marasco has other issues with the water pipeline beside the economic interests and concern for the environment. "It's a moral and ethical issue," he said. "Do you destroy vast areas of rural America for the growth of cities?" So far in the history of our country the answer to that question has been yes. And a resounding yes when it comes to the production of energy — like coal, oil and recently, shale gas. But as our thirst for energy and for water grows, there is less and less of a healthy rural America left — its small towns have been developed or pillaged or economically ravaged so badly that people are fleeing. At what cost to them and the rest of us?

Those of us who live in cities and suburbs have depended on rural America to grow most of our food, and we've depended on the wilderness to replenish our souls. We know that Las Vegas is the economic engine of the state in terms of overall revenue, but what value can we put on a countryside of farmers and ranchers, small businesses, limestone caves, artesian springs, wild horses, migrating birds, endemic fish, and ancient trees?

The future that Las Vegas and the rest of Nevada face is one where climate change is likely to make life harder, water scarcer, and decisions about the future tougher. And it's a future that will be shared across the Southwest. K. Kaufmann writes for the *Desert Sun* about the National Climate Assessment Advisory Committee's findings on climate change will affect the country. In the Southwest, Kaufmann writes:

Snowpack and streamflow amounts are projected to decline, decreasing water supply for cities, agriculture and ecosystems. The Southwest produces more than half the nation's high-value specialty crops, which are irrigation-dependent and particularly vulnerable to extremes of moisture, cold and heat. Reduced yields from increased temperatures and increasing competition for scarce water supplies will displace jobs in some rural communities.

Increasingly, wherever you live in the U.S. this will be a shared problem as water resources and potentially energy resources become strapped, if we continue unchanged on our current trajectory.

What future will Las Vegas choose? What stands in the way of the pipeline now are legal challenges and billions of dollars – things that have been overcome before. As Marc Reisner wrote in *Cadillac Desert*, in the American West "water flows uphill towards money."

But Davis says that permission to build the pipeline doesn't mean it will happen … yet. "It's a safety net project," he said. " We won't begin construction until and unless we need to." If a prolonged drought does take hold it will be three years, he estimates, to have all the infrastructure up and running.

What remains to be seen is if enough public pressure can alter the region's course and point the country in a more sustainable direction. As the West faces increased water pressures, all manner of solutions have been proposed, from energy-intensive desalination, to massive pipelines (sending Missouri River water to Colorado), to towing icebergs to the California coast. Someday we may be desperate enough to test these schemes out (indeed, desalination is already in the works in places), but shouldn't we exhaust the other, cheaper possibilities first? Shouldn't we see how smart growth, reuse of graywater, conservation, and efficiency can be fully implemented -- and not just with token efforts -- before we risk sacrificing more of rural America and the people who live there?