

Environmental Design Program

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What is a Rain Barrel?

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A rain barrel collects and stores rain water from your roof that would otherwise be lost to runoff, then diverted through storm drains to your local streams, and ultimately polluting the Chesapeake Bay. Relatively simple and inexpensive to construct, a rain barrel sits conveniently under any residential gutter down spout and can be decorated to complement any home.

What are the advantages of a rain barrel?

Lawn and garden watering make up nearly 40% of total household water use during the summer. A rain barrel collects water and stores it to water plants, wash your car, or to top a swimming pool. It provides an ample supply of free 'soft water' to homeowners, containing no chlorine, lime or calcium – making it ideal for gardens, flower pots, and car and window washing.

A rain barrel will save most homeowners about 1,300 gallons of water during the peak summer months. Saving water not only helps to protect the environment, it saves you money and energy. Using rain barrels to disconnect impervious surface areas, like your rooftop, and slowly direct stormwater to vegetated areas is an easy way for you to help protect the Chesapeake Bay, and provides you with a free supply of water for outdoor use.



How can I purchase a ready made rain barrel?

Ready-made rain barrels can be purchased from numerous companies. Below are just a few (Listing does not constitute an endorsement by the Department of Natural Resources or the State of Maryland):

- Arlington Echo:
www.arlingtonecho.org/r_barrels.htm
- South River Federation:
(410) 990-0628 www.southernriverfederation.org
- Hydro-Logix:
www.hydro-logix.com
- Spruce Creek Company:
Produces the Spruce Creek Rainsaver.
1-800-940-0187 www.sprucecreekrainsaver.com
- Aquabarrel:
www.aquabarrel.com
- D&P Industries Incorporated:
Produces the Urban Rain Barrel.
(503) 286-9866 www.therainbarrel.com/index.html

How to Build a Rain Barrel

HOW DO I BUILD A SIMPLE RAIN BARREL?

Building your own rain barrel is relatively easy. The following approach is relatively inexpensive and hassle free (about \$15.00 to build). All of the following materials can be purchased at your local home improvement center or hardware store.

You will need the following materials:

- One 55-gallon drum, or even an old trash can with lid
- 3 1/2ft vinyl hose (3/4" DD x 5/8" ID)
- One 4" diameter atrium grate
- One 1/2" PVC male adapter (will be attached to bottom of rain barrel)
- One 3" vinyl gutter elbow
- Waterproof sealant (i.e. plumbers goop, silicone sealant, or pvc cement)
- One 3/4" x 1/2" PVC male adapter (will be attached to end of hose and readily adapted to fit standard garden hose)
- Teflon tape

You will need the following tools:

- Drill with 1/2" and 3/4" bits (or use hole saw)
- Router, jig saw, or coping saw
- Measuring tape

INSTRUCTIONS

Attaching adapter to bottom of barrel

1. Using a measuring tape, measure about 1 inch above the bottom of the barrel where the curvature along the bottom rim ends and the barrel side begins to rise toward the top. Using a 3/4" bit (or hole saw), drill a hole through the barrel.

2. Screw the 1/2" PVC male adapter into this newly drilled hole. The hard PVC threads cut matching grooves into the soft plastic of the barrel.

(see photo to the left)

3. Un-screw the 1/2" PVC male adapter from the hole. Wrap threads w/teflon tape tightly. Coat the threads of the coupler with waterproof sealant. Screw the coated adapter back into the hole

4. Attach 3 1/2 foot vinyl hose to the PVC male adapter.

Fitting atrium grate to the top of the barrel (filters out large debris)

5. Using the atrium grate as a template for size, mark a circle at the center of the top of the drum (Locating the rainwater inlet in the center of the barrel allows the barrel to be pivoted without changing the position of the down spout).

6. Drill a 1/2" hole in the inside of the marked circle. Use a router, jig or coping saw to further cut within the marked circle until the hole is large enough to accommodate the atrium grate (the atrium grate is used to filter out large debris). Make sure not to make the hole too big—you want the flange of the atrium grate to fit securely on the top of the barrel without falling in. Placing a scrap piece of fine mesh window screen inside or outside of the grate will provide filtering of finer debris and mosquito control.

Cutting out a notch at top of barrel to hold adapter and hose

7. Using a 1/2" bit or saw, cut out a notch at the top of the barrel rim (aligned so that it is above the outlet at the bottom of barrel). The notch should be large enough so that the coupler will firmly snap into place (see photo below).



Elevating the rain barrel

8. The rain barrel is designed to take advantage of gravity. Water will flow from the vinyl hose when the hose is below the barrel. Therefore, place the barrel on cinder blocks or a sturdy wooden crate at least 15 inches from the ground.

Modifying the down spout to divert water to barrel

9. Modify the down spout with a gutter elbow to divert water into the barrel. (see photo below)



To learn more about rain barrels, or other ways that you can play a role in the Chesapeake Bay Restoration effort, check www.dnr.state.md.us/ed or call 410.260.8710.



Advancing the application of economically sound and environmentally sensitive building and site-design techniques. The Environmental Design Program is an Education, Bay Policy and Growth Management Project of the Maryland Department of Natural Resources and is funded in part through the Maryland Coastal Zone Management Program, Maryland Department of Natural Resources, pursuant to National Oceanic and Atmospheric Award No. NA17OZ1124. For more information: Tel: (410) 260.8710 www.dnr.state.md.us/ed

