

Water: Nature's Reminder of the Limits to Growth

BY BRENDA WALKER

As Mark Twain wisely observed, “Whiskey’s for drinking; water’s for fighting.”

Indeed, water is basic to life and has been fought over countless times in history, because humans can survive only a few days without it. But even without wars over water, the past is also filled with worse trouble when nature’s faucet has shut down. In fact, when an autopsy is done upon deceased civilizations, the cause of death is sometimes, if not often, drought.

The Indus Valley Civilization existed in northern India 4,000 years ago, but when the monsoons ended their regular appearance for 200 years, the society fell apart. There are several theories for the fall of the Mayan civilization, but one strong contender is drought. The Mayans flourished for about 600 years, then disintegrated around 900 AD. Impressive cities with thousands of residents were abandoned and later covered by jungle.

According to the *National Geographic* (“Drought Led to Collapse of Civilizations, Study Says,” October 13, 2014), the Bronze Age crumbled in the eastern Mediterranean due to a series of severe droughts over a period of 150 years from 1250 BCE to about 1100 BCE. A study of pollen revealed that wars and disease were results of drought-caused civilization breakdown, rather than causes.

In modern times, the government people in charge of resource management appear unserious about water. They see that inconvenient droughts of a few years can happen, but the subject of rain-free periods lasting decades or even centuries does not seem to occur to them.

California is currently suffering a severe drought, the worst in decades. Talking heads on television fret about low reservoirs and exhort residents not to waste,

but interestingly, nobody in government, academia, or media has mentioned that the growing population puts extra strains on dwindling resources. While it’s true that the majority of water in the state goes to agriculture, when the rains stop, the home consumer is urged to cut down.

The press has been performing an interesting tap dance. On one hand, it wants to be a good corporate citizen by reminding residents not to waste water. But at the same time, media are trying to be California business boosters, by avoiding trash talk about the state and emphasizing its positive qualities for vacations and investment.

The *Los Angeles Times* had a bizarre approach a few months back, with a front-page headline asking “7 Dry Decades?”

In virtual mega-drought, California avoids defeat

Los Angeles Times, October 5, 2014

A few years ago a group of researchers used computer modeling to put California through a nightmare scenario: Seven decades of unrelenting mega-drought similar to those that dried out the state in past millennia.

“The results were surprising,” said Jay Lund, one of the academics who conducted the study.

The California economy would not collapse. The state would not shrivel into a giant, abandoned dust bowl. Agriculture would shrink but by no means disappear.

Traumatic changes would occur as developed parts of the state shed an unsustainable gloss of green and dropped what many experts consider the profligate water ways of the twentieth century.

Are they insane? Lake Shasta, the largest reservoir in California, was reported to be only 24 percent full in November after just three years of drought. Why would the *Times* print the ridiculous idea that a 70-year drought

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CALIFORNIA DROUGHT

RUNNING DRY

Water deficit: Even wettest winter on record, an unlikely event, may not bring state out of historic drought, weather analysts say



Jerry Sparkman of the Santa Clara Water District stands near the intake structure at Chesbro Reservoir in Morgan Hill. The structure is normally underwater, but not after three years of severe drought.



AT DIAMOND VALLEY Lake in Hemet, Calif., markers show how the water has receded. In a 72-year drought, runoff into reservoirs would be about half the historical average, a study found.

7 DRY DECADES?

California's severe drought, the "worst in decades," as *TSC* contributor Brenda Walker notes, as viewed in some of the news coverage, including a bizarre *Los Angeles Times* front-page article (above right) on the results of a "virtual mega drought" that estimated the results of "7 Dry Decades" as a minor inconvenience. A "No Lifeguard On Duty" warning sign (below) on a parched beach at Folsom Lake captures of the stark realities of California's historic drought.



© EPA

would be no big deal? The paper must not have interviewed any farmers for their opinions, although it did note that some farm communities would become “ghost towns.”

Three years of parched conditions do not compare with serious droughts of centuries past within the historical record. Well-read water worriers know about the Medieval mega-droughts that struck the west from 900 to 1400 AD, which is quite recent in terms of climate hiccups. And nature doesn’t take a holiday just because nearly 40 million California residents use water daily.

Still, life goes on, and that means that wells are being drilled ever deeper by people who need water. In California’s Central Valley, so much water has been pumped from underground aquifers that land is actually sinking, up to a foot in some areas. Not only is the subsidence a big wake-up call about supply, but the land sinkage also affects the proper function of things like gravity-powered movement of water around the state.

Scientists say California’s mountains, both the coastal range and the Sierras, have risen nearly six inches since groundwater has been pumped, starting in 1860. Researchers think that the massive movement of land has been rattling the San Andreas Fault. A natural land flexing occurs anyway, from the enormous weight of water that waxes and wanes with seasonal rains. But the added stress of aquifer depletion could increase earthquakes in central California, according to some research.

California is emblematic of short-term thinking so common in government, even though environmentalism is voiced as a constant concern. Last January, Governor Jerry Brown declared a drought emergency, leading to various restrictions. He noted, “There’s many ways we can better use the water we have. You can’t manufacture water.”

That statement shows a lack of imagination about what actions might need to be done eventually. If nature decides to quit raining on California for a couple decades, then conservation won’t help. But people of our time at least have choices, albeit expensive ones. Unlike the many dust-filled ancient cities whose inhabitants were forced to leave because of drought, today we can pipe water from great distances or desalinate sea water. Those are the choices when conservation is not enough. If authorities are thinking ahead, then those expensive potential necessities should be on the future list of desperate measures.

California is in the drought bull’s eye now, but other regions have suffered as well. Georgia hit a rough patch in 2007, where Governor Sonny Perdue urged concerned citizens to “pray up a storm” when supplies ran alarmingly low, with less than three months’ supply of water left. A *Washington Post* headline read: “No Backup if Atlanta’s Faucets Run Dry.”

Note to Governor Perdue and other religious office holders: prayer is not a substitute for responsible resource management, particularly in the face of rapid population growth. Georgia doubled in population from 1960 (4 million residents) to over 8 million counted in the 2000 Census. So not only had the supply of water decreased (droughts are a normal part of climate fluctuation), but the demand had increased enormously.

Atlanta landscaper Ray Wiedman sensibly noted, “It’s amazing that things have come to this. Everybody knew the growth was coming. We haven’t had a plan for all the people coming here?”

Texas has known terrible droughts, like the one in the 1950’s that was worse than the Dust Bowl catastrophe. Seven long years of drought devastated ranchers, who were forced to sell off their herds after the grass was burned away by the relentless sun. The crushing drought at least led to modern water planning and more conservation. Also noteworthy: Texas’s population in 1950 was 7.7 million, while in 2010 it was 24.6 million.

Speaking of the Dust Bowl, the modern environmentalist narrative is that the destructive blizzards of dirt were caused by farming practices inappropriate for the prairie. That analysis is certainly true, but it draws attention away from the fact that nearly a decade of drought had occurred in America’s heartland, and its effects were exacerbated by bad farming techniques. Nature does not promise an adequate water supply.

Another short-sighted farming practice is the draw-down of the enormous Ogallala Aquifer (which extends from the Texas panhandle to South Dakota) for everyday irrigation and other use. A 2013 *Washington Post* article asked, “How long before the Great Plains runs out of water?” and it partially answered the question:

A recent study in the *Proceedings of the National Academy of Sciences* tried to come up with an answer for the crucial Kansas section of the aquifer. At current rates of use, farming in that area is likely to peak by 2040 or so due to water depletion.

With better conservation techniques, western Kansas could probably stretch things out so that farm production doesn’t peak until the 2070s. But avoiding any sort of peak altogether would require drastic measures — beyond anything contemplated today.

While the pro-growth voices of the Chamber of Commerce and the business community are loud and well financed, their viewpoint gets little pushback in Washington. Environmentalists do complain a bit about development encroaching on open space, but they never make the strongest argument, namely that immigration-fueled population growth threatens sustainability.

The result of too much immigration-fueled population growth makes natural systems unable to replenish themselves, as shown by shrinking aquifers. Nevertheless, elites plan to import another hundred million workers and consumers over the next few decades (even though robots are doing increasingly more of workplace tasks). Liberals like to chatter about environmental sustainability regarding issues that they like (e.g. global warming), but not so much when immigration is part of the discussion.

Why are the limits to growth as related to water supply never discussed by elected officials? Must Californians suffer increasing water restrictions and rock gardens instead of grass so that another 10 million Mex-

icans can be crammed in?

Today's environmentalists are too politically correct to link population growth with environmental damage, in particular resource use beyond what the earth can normally replenish. When Senator Gaylord Nelson began Earth Day, he and other environmentalists like David Brower honestly discussed the connection between immigration-fueled overpopulation and the overuse of natural resources, like water. These days, the public doesn't hear much about overpopulation reality, which affects everyone.

On the seven-billion-person planet, limits are beginning to be reached locally, and that topic should be discussed. ■

Tomorrow's Workforce: Robots Are Replacing People

Fifty percent of today's jobs may disappear during the next decade

BY WAYNE LUTTON

Technology is replacing more jobs traditionally performed by low-skill human labor. One example: Peds Legwear, a socks manufacturer whose owner closed three hosiery plants in North America eleven years ago after he concluded they couldn't compete with Asian imports, opened a new plant in Hildebran, North Carolina, in December 2014. Rapid changes in technology and other costs led president and owner Michael Penner to invest in a new plant which is making socks for Wal-Mart and other customers.

Key to the operation is 90 machines built by the Italian robotics firm LonatiSpA. The Lonati machines knit yarn into tubes and then stitch a toe seam. This combines what used to be separate processes, halving the number of production workers needed. As Mark Bess, a senior technician at the plant explained, "You cut out a whole department" that used to sew the seams. "That's what makes us competitive with China." The new plant pays \$10-\$11 an hour to all but its most skilled workers.

Another example: the German brewer, Badische Staatsbrauerei Rothaus, has installed an ABB Ltd. IRB7600 robot that sorts and stacks 30,000 bottles of beer an hour, far faster than humans can. This has allowed the company to reassign its human employees to other bottling and packaging tasks.

Robot makers are finding new ways to apply technology to automate dirty and repetitious tasks. The International Federation of Robotics, an industry association, said that sales are rising steadily in all sorts of industries. Bakeries are now using robots to bag pretzels. Brickworks can now employ robots to remove fired bricks from kilns. Interfaces are being streamlined, so novices can operate them.

In 2012, Daniel Barowy, a computer scientist at the University of Massachusetts at Amherst, developed the first fully automatic computer system that can delegate tasks to human workers. His "AutoMan" uses crowd-sourcing platforms, such as Amazon's Mechanical Turk, to turn over problems to human workers. As Barowy remarked, "I'd rather have a computer as my boss than a jerk."

Last year, the consulting firm CBRE and China-based Genesis interviewed over 200 technology experts and business leaders in Asia, Europe, and North America. In November 2014, they issued their findings, *Fast Forward 2030: The Future of Work and the Work Place*. Over the next decade, a paradigm shift is expected in the way workplaces operate. They anticipate that nearly half of occupations currently existing will be redundant by 2025.

Why, then, are the United States and other developed countries opening the floodgates to more immigration? What will these millions of additional people and their children do a decade from now? We simply don't need millions of foreign workers. As robotics technologist Ben Wey warns, we will lose the vast majority of traditional jobs "and they will not all be replaced by higher skill jobs. There is no doubt that this will cause social unrest and turbulence in society." ■

[Sources: James Hagerty, "Decimated U.S. Industry Pulls Up Its Socks: Manufacturing Makes Modest Comeback Thanks to More Efficient Machines, Tepid Wage Growth," *Wall Street Journal*, December 26, 2014, p. B6; John Revill, "Robots Keep the Beer Flowing," *Wall Street Journal*, December 26-27, 2014, p. B4; Ben Way, *Jobocalypse: The End of Human Jobs And How Robots Will Replace Them*, 2013, p. 132 (available through Amazon.com)]