

Rainwater Harvesting for Drylands and Beyond

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With an interest in punk music and a knack for questioning the systems we operate within from a young age, Brad Lancaster sues his role of enacting large-scale environmental change and helping shift our way of seeing the world. I visited with Brad for an interview at his passive solar, solar PV, composting toilet, outdoor rainwater-fed kitchen, solar clothes drying, food producing, greywater-fed oasis of an urban landscape in Tucson, AZ. Brad was one of the first people who introduced me to permaculture, and he was also a teacher in my Water Harvesting Certification course with the Watershed Management Group years ago in Albuquerque, NM. His in-person teachings, online videos, and books (Harvesting Rainwater for Drylands and Beyond Volumes 1&2) have had a permanent positive impact on me.

When I had Brad as a teacher, I vividly remember him holding his hand palm-down in a mound formation, saying “this is how we usually plant in the Southwest. Where the plants are high and dry, and the paths are low and wet.” Then he flipped his hand over and showed a new way of seeing and planting our landscapes. A way that plants the rain with plants low and wet in basins and swales, while the paths are suitably high and dry. Since learning these simple, obvious, and often completely overlooked concepts from Brad, I have used his images and videos each year in my Communicating Sustainability undergraduate course to help students engage in systems thinking.



Planting the rain. When it was still illegal in Tucson, Brad went out on a Sunday morning while no one was watching and cut his curb. This way, storm water flowing down the street could enter through the curb cut and infiltrate into the basin he created. Now, instead of harvesting only direct rainfall in a rain event, he had tapped the millions of gallons of rainwater previously untouched. Yes, one mile of neighborhood street in Tucson drains over a million gallons per year. In fact, more rain falls on the city of Tucson in a year than is used annually in municipal water by the city. And yet, Tucson relies on the Central Arizona Project (CAP) canal for its water; an open canal transporting water 336 miles from the Colorado River. The CAP canal cost four billion dollars to construct and over 80 million dollars a year to operate. It is the highest consumer of electricity in the state of Arizona and also the highest carbon emissions producer.

Brad lights up as he talks about rainwater harvesting – you can see the passion emulating from him. So why is he shifting water policy? City employee practices? Neighborhood rules and regulations? Delivering workshops across America on rainwater harvesting? Why was the last Permaculture Design Certification (PDC) he taught almost a decade ago? According to Brad, “I was burnt out on the PDC. I couldn’t do it anymore...that’s not the whole answer. It comes back to the desired effect, what do I want to see happen? I was seeing all these holes...I didn’t think I was so uniquely skilled to teach the PDC. If I see that I’m easily replaceable in the work I’m doing, I quickly lose my will to do that work. So I have to shift to see where work needs done that no one is doing.”

And now? “The big thing I’m trying to shift now is to change the practice of planting trees and other plants. So instead of planting a plastic pipe before you plant the plant, you plant the rain before you plant the plant. So that it’s not pumped water – typically imported water that’s irrigation sourced – it’s our free onsite water, it’s rainwater, it’s greywater. Water flows downhill so make the low-point first. Put the plant in beside the low-point so all water will go there anyway. Then we are not dependent on the city

system right off the bat. We aren't even connected to it! Instead, we are connected to the system we want to be connected with – the living system, the free system, the rain system. That's got to drive the design. So what are we aiming for? Let's not [&*\$@%#] talk about it, let's do it! And that has to be the driver."

In all the talks he gives, I was wondering what Brad hoped people would walk away with, if it was only one or two things. He responded, "I definitely want them to walk away with a new way of seeing, where they can see potential they didn't see before. So they can hopefully see how water sediment, energies, people are moving through a system. They can actually image it and start to work with that. Becoming more aware of what's really happening. I'm hoping they can think more critically and constructively with toolsets and frameworks that can get them to consider a larger whole, and...that they are going to leapfrog me, take me to places I can't even envision right now."

And it isn't only people interested in doing something in their backyard that Brad is working with. He is impacting designers, city planners, engineers, Extension Master Gardeners, and more. Beyond water, Brad's efforts are also getting people to recognize that the native and drought tolerant plants he is planting are more than just for wildlife and of ornamental value. He is helping people to engage with their landscape; "it's not just this pretty thing that has to be manicured. How can it be this dynamic thing that we engage with, that is influencing us and we are influencing.?"

When Brad first moved into his Tucson neighborhood, he described it as a bleak solar oven leading to his experience of eco-depression. But now, over two dozen native birds have returned, there are community mesquite harvesting and cooking celebrations, neighborhood foresters, better bike connectivity, and curb cuts and swales on every street. With regards to curb cutting, thanks to Brad's skills with policy and speaking the language of others, now it is not only legal in Tucson but the city even promotes it.

Discover more about Brad and Rainwater Harvesting for Drylands and Beyond at: <http://www.harvestingrainwater.com/>



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