

Habitat Restoration and “The Great Transition”

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This machine-built “cross-vane” — one of eight types of grade control structure we utilize for habitat restoration — was installed in one of 33 side channels that drain in to the Burro Ciénaga on the Pitchfork Ranch in Southwest New Mexico in the summer of 2015. It captured this eroded soil in just two rains in the 2016 monsoon. We have calculated on the order of 700 tons of sediment capture in just this one structure and if you think about what must be the many hundreds of similar rain events during the past 200-years, there is no telling how much sediment and top soil has been lost and what the Southwest looked like before the arrival of Europeans.



The photograph above is the same grade control structure immediately after construction and before rain. It is not common that a structure becomes completely “full” after only two rains, but in this case, the grade control structure captured the maximum amount of sediment that it is capable and a second tier atop the existing structure is necessary to continue reversing the erosive process that has been channelizing this drainage over the last century.

David R. Montgomery, Professor of Earth and Space Science at the University of Washington writes in his 2007 *Dirt, The Erosion of Civilization*, “An estimated twenty-four billion tons of soil are lost annually around the world—several tons for each person on the planet. Despite such global losses, soil erodes slowly enough to go largely unnoticed in anyone’s lifetime.” Referring to these losses as “ecological suicide,”

Montgomery warns, “Legacies of ancient soil degradation continue to consign whole regions to the crushing poverty that comes from wasted land.” This brings to mind agrarian reformer Wes Jackson’s observation, “We live in the most important moment in human history.” More to the point, there are more severe warnings. Analogous to Jackson’s sense of importance and immediacy, Christian Parenti maintains that we are faced with “the most colossal set of events in human history: *the catastrophic convergence* of poverty, violence and climate change.”

Habitat restoration is one of the five key elements—along with zero-carbon sources of renewables, weatherization, the elimination of our consumptive life way and mass transit—for what many are thinking of as “The Great Transition” required to solve the climate change crisis: arresting the emissions of climate-changing greenhouse gases and capturing the legacy load of carbon, global warming’s most ubiquitous greenhouse pollutant.

“An estimated twenty-four...ecological suicide...Legacies of ancient soil degradation”: David R. Montgomery, *Dirt, The Erosion of Civilization*, University of California Press, Berkeley, Los Angeles, London, 2007, 4.

“We live in the most important moment”: Wes Jackson, Courtney White, *The Age of Consequences: a Chronicle of Concern and Hope*, Counterpoint, Berkeley, California, 2015, 3.

“the most colossal set of events”: Christian Parenti, *Tropic of Chaos, Climate Change and the New Geography of Violence*, Nation Books, New York, 5 and 7.

“The Great Transition”: Naomi Klein, *This Changes Everything*, Simon & Schuster, New York, London, Toronto, Sydney, New Delhi, 2014, 89, quoting Paul Raskin et al., “The Great Transition: The Promise and Lure of Times Ahead,” Report of the Global Scenario Group, Stockholm Environmental Institute and Tellus Institute, 2002

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