



The City of Springfield
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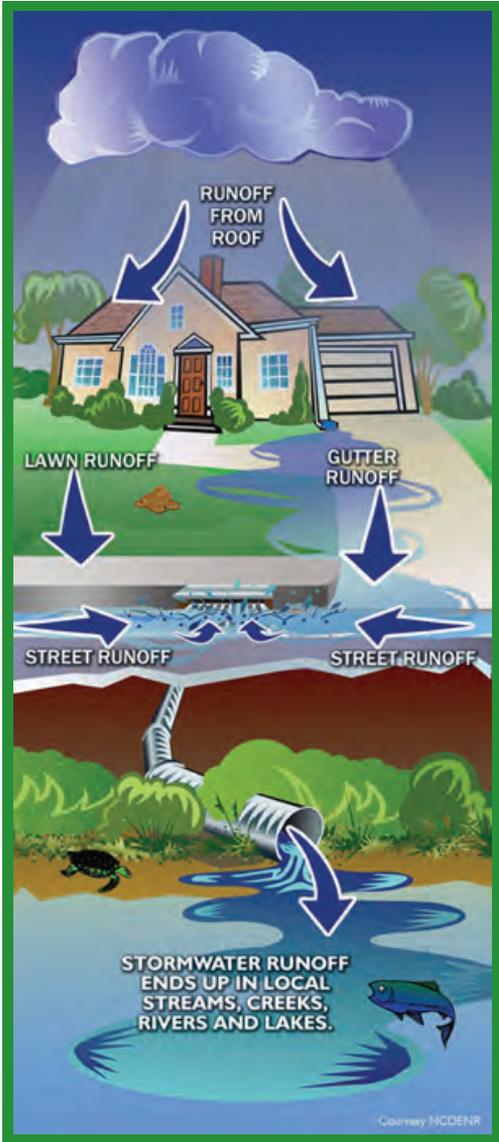
A Homeowner's Guide to Rainwater Harvesting



"Rainwater harvesting" refers to the collection and storage of rain. The water is generally collected from rooftops and stored in cisterns or barrels. Stored water can be used for non-potable (not for drinking) purposes such as irrigation and washing vehicles. Rainwater harvesting systems can range from one simple barrel at the bottom of a downspout to a series of tanks with pumps and controls. This guide will show you how the average homeowner can take advantage of rainwater harvesting with one (or more) rain barrels.

Why Rain Barrels?

Harvesting rainwater with barrels is easy, helps conserve our fresh water supply, and reduces stormwater pollution. The water collected in the rain barrel would normally flow off the roof or through roof gutters and downspouts becoming stormwater runoff. This runoff can travel onto impervious surfaces, collecting pollutants such as motor oil, fertilizers and pesticides and sediment. Eventually the stormwater flows to a storm drain- which leads directly to our local waterways. Collecting roof runoff with a rain barrel reduces the volume and rate of stormwater runoff from your property.



All stormdrains
lead directly to
our waterways!

Collect Rainwater in the Pacific Northwest?

The Pacific Northwest's reputation for rainy winters makes it hard to remember that summers are often dry. Between the months of May and September the Springfield/Eugene area receives on average about six inches of rain, only 13% of our average annual precipitation. Having a rainwater harvesting system available during the summer months can take advantage of the small amount of rain that we do receive.

To get a rough idea of how much water you can collect during a summer rain event use this calculation.

$$\frac{\text{collection area (sq.ft.)} \times \text{rainfall (in.)}}{12 \text{ (in./ft.)}} = \text{cubic feet of water}$$

$$\text{Cubic feet} \times 7.43 \text{ (gallons/cubic foot)} = \text{gallons}$$

For example, if you had rain barrels set up to collect all of the runoff of a 1000 square foot roof during a small rain event- 0.3 inches- you would collect almost 186 gallons of water.

Please note: this calculation is for horizontal areas and does not take into consideration system losses such as evaporation and leakage.

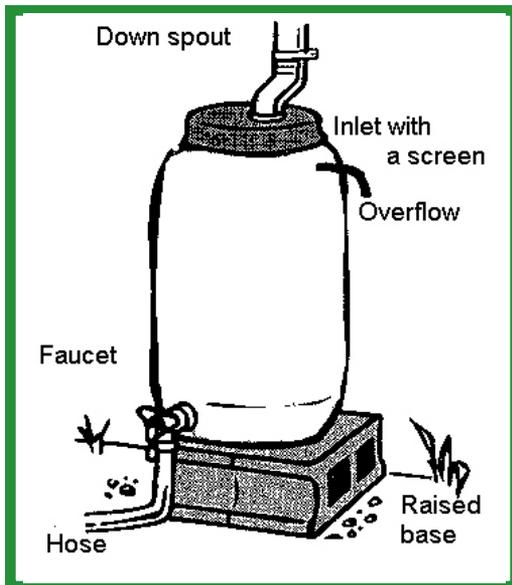


Basic Requirements of a Rain Barrel

You can do an internet search to find a rain barrel pre-made or instructions on how to construct your own rain barrel. Rain barrels are available in a variety of sizes, colors, and styles. Whether you buy one or make one there are a few key requirements that your barrel should meet in order for it to function properly.

- The barrel should be made of a material that is light-blocking to stop the growth of algae.
- Use a tight-fitting lid to keep children and animals out of the water.
- Add a screen to keep leaves and other debris out of the water.
- Some type of outlet at the bottom of the barrel- a faucet that you can attach a hose to is useful.
- Use an overflow device to direct excess water away from your home's foundation when the barrel is full.
- Monitor the barrel to make sure intakes and overflows are not blocked.

Most rain barrels are placed next to the house on wooden or concrete blocks to provide height for gravity flow purposes. Many people hook multiple rain barrels to each other using hoses or pipes to maximize their storage capacity. Again, you can purchase barrels designed to hook together or build your own.



Using the Water in a Vegetable Garden

Remember, the water you collect in a rain barrel is not potable- or "drinkable"-water. Water from your roof can contain chemicals from roofing materials or moss killers and bacteria from bird and other animal waste. How you use the water in your vegetable garden and what kind of plants you use it on is an important consideration. Avoid using overhead irrigation. It is best to use this water for drip or trickle irrigation. This prevents contamination of edible, above ground plant parts that are hard to clean, especially leafy greens. All vegetables should be thoroughly washed with potable water before eating them. Rain barrel water should not be used close to harvest time to water the vegetable garden and should NEVER be used to wash fruits or vegetables prior to eating.

Maintaining Your Rain Barrel

In the winter months you should empty the barrel between rain events or simply disconnect your rain barrel and reconnect your downspout during the wet season. Once a year, give the interior of your barrel a scrub with vinegar or other non-toxic cleaners. The washout can be disposed of onsite in vegetated areas if the disinfecting agents are adequately diluted to not harm plants.

