



BUILDING A GREENER LIFESTYLE FOR FREDERICK COUNTY

Harvesting Rainwater using Rain Barrels

WATER: A LIMITED NATURAL RESOURCE

In 2002, Maryland was in a severe drought. Groundwater levels dropped, streams dried up, and the Monocacy River experienced record low flows. Area residents were faced with water restrictions and bans on outdoor use. The City of Frederick even had an emergency plan to buy water and haul it to residents if the drought continued and the City's water supplies became further reduced. Water conservation became a top issue in the media and a frequent discussion topic as more people realized the full magnitude of our finite water supply.

A concept that gained notoriety during this difficult time was using a rain barrel to harvest and reuse rainwater for landscape purposes. A 4,000-year-old practice widely used in less-developed countries, collecting rain in a barrel is an easy and sound way to extend water resources. Besides, where landscaping is concerned, plants prefer natural rain water to either treated or well water.

Since 2002, the weather pendulum has swung to the other extreme. Rainfall has been abundant, and the worry has shifted from drought to flooding.



Hard, impervious surfaces like roofs, parking lots, and roadways act as funnels, turning life-giving rain into damaging stormwater runoff. As it flows, stormwater picks up pollutants, including fertilizer, chemicals, grease, gasoline, and silt, and dumps them into streams, rivers, and the Chesapeake Bay. Stormwater is also responsible for erosion and the resulting loss of habitat for plants, aquatic life, and animals.

While a rain barrel is a great tool to use during a drought, it can also help during times of abundant rainfall. Businesses and homeowners

who use rain barrels to catch the water from their roofs can stem the tide of stormwater before it begins! Captured rainwater can be stored and used to supply plants between rainfall events, or channeled into rain gardens where it can seep into the ground instead of running off. We all live in a watershed and should manage our property as though the Chesapeake Bay was at the end of our driveway. In a way, it is!

Too much rain? Not enough? Rain barrels are a good solution in either case!

WATERWISE LANDSCAPE MANAGEMENT

Plants, flowers, and trees add beauty to our yards, nourish our being, and reinforce our connection to the natural world. With a little care and planning, we can manage water resources in the garden to benefit both our plants and the environment.

Seven steps to a water-wise landscape:

- Improve soil quality and structure (enrich with organic matter).
- Select native and/or drought tolerant plants.
- Group plants with similar water needs.
- Use mulch to help the soil retain moisture.
- Practice good watering habits (water deeply and early in the day).
- Collect and reuse "gray water" from the bathtub, laundry or kitchen.
- Capture and store rainwater to use during dry weather.

RAIN BARREL PRIMER: SELECTION

Not all rain barrels are created equal, and it pays to know what features to consider when either making your own rain barrel or purchasing one that is ready-made.

A rain barrel should be made of a dark, UV-stable material that will not allow sunlight to reach the collected water. Sunlight plus water equals algae! While not harmful to plants, algae is unsightly and will clog the spigot. UV-stable material will extend the life of a rain barrel exposed to long periods of direct sunlight.

Select a barrel that is made of non-toxic material. ***Never purchase or construct a rain barrel unless you are absolutely certain of the history of the container used.***

Never use a plastic trash can as a rain barrel. Even good quality trash cans can warp and split from the weight of collected water. Trash cans are also difficult to make child-safe and mosquito-proof.

A well-designed rain barrel will feature a large overflow to help manage excess water once the barrel is full and during periods of heavy rainfall. An overflow the size of a garden hose is too small to handle heavy rainfall rates typical of the eastern U.S.

Look for a rain barrel that can be easily linked to additional barrels to double or even triple storage capacity.

The barrel should have a rigid lid that is fully screened and securely fastened. The lid should be designed to minimize the drowning risk for humans or animals. It should use screen to keep debris and mosquitoes out of the captured water.

The barrel's spigot should be made of high-quality metal— NEVER plastic— and should be located at the bottom of the barrel so that all of the captured water can be accessed.

Rain barrels should not be constructed using adhesives or sealants because they will eventually fail and leak. These problems are often difficult or impossible to repair and result in a barrel destined for the landfill.

IMPORTANT NOTE! Before setting up a rain barrel, **BE SURE** you will be in compliance with all applicable laws, rules and ordinances pertaining to collecting and storing rainwater. If your town or subdivision does not allow rain barrels, work closely with elected officials or the homeowner's association to address concerns and, hopefully, shape a new conservation policy! It is easy to screen rain barrels from view using plant material, lattice or fencing. When drafting guidelines for use, be sure to prohibit collection of rain water in an unsafe container that poses a drowning and mosquito hazard.

RAIN BARREL PRIMER: SAFETY



Even the best conservation practice is not worth implementing if it cannot be done safely. Keep these simple safety tips in mind:

- Situate the barrel on a firm, level foundation. A 60-gallon rain barrel weighs at least 500 pounds when full, and poses a tipping hazard when placed on a soft, unlevel surface.
- Secure the barrel to prevent tipping.
- Never use an open container to collect and store rainwater. Open containers pose a drowning hazard for humans and animals.
- Always screen a rain barrel to discourage mosquitoes from breeding and spreading West Nile Virus.

- Heavy rains may cause the barrel intake to exceed overflow capacity. Monitor the water level in the barrel and return the downspout to normal function when barrel is full.
- Collected rainwater is not intended for human or animal consumption.
- Make sure overflow points away from the foundation of the building to minimize any risk of property damage.

RAIN BARREL PRIMER: YIELD FORMULA

It is amazing how little rainfall it takes to fill a 60-gallon rain barrel.

Rainfall yield formula:

One inch of rain falling on 1000 square feet yields approximately
623 gallons of water!

Rain falling on a 750-square-foot section of roof will fill a 60-gallon barrel with only
1/8-inch of rain.

It does not take a large roof or a lot of rainfall to add up to big savings.

Save treated or well water for drinking or bathing. With no dissolved minerals or chemicals, rainwater is the best water source for plants...and it is free!

USAGE TIP...
Elevate the barrel slightly to increase water pressure and improve access to the spigot

RESOURCES:



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For more information, contact

- **Catch the Rain**
Bonnie Duggan
Rainwater Harvesting Consultant
www.catchtherain.com
301-663-3601



Community Commons



The Building a Greener Lifestyle series is a public outreach component of the Frederick County WRAS (Watershed Restoration Action Strategy), an alliance of diverse stakeholders interested in improving water quality and wildlife habitat in the Monocacy and Catoctin Watersheds. Community Commons coordinated the series to empower citizens to take action in their own homes and yards towards improving water quality. More information about the WRAS can be found at www.co.frederick.md.us/cleanstreams or by calling 301.694.1741. Community Commons can be reached at 301.662.3000 or at www.communitycommons.org.