

Conservation Notes



Water, Water....Everywhere? Reducing Water, Soil, and Chemical Runoff

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A few weeks ago, the University of Rhode Island Master Gardener class lecture was on water and, after the torrential rains and flooding and snow melt we've experienced, it seems a good topic to share and offer some points to ponder.

We all live in watershed areas which means that, as water drains off properties, it heads downstream to larger and larger bodies of water and eventually to the oceans. When there is storm runoff, it flows into storm drains or into streams and it *is not* treated first; it carries with it everything that is on impervious surfaces, from sediment and pesticides to soil nutrients and garbage.

Human activity has sealed off many pathways for water to be absorbed back into the ground, where it percolates down to the aquifers and is cleansed along the way. Think about cities for a minute: There is an estimated 90% runoff from rooftops, roads, buildings, etc., as opposed to a dense forest where there is just 10% runoff. There are so many impervious surfaces, from driveways and huge buildings with huge roof surfaces, to airports and parking lots, not to mention the filling in of wetlands which are natural sponges for excess water.

We as gardeners need to **consider our own role in creating non-point pollution** (that means, unlike a particular company dumping a particular something into a river, it would be hard to pinpoint the source of a pollutant), and find ways to reduce our runoff. Things to consider would be watching how your gutters flow during heavy rains, to see if you have very wet areas that don't drain well, to observe the slope of your property. You can minimize roof runoff in many ways. Using rain barrels is a great way to catch water for later use, especially when a droughty period comes along. You can use the stored water and not overtax your well or city-provided water.

A simple solution is to dig a trench and attach PVC pipe to your gutter underground and down slope from the house. This will percolate gutter runoff into the ground water and keep excess water from running off into the street.

Rain gardens are an excellent way to have a new garden bed filled with native plants that like wet feet and inhibit runoff. **Gravel trenches**, swales and many other options exist to encourage water absorption. Use **porous paving materials** like modular pavers or porous asphalt, wood decking, gravel or wood chips, where possible.

Reducing the area of turf, breaking the swath of green into some garden beds, helps to control water flow. Planting beds should include trees, shrubs and an herbaceous layer of vegetation. Think about a raindrop falling onto a tree, and as it falls it becomes smaller when it reaches the shrub, and even smaller when it reaches the ground. Not so gently does it land on the grass where

there is nothing to break its fall, and so, during storms, the beating rain carries away needed soil, nutrients and organic matter along with soil contaminants and other pollutants.

Practice sustainable gardening and be proactive. Select plants for the conditions on your property. Consider what kind of gardening you are interested in with regard to your own micro-climate – the amount of sun, the moisture available, your soil (get it tested!), and the temperature. Be mindful of planting native varieties; think of wildlife and pest management; keep weeds down and moisture in by using mulch. The compost from your own home, or leaf mulch from all the (healthy) trees that grow on wooded Redding properties can be put to good use in the garden and will ultimately improve the soil.

By reducing the water, soil and chemical runoff, you will be helping to reduce the pollution of natural waters, unnatural algal blooms and injuries to aquatic organisms. Minimizing runoff from your property and reducing your personal use of possibly hazardous materials into the environment are good gardening practices.

Think of these options as a present for Mother Earth.