

Harvesting Rainwater Saves Water and Money!!

"Through some bizarre irony, rainwater in the arid west is typically deflected away from water-starved land and shunted off to storm drains.

**Ann Audrey Phillips, Manager of Restoration Projects
Tucson Audubon Society**

Our 'Monsoon' season is upon us, and with a little luck storms will bring precious rain that greatly benefits landscape plants. You might be surprised to learn how much water typically runs off a roof surface during one of our Monsoon rains. The rooftop of a 1500 square foot home can collect almost 500 gallons from ½ inch of rain! But if the rainwater simply runs off of your property and down the street, you're not getting the full benefit of all that moisture.

Water harvesting is the term used to describe how rainwater is collected and channeled to catchment areas. A "catchment" is any large surface that can capture and/or carry water to where it can be used immediately or stored. Where are your catchment surfaces? Everybody has at least one catchment on their property, such as a roof, patio or driveway. You can direct water runoff from these surfaces to plants, trees or lawns by using dikes, berms, or contouring. Sloping hard surfaces such as driveways or granite areas can also direct water to landscaped areas. Using porous paving materials such as bricks and special asphalt can allow water to penetrate instead of draining off your property.

To increase water-holding capacity, simple depressions in the landscape can be created. These depressions can be shallow, but the more area they cover, the more water will be held. Also called swales, these depressions should be designed to hold several inches of water which will percolate into the soil for direct use by the trees, shrubs or groundcovers. Swales can be formed to look like a natural part of your landscape and native wildflowers can even be seeded in the bottom. Soil removed during construction of depressions can be used to create contouring mounds for visual interest.

Rainwater can also be contained in barrels or tanks. By placing gutters around the roof perimeter and connecting them to downspouts, large amounts of water can be directed where needed in the landscape. One advantage of collecting rainwater from the roof is that it can be saved for use in dry periods. Hose or piping can be connected to the storage container and funneled directly to the garden or landscape. No matter what type of container you use, be sure to cover it with a solid lid or fine mesh to keep leaf litter and mosquitoes out.

How Much Rain Can You Catch?

Here is an easy formula you can use figure how much water you can harvest from a roof in one year:

- 1) Calculate the area of your roof. (Example 40 feet wide x 50 feet long = 2000 sq. ft.).
- 2) Calculate the average yearly rainfall in feet. (Example – the Gilbert area’s annual rainfall is approximately 8 inches. Divide that amount by 12 inches to get .666 feet of annual rainfall).
- 3) Calculate the cubic feet of roof water. (Example - 2000 sq. ft. of roof area x .666 feet/year of rain = 1332 cubic feet/year of runoff).
- 4) Convert to gallons. (1 cubic ft. of water contains 7.5 gallons) (Example – 1332 cubic feet x 7.5 = **9,990 gallons**).

For more details on water harvesting, please visit the Water Conservation Website
<http://www.ci.gilbert.az.us/water>

Additional Resources:

Harvesting Rainwater for Landscape Use. Patricia H. Waterfall, Extension Agent,
University of Arizona Cooperative Extension (39 pp.)
<http://ag.arizona.edu/pubs/water/az1052.pdf>

Earth Friendly Desert Gardening, Arizona Master Gardener Press, (136 pp.), ISBN 0-9654987-4-X

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