



NEWSPAPER ARTICLES

What to do with the Rain? (October 14, 2023)

by Nancy Hawkins, UCCE Master Gardener Tulare/Kings Counties

February and March of 2023 provided us with a problem we hadn't had for five or more years--what to do with all the rainwater. For cities and public areas, flooding and mudslides were a concern. County and city officials worked to clear waterways, update emergency procedures, respond to many flooding areas, and plan for future such events. Still, a major concern is replenishing underground aquifers that supply our water. Our communities are trying to capture rainwater by directing it to farmland and recharge basins so it can percolate into the ground to fill these underground water supplies.

Now, as a homeowner and Master Gardener, the question is, what can I do to collect and save future water? Here are three solutions I found.

An easy solution is to attach a **rain chain** to your gutter. Its purpose is mainly decorative but can be useful to channel rainwater from your roof to a catchment basin or storage container. It slows the percolation of water into the ground. Many kinds are available online or at local garden stores.



A **dry creek bed** is another solution. A dry creek bed looks as though a rushing stream deposited stones and settled them in. Selecting the site is important. It needs to slope away from your house to take away excess rainwater but stay on your property to seep into the soil. To build, dig a trench 2- 10 inches deep. Vary the width to make the creek look natural. The bed can be lined with landscape fabric to block weeds but not prevent water from infiltrating. Fill with rocks and pebbles. The key to a natural look is a variety of rock sizes, colors, and textures. Place larger rocks or small boulders at the twists and turns. Then, fill in with assorted sizes. Random placement gives a natural feel. Full coverage is important as rocks settle and move over time. You might need to fill in as open spots appear.

Another solution is a **rain garden**. A rain garden is similar to a dry creek bed but on a much larger scale. Simply put, it is an excavated landscaped area filled with rocks or planted with vegetation. Rainwater coming from a roof, driveway, patio, or other impermeable surfaces is collected and dispersed naturally or through piping to the lowered area where the water soaks into the ground. In a storm, the rain garden fills with a few inches of water, which slows the flow of water over the surface of the landscape. The water soaks into the ground rather than running off onto streets, sidewalks, and into storm drains. Compared to a conventional patch of lawn, a rain garden allows about 30% more water to soak into the ground.

While one individual rain garden may seem like a small thing, collectively, it produces substantial neighborhood and community environmental benefits. Rain gardens work for us in several ways:

- Increase the amount of water that filters into the ground, recharging local and regional aquifers;
- Help protect communities from flooding and drainage problems;
- Help protect streams and lakes from pollutants carried by urban stormwater – such as fertilizers, pesticides, oil, other fluids leaking from cars, and substances that wash off roofs and pavement;
- Enhance the beauty of yards and neighborhoods;
- Provide habitat for birds, butterflies, and beneficial insects.

A home rain garden can be in one of two places – near the house to catch only roof runoff or farther out in the lawn to collect water from the roof and other surfaces like driveways or patios. It needs to be at least 10 feet from the house so water doesn't seep into the foundation, in full or partial sun, and in a level part of your yard. The rain garden should blend in with existing landscaping. A typical residential rain garden ranges from 100 to 300 square feet.



Planted Rain Garden



Rock Rain Garden

Planning for a Rain Garden

A typical rain garden is between 4 and 8 inches deep. One more than 8 inches deep might allow water to stand too long; one less than 4 inches deep will not be able to handle the runoff from larger storms. No matter what the depth of the rain garden, the goal is to keep it level. The size of the garden is determined by the drainage area (the areas that will drain into the rain garden, such as the roof, lawn, driveway, patios, etc.). As the size of the drainage area increases, so should the size of the rain garden.

To determine how long and how wide the rain garden should be, think about how the rain garden will catch water. Runoff will flow off a roof or out a downspout, spreading evenly across the length of the rain garden. It must be as level as possible so water doesn't pool at one end and spill out before it has a chance to seep into the soil. The length of the rain garden should be perpendicular to any slope so the garden catches as much water as possible. However, it should be wide enough for the water to spread evenly over the whole bottom of the rain garden. A good rule of thumb is that the rain garden should be about twice as long as it is wide.

The depth of your rain garden depends on soil type – sand, loam, or clay. Sandy soils have the fastest infiltration; clay soils have the slowest, and loamy soils are in the middle. Since clay soils take longer to absorb water, rain gardens in clay soil must be deeper than rain gardens in sandy or loamy soil.

If rainwater is to be collected from a roof via eaves and a downspout, PVC piping may be used to collect and disperse the water. A perforated pipe will help to spread water throughout the garden. While digging the rain garden, use the soil to form a berm (a low wall around three sides of the rain garden) that will help hold rainwater. The berm will need to be highest at the downhill side, becoming lower on the sides and gradually taper off by the time it reaches the top of the rain garden. After shaping the berm, compact the soil. The berm should have very gently sloping sides to prevent erosion and to integrate the rain garden with the surrounding landscape. The rain garden can then be filled with rocks to look like a streambed or planted. Use PVC pipe to connect to a downspout.

Planting in your rain garden requires some planning. Rain gardens can be divided into three wetness zones: low, middle, and edge. In the lowest zone, choose plant species that can tolerate short periods of standing water as well as fluctuating water levels. Species that can tolerate extremes of wet soils and dry periods are appropriate for the middle zone, which will have more fluctuation in soil water. Plants that prefer drier conditions go along the outer edge. Make sure to have a rough plan for where each plant will go based on mature height and color. When finished planting, add a three-inch layer of organic mulch to suppress weeds.

Although rain gardens require some initial effort, they are easy to maintain. For planted beds, you will need to water, especially in our hot, dry summers, and to weed out undesirable volunteers. Prune as necessary, but leave the dormant plants in place over the winter to provide a start for the following season and to provide seeds and shelter for overwintering birds. In spring, trim or mow the area to allow for new growth. Reapply mulch when necessary.

Your rain garden will be beautiful, colorful, and natural-looking many months of the year, attracting birds, bees, butterflies, and beneficial insects. By keeping rainwater on your own property, you are helping to replenish the groundwater supplies and prevent overloading the storm drain system. And you will have a new and unique landscape feature to enjoy. Let's start digging now!!

For more information on rain gardens, download publication #8531:

<https://anrcatalog.ucanr.edu/pdf/8531.pdf>

The Tulare-Kings Counties Master Gardeners will answer your questions in person:

October 21 - Hofman's Nursery Plant Clinic, 12491 W Lacey, Hanford, 10 am – 1 pm

October 21 – Visalia Farmers Market, Tulare Co. Courthouse North parking lot, 8 - 11 am

October 21 - Pumpkin Succulent Class by MG Sharon K., Tulare Public Library, 11 am

Questions? Call the Master Gardeners:

Tulare County: (559) 684-3325, Tues & Thurs, 9:30-11:30;

Kings County: (559) 852-2736, Thursday Only, 9:30-11:30 a.m

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