

Superstition Land: A Fable of Boundless Water

By Scott Thompson

It is not that Pueblo Indians hate modern America... It is just that our unchecked growth, lack of social cohesion, and flamboyant use of resources worries them as being unsustainable. They expect to outlast us. – David E. Stuart, University of New Mexico

March, 2000. My backpack and suitcase in the trunk, I drove the airport rental car eastward on U.S. 60, through the twinkling pre-dawn metropolitan morass of Phoenix and Mesa. The highway coalesced into two lanes past Apache Junction, running along the southwestern flank of the Superstition Wilderness. Oncoming headlights from outlying housing developments *whooshed* past me in an unremitting stream. Rush hour. My shoulders tightening, I flicked the boxy rental car left between two sets of headlights, onto the dark, bumpy road to Peralta Trailhead. The yellow line of traffic vanished behind me.

I parked at the deserted trailhead and plodded up a low, murky hill. At the top the trail wound along a ridge and as the dawn came I saw that it curved down into a flat valley several miles wide; I looked back at the golden sunlight on the high ridges of the Superstition Mountains. An hour later I walked in the open morning light on the valley floor, ornamented with creosote, red-blooming spires of Ocotillo, and studded with Saguaro cacti.

I crossed a rocky wash bordered by intermittent honey mesquite, hackberry and paloverde trees. That's when I walked into the thoroughgoing silence of the Wilderness itself; it seems to hang like a delicate, invisible veil a mile in from the trailhead. The housing developments that had sprung up all along the southern boundary of the Superstition Wilderness in recent years and the yellow lines of traffic flowing from them like infected water hadn't damaged the veil. So far.

Farther down the trail I dropped my backpack on a flat spot and hung out.

That evening I pulled my coat onto my shoulders as the sun dropped behind the rugged backbone of the Superstition Mountains; its corona radiated far above the mountains' mass. Saguaro cacti thrust up into the twilight like black ICBMs. Afterward the horizon softened and a broad layer of vermillion light overlaid the craggy ridges and the tiny purple outline of a remote mountain range. The sky higher up was gold, arching into soft blue beneath the dark blue night sky.

As I drove back toward Apache Junction on U.S. 60 late the next morning, I impulsively turned into a housing development along the boundary of the Wilderness. It featured a broad, green golf course encircled by oversized houses. I parked and took a few photographs of the view across one of the greens. The golf course was plainly designed so that the southwestern wall of the Superstition Mountains would serve as a tame mountain backdrop for a pleasant day of golf. When I developed the pictures back home, they looked like color place mats in a chain restaurant.

On the way out I parked the rental car at the pink stone entrance sign. The development's name – MEADOWBROOK VILLAGE – was splayed in outsized brass lettering. Water streamed over a wide stone lip beneath it into a five-foot artificial waterfall, filling a concrete pond underneath. The pond was landscaped in front with desert plants.

I stared at the sign and the waterfall.

If I'd somehow asked one of the developers about the ecological significance of the fake waterfall, she or he might have explained, after a long-suffering eye roll, that the fake waterfall was a simple advertising ploy to soothe people shopping for new houses. Because (pause for another long-suffering eye roll) don't tree huggers like me know that the sight and sound of running water is known to relax people, blah, blah, blah. And might have added that house shoppers either didn't notice the waterfall or didn't think anything of it.

But I believe that that the fake waterfall implied, perhaps unconsciously, that home buyers were in a landscape that provided running water, like the eastern states, Canadian provinces, and, for some, the California suburbs they came from. And this is a false assumption; *there are no brooks* - no flowing streams - in the Sonoran Desert. A mere hour's walk along any trail in the Wilderness, *just over the fence line*, reveals to a home buyer that in the absence of a thunderstorm the arroyos and washes in this landscape remain dry.

To actually *have* a flowing stream in the Sonoran Desert landscape requires a nearby mountain range that is high enough – 8,000 feet or more – to have a winter snowpack feeding the stream bed melt-water each spring. And even then the stream will likely run dry in the late summer.

The Superstition Wilderness tops out at just over 6,000 feet.

It goes without saying, or you'd think it would, that people living in a Southwestern desert need to be acutely concerned, almost on edge, about the scarcity of water and that they need to pressure and needle politicians to scrupulously limit its use. But the populace of metro Phoenix land (MPL) hasn't done that because water use has not only increased, it's increased at a suicidal rate.

A sure-fire way to accomplish this suicide is to radically increase both population and material consumption; otherwise known as cancerous economic growth. Here we encounter the self-destructive paradigm of the American Dream, which has lived itself out on a gargantuan scale in MPL; for example, its population expansion of 590% in the last 48 years (while we're at it, the American Dream has also filled the skies with CO₂ and the rest of the world with longing and murderous resentment). Other desert metropolises,

although much smaller, have shown the same trend: Tucson, up 382%, Albuquerque, up 268%, and Las Vegas, the melanoma of growth, up 1,320%. No one has sized up the compulsive grip of this mindset better than Gary Snyder in a 1976 interview: "...we live in a nation of fossil fuel junkies, very sweet people and the best hearts in the world. But nonetheless fossil fuel junkies...who are still caught on the myth of the frontier, the myth of boundless resources and a vision of perpetual materialistic growth." (*The Real Work*, p. 69).

The mythical "boundless resource" in a desert is water, symbolized by the fake waterfall that I found in 2000, when the population of MPL was 3,252,000. Flamboyantly living out such an illusion will in time bring down Water Judgment Day.

Which hasn't yet come, although warnings certainly have. When I spent summers in Tucson in the late 1960s, word was already out about the falling water table in MPL; its population at the time was still less than 1,000,000. A flashing yellow light indeed, but it didn't jive with the myth of boundless resources and perpetual growth.

So Arizona opted for a technological solution, namely the Central Arizona Project, a 336 mile system of aqueducts, pipelines, and so forth diverting 1.5 million acre-feet of

water from the Colorado River to Phoenix, Tucson, and other localities. Construction was under way by 1973 and it was online by the mid 1980s. With CAP's help the City of Phoenix cut its reliance on groundwater from 35% in 1984 to 3% last year.

It sure seemed like a good solution at the time.

Another warning was the arrival of a long-term drought in the late 1990s. For the first time in half a century, the Salt River Project (SRP), which furnishes the City of Phoenix about half of its water from reservoirs on the Salt and Verde Rivers, cut its water deliveries by one third in 2003 and 2004. Phoenix made up for the shortfall in those years by taking extra water from CAP, which furnishes Phoenix about 40% of its water ("Drought in Perspective," phoenix.gov).

As of 2007 MPL was getting 60% of its water from CAP and 35% from SRP ("Arizona Would Bear Brunt of Water Restrictions," findarticles.com).

Another warning was the report, "Climate Change and Water," issued in June, 2008, by

the Intergovernmental Panel on Climate Change, an organization too prestigious to ignore. At this time the estimated population of MPL was 4,282,000. Although the report had a worldwide focus, it drew a bead on the Colorado River Basin: "...the allocation of Colorado River water to basin states [including Arizona] occurred during the wettest period in over 400 years (i.e., 1905-1925). Recently, the Western USA has experienced sustained drought, with 30-40% of the region under severe drought since 1999, and with the lowest 5-year period of Colorado River flow on record occurring from 2000 to 2004. At the same time, the states of the south-west USA are experiencing some of the most rapid growth in the country, with attendant social, economic and environmental demands on water resources...

"...Estimates show that, with increased climatic warming and evaporation, concurrent [water] runoff decreases would reach 30% during the 21st century...Under such con-

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ditions, together with projected withdrawals, the requirements of the Colorado River Compact [distributing water among Western states, including Arizona] may only be met 60-75% of the time by 2025...These changes could occur as a consequence of increased temperatures...even if precipitation levels remain fairly constant. Some researchers argue that these assessments, because of model choice, may actually underestimate future declines.

"Most scenarios of Colorado River flow at Lees Ferry (which separates the upper from the lower basin) indicate that, within 20 years, [water] discharge may be insufficient to meet current consumptive water resource demands." (p. 105).

This report ignited a slow-burning buzz among water professionals in the Southwest because:

Under the Colorado River Compact Arizona is entitled to 2.8 million acre-feet of water per year, out of a hypothetical annual river flow of 16.4 million acre-feet, *which annual flow we now know is artificially high, even without global warming*. In time there will be pressure to reduce each state's share.

On top of that, 1.7 million acre-feet of Arizona's current share is "junior water," mean-



ing that when annual cutbacks in the lower basin from reduced stream flow come, Arizona's water will be cut back first before any water is cut back from California's yearly share (4.4 million acre-feet) or Nevada's (300,000 acre feet).

Now here's the kicker. Over time global warming will bring chronically reduced stream flows in both CAP and SRP. What then? Sucking out the remaining water from aquifers isn't a viable long-term solution, desalinization is expensive (check it out some time), and using stored water and back-up agricultural water are short-term measures. What then?

Yet another warning was a 4/20/09 press release, "Climate Change Means Shortfalls in Colorado Water Deliveries," describing a new study by scientists Tim Barnett and David Pierce: "...if human-caused climate change continues to make the region drier, scheduled [water] deliveries will be missed 60-90 percent of the time by the middle of the century, according to a pair of climate researchers at Scripps Institution of Oceanography, UC San Diego... 'We considered the question: Can the [Colorado] river deliver water at the levels currently scheduled if the climate changes as we expect it to. The answer is no.'" They cautiously questioned the myth of boundless resources: "In most years, delivery shortfalls will be small enough to manage through conservation and water transfers... But during dry years there is an increasing chance of substantial shortfalls... 'we can avoid such big shortfalls if the river's users agree on a way to reduce their average water use,' said Pierce. 'If we could do that, the system could stay sustainable further into the future..., even if the climate changes.'" The next day a story about the study appeared in *The Arizona Republic*, MPL's newspaper.

Which sure sparked comments on the paper's website. Between a quarter and a third were at least receptive to the troubling findings and some were insightful. But half or more revealed a disheartening lack of understanding of scientific research or simplistically assumed that a technological fix will come along or reflected denial in some other way. My pick: "These scientists are boneheads... Ninety percent of the earth surface is water. There is no way for it to escape our atmosphere. Therefore we will never run out... it can always be filtered and/or desalinated... we can easily achieve this with Nuclear [sic] power" A self-revealing statement.

Now unless there is a seismic epistemological shift in MPL *real quick* (what are the odds?) Water Judgment Day will indeed descend; when or how is a guess. It could be that another apparent fix, such as buying up agricultural water rights, will bail the system out for awhile. My scenario is as follows. After a desperate effort to prevent it, the price of water will climb inexorably. Maybe the price of electricity will also spike upward, to the extent it is dependent on hydroelectric power. Other costs such as gasoline and food will increase. From the cumulative effect the housing market will tank long-term, beyond the current implosion, as people begin to fear for the stability of their equity. At some point chronic economic decline will set in, an altogether different matter than even a head-slammng recession. Those who can will cut their losses and migrate elsewhere.

This kind of scenario has played itself out before in the Southwest. Here's the story.

For a millennium, up to about 900 A.D., the Anasazi Indians in northwestern New

lence, as the Anasazi abandoned their lowland farms in favor of fortified settlements in the uplands, willing to risk the shorter growing seasons in hopes of finding moisture. Unfortunately, a hellacious drought in the late 1200s emaciated the upland settlements.

That did it. Bands of Anasazi people, now called Pueblo Indians, drifted southward and eastward and built new pueblos along various rivers, notably the Rio Grande: *along sources of flowing water*. They minimized their traditional dry-land farming in favor of irrigating crops on low-lying flood plains, grew terraced gardens on nearby mesas, and hunted on other land, thus emphasizing ecological and economic diversity. In so doing they achieved a sustainable way of life that has endured for seven centuries. Never again did the various pueblo tribes use religious rituals to enhance class differences or become part of an area wide economic and political system. Each pueblo was self-contained.

The Pueblo Indians have learned lessons from their hard history that the growth-wild American society has thus far had the luxury to ignore. When it comes to living in a desert or near-desert landscape, Pueblo cultures, with their - to us - shabby dwellings and "undeveloped" expanses of land, have long been more advanced than mainstream American society. I suspect that we're *still* too far behind them to comprehend what they could teach us.

I like to imagine how MPL's history might have been different if, when the water table was dropping in the 1960s, or even earlier, the various metropolitan and state leaders had planned for their descendants to be living there a thousand years hence. That's the way Pueblo elders look at their people and their water and their land.

December, 1989. At 4 a.m. I dropped a full backpack in the hatch of my Plymouth Colt and drove north from Tucson on the state highway, whisking through an isolated town in the early, empty hours, then by a state prison flooded by ghoulish orange light. It was still dark when I hooked a left onto U.S. 60, running along the vacant southwestern flank of the Superstition Wilderness, my tires singing on the pavement. As I turned north off the highway toward the First Water Trailhead, east of Apache Junction, I spotted a lone gas station and a small Mexican restaurant in a white box building, closed for the night.

The winding, empty road led to a dusty parking lot. I stepped out into chilly air and utter quiet. As I strapped on my backpack, I gazed at the white and gold first light above a black rise in the trail, backed by the slender arc of a mountain further east. Northward a broad, purple mountain range in the distant uplands shouldered above the undulating relief of the desert. A lone Saguaro on a bluff stood thin and sharp in the gold sky.

The invisible veil of thoroughgoing silence was a mile down the trailhead, in the open heart of the Wilderness.

At that time the population of nearby Apache Junction was 18,100. A decade later, when I ran the gauntlet of oncoming headlights and found the fake waterfall, it had metastasized to 31,800.

Note - In writing about the Anasazi, I utilized anthropologist David E. Stuart's profound book Anasazi America. But I want to acknowledge that since the Chaco "ancient ones" are likely the ancestors of the Pueblo tribes, many Pueblo Indians may not share my critical, though I hope respectful, perspective.

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Mexico underwent a transition from hunting and gathering to dry-land farming of corn, beans, and squash. This was viable as long as there was enough open land for families to fall back on hunting and gathering wild plants when crops failed due to the patchy rainfall. But eventually there were too many people.

It was time to back off, lower the population, and stabilize the society around a triad of farming, gathering wild plants, and hunting. Or to find another way of life.

But instead, from about 950-1100 A.D., there was a vast increase in the number of farmsteads in an area of northwestern New Mexico roughly the size of Scotland, and with it a surge in population. Two things made this possible. First, the rains were more predictable from the late 900s to the late 1000s, allowing them to farm previously un-arable land. And second, the Anasazi set up a system of regional trade organized and administered by an elite hierarchy in centrally located Chaco Canyon.

The canyon itself was situated on the boundary between two distinct patterns of seasonal precipitation. To the east it came only in the summer and to the west in both the winter and the summer. The back-up system, so to speak, was ingenious: that if one rainfall pattern failed the other would succeed; where crops failed on some farmsteads they would succeed on others, and to make up the difference the centrally organized system of trade in corn, pottery, timber, and other goods helped people scrape by in lean years. It was a financial fix that validated the Chaco elite's status.

But such fixes can't offer an encompassing solution to a massively growing economic system's untenable relationship with its own land and water. What they do offer, unfortunately, is an illusion that such a solution has been found (think of the way the right wing touts "the free market" as the talisman for every societal woe).

In the late 1000s a drought hit. To keep the system going, the Chaco elites began an unprecedented series of construction projects - a colossal stimulus package - extending their network of roads and imposing pueblos ("Great Houses") farther out from Chaco Canyon itself. It's a fair guess that the projects gave work to desperate farmers and were meant at least in part to demonstrate the power and viability of the Chaco system.

Which may have worked, until a 50 year drought arrived in 1130 A.D. and the culture fell apart. What followed was a century and a half of desperation, instability, and vio-



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