

Conserving Our Soils, Investing in Our Future

As odd as it may sound, civilization's survival depends on treating soil as an investment, as a valuable inheritance rather than a commodity - as something other than dirt.- *from Dirt: The Erosion of Civilizations by David. R. Montgomery (2007)*

Last November, David Montgomery gave a keynote speech to more than five hundred farmers at the Focus on Farming conference in Snohomish County. As a Geomorphologist, Montgomery spends his time researching soils. What he learned was that throughout human history, people mined the soil to fuel their growth, and those who did not conserve or enhance soil fertility ultimately destroyed the land and themselves.

In his book Dirt: The Erosion of Civilizations, he documents the direct links between soil degradation and soil erosion to the demise of numerous civilizations including ancient Greece and the Roman Empire. Currently, an estimated twenty-four billion tons of topsoil are being lost annually around the globe; this includes millions of tons from the Mississippi River basin. Montgomery's keynote address was a call to action: we must treat soil as a strategic resource and conserve it. Conservation of our soils is vital to our very survival. One only has to recall the Dust Bowl to realize how quickly we can destroy a fragile ecosystem and devastate a local economy.

Soil is scarce in the San Juan Islands. We have few pockets of deep soils appropriate for growing food. Based on the latest National Resources Conservation Service soil survey, only 18,288 acres of the islands' 114,689 acres are classified as prime farmland, while 53,217 acres are classified as rock outcrops. That means less than 16% is suitable for agriculture without needing irrigation or drainage. Much of our farming is done on lower quality soils, but they are more fragile, and require better management practices to be productive and avoid erosion. If a field is producing less each year, or water is cloudy as it runs off, something is wrong. Erosion happens, even in the San Juans.

The USDA estimates that it takes approximately 500 years to produce 1 inch of topsoil. Given that we have so little arable soil to begin with, what are some of the soil management practices that we can use to reduce erosion and conserve our soils?

First and foremost, keeping vegetation on the ground. Bare land can erode as much as a hundred to a thousand times faster than comparable vegetation covered soil. While plowing can move nutrients into the root zone and aerate soils, it is possible to rejuvenate hay fields through intensive grazing management without spending weeks on a tractor. If you are going to replant, leaving crop residue (no-till methods), crop rotation, terracing and hedgerows are effective practices. Other commonly used practices that help reduce erosion and build our soils are mulching and cover cropping. Boosting the organic matter content in the soil can as much as double erosion resistance. In addition the organic matter provides food for microbes and worms, releasing nutrients, aerating, and generally improving the health of the soil. Organic matter is the barometer of your soil's health.

A good place to start to learn more about conserving soils is to read the ATTRA - National Sustainable Agriculture Information Service article *Sustainable Soil Management* found online at <http://attra.ncat.org/attra-pub/soilmgmt.html>. A good local resource is our San Juan Islands Conservation District, which can help you develop a farm or forest plan - visit www.sanjuanislandscd.org. The Conservation District will help with the best management practices that work within your plans. In addition, we are lucky to have an Extension Agent and an Ag Program Coordinator working in our county to improve our farming possibilities. Contact San Juan County WSU Extension at 378-4414, or on the web at <http://sanjuan.wsu.edu/>

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