



## Russian River Watershed Association

300 Seminary Ave, Ukiah, CA 95482 • (707)833-2553 • [www.rrwatershed.org](http://www.rrwatershed.org)

### RRWA Environmental Column – December 2013

#### Murky Creeks? Help Keep them Clear

Ask any child what is in a creek and they will reply, “water.” Ask them to take a look at the creek water after a rainstorm and they will change their answer to “dirt.” In California's North Coast, there is so much “dirt” in local rivers, streams, and creeks that 61 percent of our waterways are considered impaired for sediment by regional regulators.

Some of this sediment is natural - from soil, rock, sand, silt and clay. Our planet is always changing, and rocks erode, stream banks collapse, and soil washes off the land and goes into rivers. The waterways carry the sediment to new locations where, over eons, it creates new land formations and other geologic features.

But human activity can lead to the rapid creation of sediment, often in amounts that nature can't handle. Excess sediment can be the result of runoff from unpaved or poorly built roads, poor landscaping practices, logging, construction, farming and other activities. By replacing nature's natural filters (vegetated lands and porous soils) with buildings, roads, and parking lots, people contribute to making the creeks dirtier. Water going into urban storm drains and rural roadside ditches, then flows directly to nearby creeks without filtration or treatment, bringing with it all the sediment and contaminants that it picks up along the way.

Unfortunately, sediment isn't just an aesthetic issue. It can harm fish and other aquatic wildlife - including endangered coho salmon and threatened Chinook salmon and steelhead. Excess sediment blocks sunlight, limits visibility, clogs fish gills, and harms fish eggs. Sediment also causes water quality problems for people, farmers, and businesses. When excess sediment settles in a creek bed, it can create blockages that lead to flooding. Every year it's estimated that enough sediment to cover 152 acres one-foot deep settles in the Laguna de Santa Rosa. The sediment reduces the amount of space available in the Laguna to hold flood waters and creates shallower channels that allow the invasive plants like Ludwigia to grow.

In the past, we managed land by draining rainwater from the property, sending it to storm drains and creeks as quickly as possible. This practice has led to increased peak flows in creeks causing rapid erosion of creek banks and ultimately releasing sediment into the water. State regulations in the past two decades have sought to improve water quality by slowing the runoff of rainwater from developed land. Many “tools” have been developed to slow runoff, remove sediments and contaminants, and divert water to permeable areas to soak into the ground instead of allowing all stormwater to flow to storm drains. These tools can be found in the City of Santa Rosa and County of Sonoma's “Storm Water Low Impact Development Technical Design Manual” or “LID Manual” for short. Many municipalities in the region are in the process of adopting LID standards as part of meeting State-wide storm water regulations.



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Another useful stormwater management guide is “Slow it. Spread it. Sink it!” written and distributed by the Southern Sonoma Resource Conservation District. This guidebook is written for homeowners and landowners and provides practices and techniques for using stormwater as an asset while protecting the environment. The “Slow it. Spread it. Sink it!” guidebook can be found at <http://www.sscrdd.org/rainwater.php>.

## What can you do to help?

There are many things we can all do to control sediment, prevent soil erosion, and reduce other contaminants in an effort to maintain healthy waterways:

- Minimize the amount of soil you disturb
- Do not sweep dirt and debris from garden and home clean-up into streets and gutters
- Securely and cover soil piles
- Block sediment from reaching storm drains and creeks by creating barriers to retain on site
- Obtain proper permits for home construction projects
- Cover areas where potential pollutants are stored
- Seal storage containers and dumpsters to prevent spills and leaks
- Clean up pet wastes
- Maintain landscaping properly
- Recycle or dispose of fluids and hazardous wastes properly
- Properly wash vehicles and equipment in designated areas only

In addition to the web resources cited above, visit the following websites for more information:

City of Santa Rosa Storm Water and Creeks web page:

<http://ci.santa-rosa.ca.us/departments/utilities/stormwatercreeks/Pages/default.aspx>

State Water Resources Control Storm Water Program web page:

[http://www.swrcb.ca.gov/water\\_issues/programs/stormwater/](http://www.swrcb.ca.gov/water_issues/programs/stormwater/)

*This article was authored by Craig Scott, Public Works Director/City Engineer for the City of Cloverdale and Ann DuBay, Principal Program Specialist of the Sonoma County Water Agency, on behalf of RRWA. RRWA ([www.rrwatershed.org](http://www.rrwatershed.org)) is an association of local public agencies in the Russian River Watershed that have come together to coordinate regional programs for clean water, fisheries restoration, and watershed enhancement.*