

Building Resilience

Big Things on a Little Place Redux

—Courtney White

For some time now, I've had resilience on my mind—even though I wasn't sure what the word meant exactly. All I knew for certain was that the word "sustainability" had worn me out. It is used so frequently and in so many different ways, for so many different purposes, that I had no clue any longer to its meaning. Worse, I developed a growing suspicion that "sustainability" was coming to mean "sustain" the status quo. Were exchanging light bulbs or driving a hybrid car really acts of sustainability? And don't even get me started on the word "green." Frankly, these words describe little more than the tweaking of the margins of our lifestyles—followed by a prayer that we earn a different future as a result. But as Einstein famously quipped, doing the same thing over and over while hoping for a different outcome is a definition of insanity.

So I went looking for another word.

I found it among the language of land health. I love the words range professionals use to describe the elements of ecosystem function: integrity, diversity, resistance, thresholds, transitions, recovery, and so forth. That's where I found



resilience. It describes the ability of a community to recover from change or misfortune—how it handles surprise, in other words. And Nature is full of surprises, as we all know. How a community of plants or animals “bounces back” from an unexpected flood, drought, disease outbreak, fire, hurricane, or other perturbation depends largely on its health—its ability to resist degradation while the event is occurring and its capacity to recover once the surprise has ended.

Resilience applies to humans too, of course, and not just our physical well-being. It applies to social, cultural, and economic lives too—think about bankruptcy, or a crippling snowstorm. In fact, the idea of resilience came to me in the aftermath of Katrina's devastating blow to New Orleans and the Gulf Coast. Would those communities be able to recover their former

vibrancy? Were they resilient? Were *we* resilient where we live? Could we bounce back from a similar shock?

The reasons for wondering should be obvious by now—climate change, Peak Oil, water and food shortages, etc.—I won't go into them here. Let me just say I believe we're entering *The Age of Consequences*, in which we are already grappling with consequences levied by our 20th century

profligacy. I have little doubt that *The Age of Consequences* holds many surprises in store for us, most of them unpleasant I suspect. Therefore, as we move farther into the 21st century I think this question of resilience will become increasingly important.

But what does resilience look like? I had a hunch. Having co-founded and directed a nonprofit organization for the past decade that worked with progressive ranchers, becoming a ranch owner and provider of local beef ourselves in the process, I had a decent sense of what resilience meant in both its ecological and social contexts. But I wanted to know more.

So last fall, I decided to visit Sam Montoya again. Sam is a tribal elder of Sandia Pueblo, a Native American reservation located a few miles north of Albuquerque, New Mexico. What he had accomplished on his very small farm, I recalled, was not only impressive, but very possibly quite resilient. So I wanted to see how things were going.

When I first met Sam six years ago, I was astonished to see 220 head of cattle grazing on the 93 acres of his little farm. That's right: *220 cattle on only 93 acres of land*. In the arid Southwest, that many cattle typically need a bigger spread—a *much* bigger spread. For example, my organization, The Quivira Coalition, runs between 200-300 cattle on a public allotment that is 36,000 acres large. As you might suspect, the difference is water—Sam's little farm is irrigated, but that only makes his story even more intriguing.

Here is what I learned from Sam during my first visit: after retiring from a career with the Bureau of Indian Affairs, Sam decided that he wanted to return to his agricultural roots. Upon receiving permission from the tribe to rehabilitate 93 depleted acres of a former sod farm, located a short distance from his home, he laser-leveled the land, built a central watering source, planted orchard and other grasses, and then divided the ground into 33 paddocks—three acres each—with electric fencing. Then he turned the water on. When the last dairy in the area shut down, due to subdivision pressures, Sam scored a natural, and economical, supply of fertilizer. When the grass grew lush, he turned the cattle out.

The animals graze as a single herd in one paddock for one day only. When the 24-hour period is up, Sam drives over from his house, lowers a gate in the electric fence, watches as the cattle drift into the adjacent paddock, secures the fence when the move is complete, and goes to work. The entire process takes less than half-an-hour, meeting Sam's requirement that he "not work too hard" in his retirement. The rotation through the paddocks takes a little more than a month, by which time the irrigated grass is ready for another



harvesting. And he repeats this cycle all year round.

"I'm trying to mimic what the bison did," said Sam. "They kept moving all the time. You, me, the land—everything needs a break. But you shouldn't sit on the sofa all week. Too much rest is as bad as too much work. It's all about balance."

Pursuing that balance, Sam didn't use pesticides, herbicides, or other chemicals. And other than the delivery and pickup of the cattle, Sam's operation required NO fossil-fuel dependent machinery—a fact that pleased the economically-minded farmer.

"I don't want anything that rusts, rots, or depreciates," said Sam, grinning. "Plus, I feel good that I'm not polluting the air."

Today, he could add something new to that statement: he's not contributing to global warming either.

That's because his operation worked on the original solar power: photosynthesis. In fact, Sam called himself a "grass farmer" —which meant he considered grass to be his principal product, not beef. The cattle are his lawn mowers (another grass farmer I know once described his cattle as "FLOSBies" —"Four Legged Organic Soil Builders").

Perhaps as importantly as anything else, Sam was making money. Profits from the sale of cattle—Sam is a studious observer of business cycles in the livestock industry—allowed him to quickly pay back the loan he took out to get the farm started. After only a few years, he operated in the black—undoubtedly due to his very low costs.

In sum, Sam's little farm seemed to be a perfect illustration of resilience. He operated almost entirely off the industrial grid, producing healthy animals raised on grass managed in a way that mimicked "nature's model" of herbivory. He recycled everything, and wasted nothing. Short of a natural catastrophe, Sam's farm would probably survive whatever surprise the world threw at it.

Or could it? That's why I returned for a visit—how had

Sam and his little farm held up over the years? Was he actually *being* resilient?

I knew the quick answer was “yes.” That’s because every time I drove from Santa Fe to Albuquerque on the freeway, I could see Sam’s cattle grazing on their patch of heavenly green near the Rio Grande River. It’s quite an anachronistic vision too—a little farm wedged between the busy Interstate to the east, smoggy Albuquerque to the south, and rapidly growing Rio Rancho, home to a major computer-chip manufacturing complex, to the west. Perhaps I should also mention the large casino at the border between Albuquerque and the Pueblo, operated by the tribe, which added to the time-out-of-place feel of the little farm.

But Sam’s little ranch was no more a mirage today than it was six years ago. The lush grass is real, the fat cows are real, as are Sam’s profits, he reported.

We met near the great cottonwood tree that dominates the farm. A handsome man with a distinguished amount of gray in his otherwise black hair and a low-key but infectious smile, Sam looked relaxed. He still wasn’t working too hard, he said, though most of his time these days is taken up directing a project for the tribe to preserve his native Tiwa language.

As for the farm, the only thing that had changed was his decision to sell his cattle, at the top of the cattle cycle, some years ago. Now he grazes cattle, for a fee, for other Pueblos and individuals. Otherwise, everything was working smoothly, he said.

We walked out to the cattle in a paddock, dodging numerous manure piles in the green grass. The animals watched us docilely. Not far away, a large flock of Canada geese grazed peacefully.

“It works pretty well,” said Sam of the farm, stopping to rub the head of his favorite bovine. “I guess you could call it resilient. It’s been pretty good to me. And I know it’s been good for the land. Sometimes too good—I have trouble keeping ahead of the grass sometimes.” At least he doesn’t have to worry about the market anymore. By feeding other people’s cattle for a certain price per head per day he doesn’t have to worry about fluctuations in the market—guaranteeing him a good price regardless of the price of cattle.

Sam confessed to only two disappointments with his work, both of which are interconnected. First, despite his

obvious success agriculturally and financially, no other “grass farm” has been established on the reservation since he began his endeavor. None of his peers seem particularly interested in his farm—a fact, Sam says, that is directly related to the success of the nearby casino. But even his farming neighbors aren’t curious. One continues to work with big machinery—and burn fossil fuels.


The second disappointment hits closer to home, I think. No one can get members of the next generation very interested in agriculture. Sam sees a parallel with his work to preserve his native language. Kids today have too many competing interests, he said, including the lure of the expanding digital universe. “Some come out to see what’s going on here,” he told me, “but no one wants to go into agriculture. I don’t blame them. After all, the tribe will pay for school so they can become doctors and lawyers.”

We wandered back across the paddock, examining the fine condition of the cattle. The ground looked pretty good too. Grass, I thought to myself, is the ultimate resilient species. It can take a pounding, as it does on Sam’s little place, and bounce back as vibrant as before. Of course, the irrigation helps, but that’s the point: resiliency isn’t abstract. It requires soil, water, air, and sunlight—the ancient elements of all farming-based cultures throughout history. And in the arid Southwest, water in particular gives the land fertility—its regenerative capacity to grow, die, and grow again.

But it’s all about balance, as Sam observed. Too much of a good thing can be bad for you in the long run. That’s why Sam manages his water carefully, applying neither too little nor too much, but just enough to stay resilient.

We reached our trucks near the cottonwood tree. We talk about lessons learned, about money, taxes, the cycles of nature, and the marketplace. Resiliency is a complicated word, we decide. It can’t be accomplished alone—it needs to be part of a community effort. By getting off the industrial grid, Sam made his farm resistant to surprise—he made it sustainable, in other words—but only to a point. He is still working by himself, which raises an important question: what happens when Sam *really* decides that he doesn’t want to work “too hard.”

Still, Sam’s efforts have been an inspiration to many of us, including myself. His work points us in the right direction and, as a consequence, gives us hope.

As I drove away, I thought to myself: “I can’t wait to come back again.” 

A former archaeologist and Sierra Club activist, Courtney White voluntarily dropped out of the “conflict” industry in 1997 to co-found The Quivira Coalition, a nonprofit organization dedicated to building bridges between ranchers, conservationists, public land managers, scientists, and others. His book Revolution on the Range: the Rise of a New Ranch in the American West will be published by Island Press in May 2008. He lives in Santa Fe, New Mexico, with his family and a backyard full of chickens.

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