What is rainwater harvesting?

Rainwater harvesting is the term given to collecting rain water in containers such as rain barrels, pools, cisterns, or tanks. One of the nation's largest rainwater collection systems can be found at the Lady Bird Johnson Wildflower Center in Austin, Texas. At the center, rainwater provides about 10 - 15% of their yearly water needs for irrigation and landscaping, including 15 acres of formal gardens. For example, the observation tower in the photo below from the center is actually one of three cisterns in the rainwater collection system. It was constructed using local indigenous material and stores 5,000 gallons of rainwater.

Cistern at the LadyBird Johnson Wildflower Center.
Photo courtesy of the Lady Bird Johnson Wildflower Center

How do I harvest rain?

First of all, you need a catchment surface. This is what the rain first falls on and what catches it. It is usually a roof.

Secondly, the water is diverted to gutters and downspouts. Downspouts are connected to storage tanks that collect or hold the rainwater. These containers can be made out of almost any material, including plastics, metals, concrete, masonry, stone, and wood. Home owners usually use rain barrels made of plastic materials.

Some people buy rain barrels from manufacturers. These usually sell for just over $100. Others make their own out of plastic barrels used for shipping and storage. The green rain barrel seen here was once used to store olives. If you decide to make your own rain barrel, it is important to know where it comes from and that it is clean. You don't want one that once contained any type of poison or toxic material.

At the top of the barrel (where it connects with the downspout), you should have a screen trap at the water entry point to discourage mosquito breeding. Also, make sure that the container is childproofed with a secure lid.

Only 1/4 inch of rainfall runoff from the average roof will completely fill a typical barrel. To prevent overflow, multiple barrels can be joined together (as seen on the cover), or fitted with an overflow hose (as seen on the barrel in the above photo) or tube. To make it easier to release the water from the barrel, insert a tap at the bottom of the barrel where a hose can be attached.

With rainwater harvesting, you can continue to water your lawn and garden even during times of water rationing, since you are saving for times like those.

Why should I harvest rainwater?

Lawn and garden watering make up almost 40 percent of all household water used during the summer. A rain barrel collects rainwater and stores it for when you need it most - during periods of drought.

To prepare for periods of drought, you can collect rainwater. A rain barrel will save an average homeowner about 1,300 gallons of water during the peak summer months.

Rainwater harvesting has these advantages:

- Provides free water that contains no chlorine, lime, or calcium, making it ideal for gardens, lawns, and car/window/dog washing;
- Saves money and energy by decreasing the demand for treated tap water;
- Reduces flow to stormwater drains, thus reducing nonpoint source pollution.

About 100,000 homeowners in the U.S. use rainwater harvesting systems because they want healthier lawns and plants from a sustainable, high-quality water source.

Additional Resources on Rain Harvesting

- http://www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf
- http://www.cityfarmer.org/rainbarrel72.html
- http://www.kingcounty.gov/environment/stewardship/nw-yard-and-garden/rain-barrels.aspx
- http://www.soilandhealth.org/01aglibrary/droughtmyth.pdf
- http://www.harvesth2o.com/rainwaterstorage.shtml
- http://rainbarrelguide.com/
- http://www.savingwater.org/docs/rainbarrels.pdf
- http://www.dnr.state.md.us/ed/rainbarrel.html
- http://www.pha.jhu.edu/~tunison/renew/water.html
- www.wildflower.org
- http://www.txsmartscape.com/
- http://www.rainharvester.blogspot.com/
- http://cfpub.epa.gov/npdes/greeninfrastructure/technology.cfm

Oklahoma Gardener's Guide by Steve Dobbs; Cool Springs Press (available in bookstores)

OKLAHOMA
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Rain Barrels and Cisterns

Saving Rain for Thirsty Gardens

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