

Tips for Green Leaders

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FREDERICK COUNTY



Harvesting Rainwater using Rain Barrels



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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 created an emergency plan to buy water and haul it to residents. Water conservation became a frequent discussion topic as more people realized the full magnitude of our finite water supply.

A concept that gained popularity during this difficult time was using a rain barrel to harvest rainwater for landscaping purposes. A 4,000-year old practice widely used in less-developed countries, rain collection is an easy way to extend water resources.

Since 2002, the weather pendulum has sometimes swung to the other extreme. Abundant rainfall has shifted the worry from drought to flooding. 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, 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.



All storm drains in Frederick County eventually lead to the Chesapeake Bay.

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 flowing to surface waters. We all live in a watershed, and we should manage our property as though the Chesapeake Bay was at the end of our driveway. In a way, it is!

Water-wise Landscaping

Xeriscaping is a type of landscaping that aims to minimize water consumption. By using the principles of xeriscaping we can manage water resources in the garden to benefit our plants and the environment.

Seven xeriscaping tips:

1. Improve soil quality with organic matter.
2. Select native, drought tolerant plants.
3. Group plants with similar water needs.
4. Use mulch to retain moisture.
5. Practice good watering habits: water deeply and early in the day using drip irrigation.
6. Collect and reuse gray water from the bathtub, laundry, or kitchen.
7. Store rainwater for use during dry weather.

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 surface. A full 60-gallon rain barrel weighs at least 500 pounds and poses a tipping hazard when placed on an 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 the 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.



The screen on this rain barrel keeps out mosquitoes and minimizes drowning risk.

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IMPORTANT NOTE! Before setting up a rain barrel, be sure to comply 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 homeowners association to address concerns and, hopefully, shape a new conservation policy! It is easy to screen rain barrels from view using plants, lattice, or fencing. When drafting guidelines for use, be sure to prohibit collection of rainwater in an unsafe container that poses a drowning and mosquito hazard.

Rain Barrel Primer: Selection

Not all rain barrels are created equal, and it pays to know what features to consider when making or purchasing your own.

- A rain barrel should be made of a dark, UV-stable material. Sunlight plus water equals algae! Algae is not harmful to plants, but it can clog the spigot. UV-stable material extends the life of a 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.**
- 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 rain barrel should have a large overflow for periods of heavy rainfall. An overflow the size of a garden hose is too small to handle rainfall rates typical of the eastern U.S.
- Consider using a rain barrel that can be linked to additional barrels to increase storage capacity.
- The barrel should have a rigid lid that is fully screened and securely fastened. The screen keeps out debris and mosquitoes, while the sturdy lid minimizes drowning risk.
- 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 captured water can be accessed.
- Rain barrels must not be constructed with adhesives or sealants because they eventually fail. Leaks are often difficult to repair and result in a rain barrel destined for the landfill.



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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 1,000 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:

- The Scott Key Center located at 1050 Rocky Springs Road, Frederick offers rain barrels. Call 301.600.1600 or email ScottKeyEmail@FrederickCountyMD.gov to purchase one.
- Interstate Commission on the Potomac River Basin (ICPRB) offers rain barrel information and workshops www.potomacriver.org/2012/projects/rainbarrels
- Arlington Echo Outdoor Education Center www.arlingtonecho.net/Restoration-Projects/Rain-Barrels.html
- Rain barrel instructional video tinyurl.com/3olevo6
- City of Berkeley, Office of Sustainable Development tinyurl.com/bu2oywc



The Tips for Green Leaders in Frederick County is a public outreach component of the Frederick County Office of Sustainability and Environmental Resources' Green Homes Challenge (GHC) and the Monocacy & Catoctin Watershed Alliance (MCWA). For more information about the GHC or MCWA, please visit: www.FrederickCountyMD.gov/GreenHomes or www.watershed-alliance.com/. Or, call the GHC Program Coordinator at 301.600.7414 or MCWA Coordinator at 301.600.1741.