

# COLLECTING *Rainwater*

## A GUIDE TO RAIN BARRELS



Collecting  
rainwater  
conserves  
water  
and  
helps  
reduce  
stormwater  
runoff.

*For centuries, rainwater has been collected as a way for people and communities to meet their water needs. Today, this simple technology is still in use – most often for controlling stormwater runoff and conserving water.*

### What is a rain barrel?



Cypress Designs - 95 gal

A rain barrel is a container that collects and stores rainwater – usually from rooftops and downspouts. Rain barrels

### Why use a rain barrel?

Collecting rainwater is an easy way to conserve water – and save money on your water bill. During the drier season, when water consumption in Bellingham often doubles, using collected rainwater also reduces the strain on the city's water supply and keeps more water available for fish and wildlife. Rainwater is also naturally "soft" and free of minerals and chemicals, making it ideal for plants and lawns.

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***Did you know? Larger rainwater catchment systems are called cisterns or tanks. They can range in size from 250 to 15,000 gallons!***

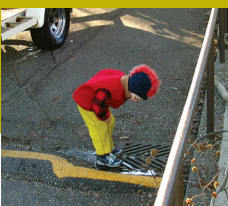
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typically range in size from 55 to 95 gallons and can be used alone or grouped together in connected sets. Ready-made rain barrels can be purchased locally, ordered online or you can build your own. Homemade rain barrels are most often made from empty 55-gallon, food-grade drums.

Using a rain barrel to collect rainwater also helps reduce stormwater runoff that might otherwise run down storm drains and into our streams, rivers, lakes and bays. Stormwater runoff can cause flooding and erosion, and carry pollutants into our waterways.



Yvonne Dean - 55 gal



# RAIN BARREL

## Safety Tips



Joyce Jimerson

- Only use *food-grade* barrels.
- Avoid collecting rainwater from roofs that have been treated with chemicals (ie. moss killers, zinc strips, etc.).
- Never use your rain barrel water for drinking or washing. If you choose to use collected rainwater for growing edible fruits, vegetable or herbs, always rinse with tap water before consuming.



Christine Morris

- Mosquito control is important due to West Nile Virus. You can also help prevent mosquitoes from breeding by placing a tablespoon of vegetable oil in your barrel. More information on mosquito control can be found at [www.pep.wsu.edu](http://www.pep.wsu.edu).
- Be sure to place your rain barrel(s) on a strong, sturdy, and flat base.



Todd Edison & Carrie Blackwood

Did you know a full 55-gallon rain barrel can weigh 450 lbs.!

Unpainted



Cypress Designs - Anitra Accetturo

Painted



Cypress Designs - 95 gal



Duane Jager - 55 gal x2



# BUILD YOUR OWN Rain Barrel

IN 6 EASY STEPS!



## INSTRUCTIONS

Turn over for materials and tools list.

### Step #1

Drill a 7/8 inch hole several inches up from the bottom of a *food-grade* barrel. Make sure the size of the hole will accommodate the size of your water faucet.

### Step #2

Squeeze adhesive (marine glue or water-resistant silicone caulking) around the hole rim.

### Step #3

Place a flat, galvanized washer over the threaded end of a brass water faucet. Screw the faucet into the hole.

### Step #4

Decide which side of the barrel will have the overflow valve, then rotate the barrel a quarter-turn. Drill a hole near the top of the barrel, matching the size of the hole with the size of the overflow valve.

### Step #5

Squeeze adhesive around the hole rim. Screw the overflow valve into the hole, inserting the side of the valve with the narrower threading (the side with wider threading is for connecting a hose).

### Step #6

If the barrel does not have a hole on top, cut one. Use a plastic grate or pond/pool skimmer basket to cover the hole. This helps keep leaves and other debris out of the barrel. To keep insects out, consider covering the grate or basket with fine mesh screen or nylon stocking.

See the Rain Barrel Installation sheet for instructions.

## MATERIALS

- Barrel (Food-Grade)
- Adhesive:  
Marine Glue or Silicone Caulking
- 1/2 inch Brass Water Faucet
- Teflon Tape (optional for use with faucet)
- 7/8 inch Flat, Galvanized Washer
- 3/4 inch PVC Adapter Overflow Valve
- Plastic Grate or Skimmer Basket
- Mesh Screen or Nylon Stocking (optional)

*Note: These materials and tools may or may not work depending on several factors including barrel size, style and wall thickness.*

## TOOLS

- Drill
- Saw (hole or jig)

## BARREL SUPPLIERS

55-gallon, food-grade barrels are available locally. Prices vary, but expect to pay \$10-20 unless you get it for FREE. Most common colors are blue, green, brown and white. White barrels should be painted to prevent potential algae growth inside the barrel. The safest barrels are ones made from #1 (PETE), #2 (HDPE), #4 (LDPE) or #5 (PP) plastics.

- **Whatcom Farmers Co-op**  
3500 Meridian St. - Bellingham – 734-4010  
1720 LaBounty Rd. - Ferndale – 380-0578
- **Hardware Sales**  
2034 James St. - Bellingham – 734-6140
- **Trans-Ocean Products**  
350 W. Orchard Dr. - Bellingham – 671-6886
- **Z Recyclers**  
6129 Guide Meridian Rd. - Lynden – 398-2161

*The City of Bellingham does not recommend or endorse any of these local suppliers. Check online or with your local nursery, processor or recycler for additional options.*



[www.cob.org/services/environment/conservation](http://www.cob.org/services/environment/conservation)



Lisa Meucci - 55 gal



Nick Hartrich

Joyce Jimerson - 55 gal





# RAIN BARREL Installation



*One inch  
of rain  
falling  
in one day  
on 1,000  
square feet  
of roof  
can produce  
over  
600 gallons  
of water!*

## Location

Before installing rain barrels, take a moment to consider how the rain barrels will be used, how much water will be needed (especially during drier months), how many are being installed and how overflow will be handled. Also, make sure rain barrels are clean and free of debris before installing them. If the rain barrel(s) will be attached to a downspout, choose a convenient, easy-to-access location.



Duane Jager - 55 gal x2

## Downspout Disconnection

There are a number of ways to connect the downspout to the rain barrel. Where you cut the downspout will depend on the type of connector material you choose. A flexible downspout extender makes an easy transition, eliminating the need for exact measurement because it bends and stretches. You can also use a downspout elbow, a section of straight downspout crimped on one end to fit into the hole, a rubber bib or coupling formed into a funnel shape or a chain that hangs from your gutter and drains directly into the rain barrel. Cut the downspout, then secure one connector



Todd Edison & Carrie Blackwood

## Bases

Rain barrels can be installed upright or tipped on their sides. Bases should be strong, sturdy and flat, and can be made from:

- Cinder Blocks
- Bricks
- Stones
- Wood
- Cement

Barrel(s) should be placed high enough off the ground – generally a foot or more – to be able to fill a watering can, or attach a hose and get good pressure. Place the barrel(s) on the base with the intake hole closest to the downspout.

## DECORATING RAIN BARRELS



Michael Costelloe

*Start with a clean, dry rain barrel. Scuff the surface with sandpaper so the paint has something to adhere too. Prime, let dry, then paint with exterior house paint. More than one finish coat may be needed depending on the original color of your barrel and the paint color. White barrels should be painted to reduce algae growth. Stickers and colored tape adhere well to rain barrels too.*

end to the downspout and position the other on top of, or in, the hole. Use screws (if needed) to attach the downspout connector to the downspout.



Yvonne Dean



Colleen Burrows - 55 gal

*For commercial rain barrel installation, follow manufacturer instructions.*

**SAFETY REMINDER: A full, 55-gallon rain barrel can weigh up to 450 pounds!  
Be sure to place your rain barrel(s) on a strong, sturdy and flat base.**

## MATERIALS

### Downspout Disconnection Options:

- Flexible Downspout Extender
- Downspout Elbow
- Straight Downspout Section
- Rubber Bib or Coupling

### Overflow Options:

- Garden hose (wide thread end) or with hose clamp
- Double-threaded pipe

## Overflow

Todd Edison & Carrie Blackwood



As your rain barrel(s) fills, you will want to consider what to do with any overflow. Sections of

garden hose, pipe or downspouts can all be used to handle overflow via the overflow valve. Overflow can be directed back down the old downspout. If allowed to flow naturally, it must flow onto a landscaped area or lawn large enough to filter the water – generally an area about 15 square feet. Overflow must be directed at least 10 feet away from any foundation or impervious surface (like a driveway or sidewalk) and 5 feet away from a neighboring property or right of way.



John Wiley & Carolyn Milling

## TOOLS

- Drill
- Saw
- Screwdriver



Todd Edison & Carrie Blackwood

## Multiple Rain Barrels

Multiple rain barrels can be installed in one location. Connect two or more rain barrels via an extra intake hole on top or through the overflow fitting near the top and side of the barrel(s). Starting with the main rain barrel (the one connected to the downspout), connect overflow hoses to each additional rain barrel. When you reach the last rain barrel, make sure overflow is directed away from your house or neighboring property (see Overflow info at left).



Lisa Meucci - 55 gal



Christine Morris - 55 gal X3



Roger Stillman



[www.cob.org/services/environment/conservation](http://www.cob.org/services/environment/conservation)



# RAIN BARREL Maintenance



Use  
rainwater  
to water  
your lawn,  
garden  
or  
indoor  
plants,  
fill an iron  
or wading  
pool  
– or even  
wash  
your dog!



*Rain barrels are low tech and low maintenance, but there are a few things you will want to do to keep your rain barrel(s) working properly:*

Lisa Meucci



- Check your rain barrel on a regular basis to make sure all openings are clean, free of debris and flowing freely.

- Cover the intake hole with a plastic grate or skimmer basket covered with a nylon stocking or fine mesh screen to prevent debris, mosquitoes or other bugs from getting inside your rain barrel.



Joyce Jimerson

Todd Edison & Carrie Blackwood



- During severe rain storms, check your rain barrel to make sure the overflows are working properly.

- During months when temperatures are below freezing, you might want to disconnect the barrel from the downspout to avoid the

formation of ice which can damage your rain barrel. Avoid repeated freezing and thawing as this can weaken your barrel.

Cypress Designs - Anitra Accetturo



- Consider draining your rain barrel for the winter. Store upside down so ice doesn't form inside and crack the barrel.

Joyce Jimerson



# RESOURCES

# Rain Barrel

**EVERY DROP COUNTS!**



rain • rainwater • rainwater harvesting  
collecting rainwater • rainwater collection  
rain barrels • cisterns  
rainwater catchment systems

*City of Bellingham Water Conservation*  
**[www.cob.org/services/environment/conservation](http://www.cob.org/services/environment/conservation)**

*WSU/Whatcom County Extension*  
**[www.whatcom.wsu.edu/ag/compost](http://www.whatcom.wsu.edu/ag/compost)**

*The RE Store*  
**[www.re-store.org](http://www.re-store.org)**

*Department of Ecology: Rainwater Collection in Washington State*  
**[www.ecy.wa.gov/PROGRAMS/wr/hq/rwh.html](http://www.ecy.wa.gov/PROGRAMS/wr/hq/rwh.html)**

*Harvest H2O*  
**[www.harvesth2o.com/index.shtml](http://www.harvesth2o.com/index.shtml)**

*Rainwater Catchment for Dry Lands*  
**[www.harvestingrainwater.com/](http://www.harvestingrainwater.com/)**

*EPA Water Sense*  
**[www.epa.gov/watersense/](http://www.epa.gov/watersense/)**

*H2Ouse*  
**[www.h2ouse.org/](http://www.h2ouse.org/)**

*American Rainwater Catchment Systems Association*  
**[www.arcsa.org](http://www.arcsa.org)**



City of Bellingham – Public Works Operations  
(360) 778-7700 – [waterconservation@cob.org](mailto:waterconservation@cob.org)  
[www.cob.org/services/environment/conservation](http://www.cob.org/services/environment/conservation)

WSU Whatcom County Extension  
(360) 676-6736 – [whatcom@wsu.edu](mailto:whatcom@wsu.edu)  
[www.whatcom.wsu.edu/ag/compost](http://www.whatcom.wsu.edu/ag/compost)

The RE Store  
Used Building Materials and More  
(360) 647-5921 – [jasond@re-store.org](mailto:jasond@re-store.org)  
[www.re-store.org](http://www.re-store.org)

Check  
online  
or  
visit  
your  
library  
for  
more  
info.



Michael Costelloe