

Terra Bite 14: Another Roadside Attraction - Hugel Terraces along Roadways

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We are all aware of the fact that the globe is warming and that the intensity and duration of storms is also increasing at an alarming rate. Average global temperatures have risen a mere ½ degree F per decade since the 60s; barely noticeable in the moment, right? But the cumulative effect of this steady increase means we are now, 6 decades later, 3 degrees warmer than we used to be. The combination of this warmer than ‘normal’ winter temperature and the arrival of atmospheric rivers of moisture means we are now ‘enjoying’ heavy winter rain far more than heavy winter snow. The effect of this means far higher rates of runoff over our semi-frozen/dormant landscape leading to hillside and roadside erosion and excess nutrients in our waters.

But the other major problem of winter rain, rather than winter snow, is that the moisture that used to slowly saturate into the forest soil as slowly melting snow is now simply running off, bypassing the forest root system. This is leading to parched forests and the dieback of seemingly robust, mature trees and shrub ecosystems which serve as important habitat for wildlife, birds and yes, we humans.

And, as the topsoil is eroded away, taking its nutrients with it, we are left with a hard, weedy, bacteria-dominated, compacted and infertile soil. In fact, what we are seeing, is simply exposed subsoil. This can be seen quite plainly around the trunks and exposed roots of mature trees on hillsides, especially near developed areas such as parking lots and country roads where hard surfaces create even more runoff. But there is an answer. And the answer is simple. The issue is that while the answer is easy, the work is hard. But not too hard if we all work together. And that answer is the creation of deep, organic matter rich “hugel terraces” that are designed to accept, absorb, filter and purify intentionally rediverted point source runoff. By causing this runoff to turn along a contour, rather than simply rush straight downhill, we are turning (pun intended) this formerly destructive and potentially polluted road runoff into nourishing and fortifying, nutrient-rich walkoff that feeds the forest rather than destroys it.

We are studying the cause and the effect, the runoff which causes the erosion, and taking the action steps necessary to cause an effect; to create a change. And this action, simply put, is to guide the point source runoff along a contour swale (sometimes using gravel if the force is extreme) so that it can slowly sink and spread through deep, carbon and fungal rich, absorption terraces created with readily available logs, leaves, wood chips and compost. Later, when the dormant season gives way to spring, the terrace can be planted with native shrubs, small trees, groundcovers, flowers and other perennial plants suitable for our native wildlife. The function and beauty of the native woodland is restored and will be resilient through the end of time.

The graphic diagram on the back of this page showcases the soil ecosystem we are regenerating. In just a few hours we can begin to convert a compacted, eroded dirt into a deep, fungal rich, soil that will, within a few years, once again resemble the soil of the ancient forest which can easily absorb the 25,000 gallons of water that falls on an acre during a 1” rain event. Now, as that storm arrives, with roadside swales and hugel terraces in place and ready, that storm water will be managed. While we can’t change the climate above our heads, we can in fact change the climate below our feet. Let’s get to work!

