

The Gift

Courtney White

Taped to my computer is a postcard I found in a local coffee store. It depicts an ill-looking planet Earth, with its tongue hanging out, imprinted with the message: “The world could be in better shape.” Surrounding this image are words: renew, heal, reaffirm, nurture, rekindle, revitalize, repair, revive, mend, soothe, rebuild, fix, regenerate, reinvigorate.

I’ve thought a lot about those words over the years, especially as The Quivira Coalition embarked on a series of substantial riparian restoration projects under the direction of Bill Zeedyk beginning in 2001. By then, they were familiar words to me; I had heard them employed by Jim Winder, Kirk Gadzia, Sid Goodloe, Dan Dagget, and many others to describe their work and the work of fellow healers. They are words of advancement and action—positive, progressive, healing action. By contrast, much of the vocabulary I learned as an environmental activist focused on defense or safekeeping: save, preserve, roll back, stop, protect, prohibit, enforce. This vocabulary is still needed, don’t get me wrong, perhaps more than ever as we enter what looks increasingly like a calamitous century for the environment (us included), but I’ve come to believe that it is more the language of *healing* that gives people meaningful direction and hope.

I believe that because I’ve seen it in action over and over.

People respond to restoration work because it involves us in a “giving” rather than a “taking”—a giving back to nature, an honoring, while we



Riparian restoration specialist Bill Zeedyk stands on a bank of Comanche Creek explaining how a post vane structure works, July 2007. Photo by Courtney White

necessarily continue to take nature’s bounty. We can’t stop using nature—we need its air, its water, its food, its animals, its minerals, its beauty, and its inspiration for our well-being. We must take, but *how* we take, as well as what we do with what we take and what we leave behind, lies at the root of many of our environmental troubles. Too often, we take too much. As we take, however, we can also give, and not just for the gesture’s sake.

Giving is becoming a requirement. The world not only *could be* in better shape—it *must be*, and soon, according to many experts and elders. The survival of the earth’s biota (including us) requires that we renew, heal, reaffirm, nurture, rekindle, revitalize, repair, revive, mend, soothe, rebuild, fix, regenerate, and reinvigorate the planet’s natural heritage.

But there is another reason why I like these words, something beyond



An aerial view of the upper Comanche Creek watershed taken in 1974 reveals the effects of hundreds of miles of logging roads. Photo courtesy of the Quivira Coalition

the practical and the doctoring. They are words of redemption. . . . In other words, the restoration of health—to creeks, grasslands, ourselves—is a kind of moral exercise. I'm not sure that Bill Zeedyk, or any number of ranchers I know, looks at it quite in those terms, but I do.

So does William Jordan. In his book *Sunflower Forest: Ecological Restoration and the New Communion with Nature*, the former director of education at the University of Wisconsin's famous arboretum—where Aldo Leopold inaugurated the first formal restoration work in the history of the nation—Jordan argued that restoration is a form of “gifting” back to nature, an exchange with a moral purpose.

This makes a lot of sense to me, especially today. But in summer 2000, when I received a phone call from Dick Neuman, who at the time was president of New Mexico Trout, a fly-fishing organization based in Albuquerque, redemption was the last thing on my mind. It was probably the last thing on Dick's mind as well. He called because his group had labored for years, with only modest success, to restore Comanche Creek, a tributary of the Rio Costilla, located in the western half of the 100,000-acre Valle Vidal unit of the Carson National Forest, in northern New Mexico, to its former status as a prime cold-water stream for the Rio Grande cutthroat

trout—one of only two native trout species in the state. As Dick explained, although there were plenty of “cuts” in Comanche, the population as a whole in the watershed was still struggling for survival. Accepting his invitation for a tour, I quickly learned why the fish was in trouble.

The Valle Vidal had been hammered. Much of the West's plundered history, in fact, could be read into the condition of the property at the time of its transfer to the Forest Service in 1982 from the Pennzoil Corporation (which was the last in a series of corporate owners). Massive overgrazing by cattle, scars from widespread logging and road building, and the “bleeding” effects of a historic gold mining district were visible in every corner of this high, remote, and beautiful landscape.

After the transfer, I learned from Dick as we toured the Valle Vidal that summer, the Forest Service, the grazing permittees, and various wildlife organizations made an innovative effort to reverse this Old West legacy. The grazing association hired a herder to control livestock impacts, the fishing organizations planted willow and cottonwood poles along the creek to stabilize eroding stream banks, and the Forest Service constructed a giant elk enclosure to keep out hungry herbivores. Although these efforts were helpful, Dick said, they weren't enough; the cutthroat trout population in Comanche Creek and its tributaries continued to struggle. All the willow and cottonwood pole planting, for instance, had failed.

Dick called me because he was worried. Cutthroat trout, he explained, like cool, clear water with deep pools and overhanging brush, very little of which was in evidence on the creek the day of our tour. He had an additional concern. His group wasn't the only one worried about the plight of the Rio Grande cutthroat trout; a handful of environmental groups were threatening to sue the federal government to get the fish listed under the Endangered Species Act. Dick thought that a legal confrontation would be bad for

the trout. He wanted to find another way instead.

Fortunately, the Surface Water Quality Bureau of the New Mexico Environment Department—and by extension the U.S. Environmental Protection Agency (EPA)—was also worried about Comanche Creek. Excessive sediment movement (bad for a lot of reasons), the presence of aluminum (a toxic metal), and high water temperatures (bad for fish) had landed the stream on the state's list of impaired waterways, requiring action.

The New Mexico Game and Fish Department was worried about the cutthroat trout too, specifically about all the nonnative brown and rainbow trout in Comanche, which tend to outcompete the natives. So a dialogue began between various interested parties that resulted in an award from the EPA, under its 319 program (Clean Water Act), for a substantial, multiyear grant to restore a portion of Comanche Creek to health. Partners included the U.S. Forest Service, the New Mexico Environment Department, New Mexico Game and Fish, Trout Unlimited, New Mexico Trout, The Quivira Coalition, the Rocky Mountain Youth Corps, the Philmont Boy Scouts, the Taos Soil and Water Conservation District, and consultants Bill Zeedyk, Steve Carson, and Kirk Gadzia.

As part of the 319 application, the partners, now called the Comanche Creek Working Group, agreed to the following process: 1) Conduct an assessment to identify specific impairments; 2) Conduct baseline monitoring and mapping; 3) Identify and implement best management practices; and last 4) Conduct an educational program.

“The ultimate goal of this project is to improve the condition of the Rio Costilla watershed to meet current water quality standards and to restore normal hydrologic function to the Rio Costilla and its tributaries,” we wrote in the grant. “Completely achieving this goal will likely take decades. Over the next three years, however,



A legacy of heavy use in the Comanche Creek watershed has caused stream banks to become unstable, causing increased sedimentation. Photo by Courtney White



Three post vane structures help heal the creek by moving the water flow away from eroding banks on the outside bend (note the willow cutting planted behind the vanes, which will help build a new bankfull bench). Photo by Courtney White

we hope to establish the technical and organizational foundation for achieving this goal and to begin some on-the-ground restoration at Comanche Creek to maximize habitat for the Rio Grande Cutthroat Trout.” In summer 2002, members of the working group conducted an assessment of the watershed, and then embarked on a three-pronged strategy to address impairments.

Raw Streambanks: Under Bill’s guidance, a large quantity of erosion control structures was proposed to be constructed within the watershed, including wooden vanes and baffles in the creek itself, one-rock dams in the uplands, and worm ditches, rock baffles, and headcut control features in wet meadows. The purpose

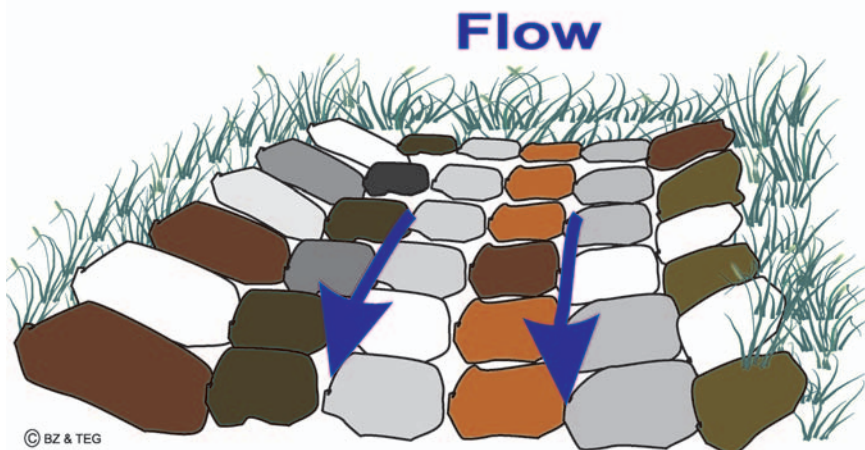
of these structures was to speed up natural recovery processes. Scouring by erosion caused by historic overgrazing and logging resulted in the creek cutting down below its traditional floodplain. Over time, the creek had begun to heal itself by creating a new floodplain—“remeandering” itself to dissipate energy and drop sediment—but there were plenty of old “wounds” that had not healed. The goal of the restoration work was to “goose” the healing process along gently.

Bad Roads: Bill Zeedyk led an inventory of the roads and prioritized which needed attention first. He paid particular attention to the placement of culverts; a poorly placed culvert can quickly create a headcut and cause erosion. Bill pointed out how much

water was being trapped in roadside ditches, thus starving downslope plants. This water also gathered a great deal of sediment as it picked up speed in long runs downhill. He proposed that many of these roads receive “rolling dips” so that water was allowed to flow again in their “microwatersheds.”

Hungry Animals: Although the cattle were largely controlled by a range rider, our monitoring showed that cattle-caused “hot spots”—usually areas that had been excessively trampled—still could be found in the riparian area. Elk had grazed the area too. And both animals are very fond of young willows and cottonwood trees. In the mid-1990s, the Forest Service experimented with a novel idea: create house-sized “mini-exlosures” around

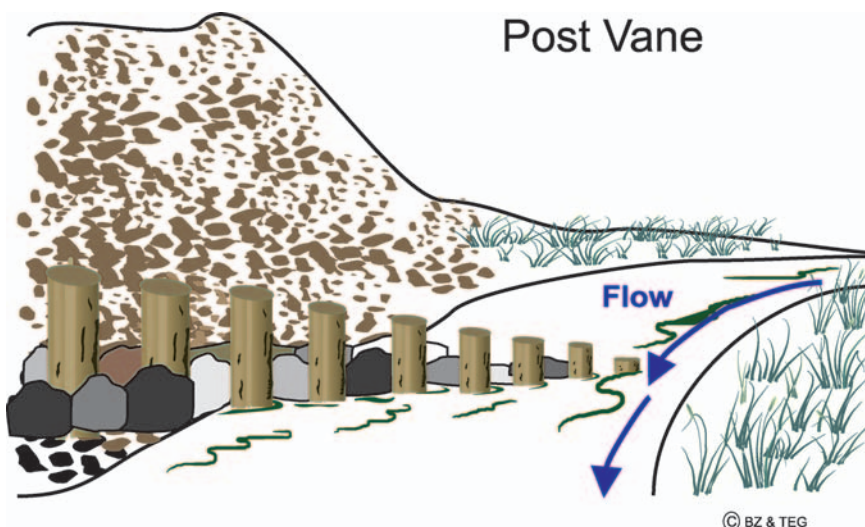
One Rock Dam



© BZ & TEG

A one-rock dam is named so because it is only one rock high. This structure slows the flow of the water, allowing for the deposition of fine sediments between the rocks. Vegetation now has a place to take hold, keeping the soil in place and slowing or halting erosional processes and the loss of soil. Graphic courtesy of the Quivira Coalition

Post Vane



© BZ & TEG

Facing upstream, a post vane is designed to move the thalweg (or the main force of the flow) away from an eroding bank. Graphic courtesy of the Quivira Coalition

existing native willow clumps to protect them from grazing animals. This was in contrast to the big elk enclosure built in the 1980s on the creek, which proved difficult to maintain.

The mini-exlosures were deemed a success. So the working group, with the energetic assistance of the Rocky Mountain Youth Corps, which employs “at-risk” youth from the Taos area, decided to build many more elk exclosures. The goal was to protect the willows so they could grow and shade the water, thus reducing overall stream

temperatures—a critical requirement for the fish.

With the grant in hand, and our partners in place, we set to work. Our effort at redemption, in other words, had begun.

In July 2007, I decided to take a walk. I was back in the Valle Vidal as part of a restoration workshop we had organized on the middle reach of Comanche Creek, the latest in a long series of productive outings. This time we had volunteer help from the Sierra Club, New Mexico Trout, The

Quivira Coalition, and numerous others—more than sixty people in all. The goal for the weekend was to construct nearly two dozen vanes—wooden posts that are placed vertically in the creek, at a wedge-shaped angle to the bank, so that water is deflected away from the eroded edge of the creek. They’re quick to build and rather fun to install, because it involves getting muddy. Before long one morning, everyone was busy hauling, hammering, or digging. Laughter and high spirits filled the meadow.

After lunch, Bill Zeedyk led a tour of our restoration work in nearby Holman Meadow, which was suffering from a sequence of ugly headcuts. These are two- to three-foot tall dry “waterfalls” in a meadow, often started by poorly placed culverts under roads, that move inexorably upslope, lowering the water table and increasing erosion. Bill has figured out an effective, low-cost way to stop them in their tracks. He also likes to teach (Bill explains things better standing in a creek than he does in front of a lectern), thus the break in the workday. Fortunately, our volunteers like to learn, so everyone eagerly trooped off to Holman.

Everyone except me—I stayed behind. I had heard Bill’s talk many times, but that wasn’t why I stayed. I wanted to walk down the creek, all the way to Comanche Point, five or six miles away, and see for myself what we had accomplished. Five years and one grant extension later, I knew that we had accomplished a lot. I knew the numbers anyway: more than 130 in-stream structures had been constructed, repairing a total of more than 35,000 feet of channel length; fifty elk exclosures had been built, enclosing nearly 200,000 square feet of stream bank; and more than 100 upland sites had been treated, including portions of many abandoned roads. I also knew from our annual monitoring that conditions in the creek and the uplands were improving, dramatically in some places. Banks protected by vanes were revegetating; willows and



Volunteers use rocks to fill in behind a post vane structure in Comanche Creek (view upstream). Photo by Courtney White

even an occasional volunteer cottonwood were growing steadily in the exclosures; culverts had been replaced; road scars were healing; and the creek itself was narrowing and deepening in places, which is a very good sign.

I also knew that the U.S. Forest Service and the New Mexico Game and Fish Department had (finally) constructed a fish barrier on Comanche Creek, a prerequisite to the eventual restocking of cutthroat trout after a purging of the nonnative species by piscicide (sometimes healing means hurting, alas). In other words, Comanche Creek was well on its way to becoming a healthy cold-water fishery again for the cutthroat. Dick's dream was becoming a reality.

I started walking.

At least I hoped his dream would come true. Was what we were doing on Comanche enough? I had no idea. I knew things were moving in the right direction on the habitat improvement front, thanks to our collective



An herbivore exclosure under construction, one of fifty built since the mid-1990s to protect native vegetation along Comanche Creek. Photo by Bill Zeedyck

restoration work, but would it be enough to ensure the survival of the cutthroat trout in the long term?

Crossing the road at Little Comanche Creek, I recalled the spring flood of 2005, which had ripped apart many of the elk exclosures we had constructed on this lower stretch of Comanche. As it turns out, there had been a miscommunication between Bill and the construction crews—the wire fences of the square exclosures, most of which straddled the creek, were built too low to the water and were not braced properly. The floodwaters pressed against some of the fences until they collapsed in big heaps, pulling the telephone poles at the corners toward the center of the exclosure like big matchsticks. It was quite a mess, and not a little discouraging. Bill and Steve and everyone involved said, “Let’s get back to work.” And by the end of the summer every structure had been repaired. “Welcome to adaptive management!” we joked. In reality, it was the power of redemption at work. We weren’t about to let our gift be taken away.

There had been other setbacks. The grazing association that used the Valle Vidal during the growing season had proved, somewhat to our surprise, to be uncooperative. Although they employed a herder, who was doing a reasonably good job of keeping the cows out of the riparian area along Comanche, he was not watching them closely enough in some of the side drainages. Our monitoring found cattle-caused “hot spots” that were

creating potential new sources of erosion. It wasn’t *bad*, but it wasn’t good either. Moreover, the cattle part of the equation could be cured relatively easily, we thought. But when I called the head of the grazing association to suggest a meeting, he lost his temper. He accused me of not knowing “which end of a cow got up first” and hung up.

I kept going. The land along the creek looked great. The willows were tall and healthy behind their fences. The sky was a brilliant blue, the sun high and bright. The day was warm with the fullness of summer. I stopped at each structure, marveling at its innate ability to renew, heal, reaffirm, nurture, rekindle, revitalize, repair, revive, mend, soothe, rebuild, fix, regenerate, and reinvigorate. I felt reinvigorated too. Even though we had only scratched the surface here, so to speak—the scale and quantity of work to do in this one watershed alone could probably occupy a lifetime—it felt good to see so much restoration taking place. I knew there was more to do even here. Looking up the side drainages I could see headcuts and other signs of trouble. The giving, I could see, would never stop.

But at that moment, I didn’t want to think about more work. I wanted simply to revel in the signs of renewal. The Valle Vidal, with its legacy of hard use hopefully finished forever is now writing a new, more hopeful chapter—a chapter employing the language of land health and healing. Moreover, with its new history of restoration,

it has the chance to become a leading landscape in the new movement to reconnect people to nature meaningfully and adaptively—a movement that will become increasingly important as this century unfolds, I believe. We can’t fully atone for the sins inflicted on this beautiful place, but we can heal old wounds, and in the process heal ourselves. The Valle Vidal.

The Valley of Life.

“The Gift” is an excerpt from Chapter 10 in Courtney White’s new book Revolution on the Range: the Rise of a New Ranch in the American West. A former archaeologist and Sierra Club activist, Courtney White voluntarily dropped out of the “conflict industry” in 1997 to cofound The Quivira Coalition, a nonprofit dedicated to building bridges between ranchers, conservationists, public land managers, scientists and others around the idea of land health (www.quiviracoalition.org). Since then, his work has expanded to include restoration, resilience, and local food production. In 2008, Island Press published Courtney’s book Revolution on the Range: the Rise of a New Ranch in the American West (www.islandpress.org/bookstore/details.php?prod_id=1233). He can be contacted at executive@quiviracoalition.org. In the fall of 2009, The Quivira Coalition will publish Let the Water Do the Work: Induced Meandering, an Evolving Method for Restoring Incised Channels by Bill Zeedyk and Van Clothier.
