

## **From Water Scarcity to Water Security by Patrick Picard**

Whether this year turns out to be a drought year or not, here in Northern California, it is imperative that we re-examine our water use habits. We first need to look at ways to reduce our consumption. Second, we need to implement water recycling and catchment to harness this life-giving element. Nature provides us with an ample amount of rain: an average of 33 in/yr. We have simply done a poor job harvesting and managing this resource in order to take advantage of what is being given to us freely. Each one of us can help conserve water by catching it, reusing it and aiding the earth in absorbing it.

The best place to store rainwater is in your soil. Raising the water table on your land helps reduce your need for irrigation. Through a series of drainage swales and infiltration basins (small ponds,) rain can be directed from your roof downspouts and moved across your property to plants that need it most. Rainwater can be entirely utilized in your garden before it runs off into the storm drain system. Utilizing the yearly rainfall on your land and improving your soils water-holding capacity can allow you to grow a beautiful native garden without the need for an irrigation system at all!

The way to make your land more absorbent is to raise its fertility by increasing the amount of organic humus in the soil. The best tools for increasing humus are organic compost and mulch. When there is plenty of humus the soil absorbs like a sponge. When soil is depleted of humus it becomes hard and rain runs off the surface of the land without infiltrating. Impervious surfaces, such as roads, driveways, parking lots and patios, cause further run-off. In urban areas 60% of the land is sealed over with impervious surfaces, including the footprints of buildings. This creates huge runoff and storm water problems for municipalities, not to mention the toxins that wash into the storm water from our streets. New permeable, earth-friendly products are emerging on the market every day.

Another way to harvest rainwater is with catchment tanks that collect water from roof tops. Without a doubt, having water stored in tanks gives you extra water security. There are several challenges with this option, however. Tanks themselves can be expensive and most people don't have the space in their gardens to devote to catchment tanks big enough to store all the water they need for the year. However new tanks are coming out on the market that can be stored underground and with the cost of water rising, the installation of these tanks may end up paying for themselves over time.

Which leads to what I believe is potentially the most useful tool in obtaining water security: grey water systems. Grey water is household water that is used in sinks, bathtubs/showers, and laundry and dishwashing machines. This relatively-clean water can be captured and filtered for irrigating gardens or flushing toilets. The great thing about grey water is we produce it every day in every season. Therefore, there is always an abundant supply of it when we need it. The difficulty to grey water systems is that current California codes are highly-restrictive, and to obtain a permit to install one is difficult and costly. As a result, out of two million grey water systems in the state of California only one in ten thousand has a permit. However, there are two bills currently being introduced in the State Legislature attempting to change these laws and make them more lenient like those adopted in Arizona, New Mexico and Texas.

We have an opportunity to rethink our relationship to water thanks to the drought. Now is the time to invest in water security through grey water systems, increasing the fertility of our land, re-contouring our landscape and installing pervious surfaces to reduce rainwater runoff. Properly managing the water that falls on your property can protect your landscape through times of water rationing and simultaneously help the earth. The solutions exist: why not use them? Let Equinox help you set up those systems to take advantage of the free rain.

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