

## **Save Money by Conserving Water!**

According to the City of Vancouver, 40% of household water is sprinkled on lawns and gardens-- which is not the most efficient way to water plants. 40%! That's an incredible amount of water that we are paying to have 'treated' so it is safe for us to drink and then we promptly put it into the ground!

How would you like to have a way to 'reduce' the amount of 'city water' that you use on your garden, reduce the amount of water that has to pass through the city waste water treatment plant AND have healthier water for your house plants?

The solution can be found in the lyrics of a very old song that goes like this: "shout down my rain barrel, slide down my cellar door." Yup, a 'rain barrel' is what I'm talking about. Using a barrel to catch the water flowing from rain gutters is one of the simplest, cheapest ways to conserve water and divert it from the sewer system. Many municipal water systems put chlorine in the water. Chlorine is bad for soil bacteria, not to mention our air. Rainwater is oxygenated, unchlorinated and warmer than tap water, qualities that actually make it a better source for plants and safer for the environment.

And if your city or town bans watering during times of dry weather, it may be the **ONLY** way to avoid having to watch your garden wilt. You don't need something expensive like a cistern and you don't need to buy a fancy setup. In fact, you can make one quite inexpensively. All you need is a 'recycled' barrel of the 50-85 gallon size, an overflow connection (to drain the excess water away from your foundation), a tap to draw water when you need it, and a rain gutter on your house or garage. When it rains, the water that would normally run off the roof and down your driveway into the sewer system is instead collected in your rain barrel

With only a few dollars and a bit of your time, you can collect over a hundred gallons of water that is free of chlorine! And it is also **FREE!** The next few pages will spell out in detail, how to make your own 'rain barrel' collection and storage system.

# Rain barrel Overview

Parts needed “Y” connector installed



Cost of parts should be less than \$5.00 (For the one barrel system.)

Depending on the scrap hose you have available, get the plastic overflow fittings for 1/2", 5/8" or 3/4 " hose.

Safety tip. Be sure the barrel is stable! Consider placing support stakes on two sides and then either wiring or roping the barrel to them. You would not want children playing around it and have it tip over on them.

You should place a mesh screen between the drain pipe end and the barrel to filter out any trash that may otherwise be dropped into the barrel. Some barrels do not have removable tops, making it difficult to clean trash out of them.

## **Parts list for a single rain barrel**

A clean plastic 50 gallon barrel. I suggest rinsing it with a solution of water and bleach. Then rinse it with soapy water and then a final rinse with just plain water to be sure it is clean.

A standard hose 'Y' coupling with dual shutoff valves. This will allow you to have a short hose to fill your watering can and at the same time have a 'soaker' hose connected. You can then easily turn the water on or off right at the barrel.

A 2 inch length of galvanized 1" pipe threaded at both ends. In plumbing terminology, this is called a "2 inch nipple". The threads are not quite the same as for a hose but if you use a glue/sealant such as 'Goop' (TM) and tighten it securely, it will not be a problem. Using this iron pipe makes it easier to thread the connection into the plastic barrel.

A length of garden hose about 6 feet long. This will be the overflow drain.

### **Step by step instructions.**

If your barrel does not have an opening at the top, use a saber saw or similar tool to cut one the size of your down spout.

1) Position the barrel so that the bottom end of the down spout is just above the opening on the top of the barrel. There should be room to slide a piece of wire mesh between the end of the down spout and the opening of the barrel to filter out trash that may accumulate in the rain gutter.

2) About two inches from the bottom of the barrel, drill a hole to fit the threaded coupling. If you use a 1-inch spade bit (sometimes called a 'shovel' bit), the hole should be just the right size to turn in the threaded 2" galvanized nipple.

3) Thread the 'Y' connection to one end of the iron coupling. Then thread the whole piece into the hole you drilled. Probably a good idea to coat the threads with plastic pipe wrap or some sort of sealer to prevent it from leaking. I used a combination sealer/adhesive (Plumbers Goop but others should work as well) and let it set up overnight. Be sure the 'Y' hose connection is positioned properly before you let the adhesive set up. That completes the bottom portion.

Next we install the overflow drain.

Option 1. Drill an 11/16th inch hole about an inch or so from the top for the plastic threaded connector. If you use a 3/4 inch spade bit the connector fit will rather loosely. Use a combination adhesive/sealer and liberally coat the threads and then insert it into the hole. Use a bit of masking tape to hold it in place and let it dry for 24-hours. Then, take one end of the 6-ft length of hose and carefully slide it on to the end of the plastic connector. This will slide on with a bit of pushing. Let the hose hang down and point it away from the foundation. When the barrel is full, this will carry away the runoff.

Option 2. Instead of the plastic fitting described above, you could just put in another 2 inch galvanized nipple. Then your piece of garden hose to connect the two barrels would need a threaded end to fasten it to the input barrel. You may, depending on the size of the hose being used, be able to just insert the hose inside the threaded nipple. This would not have any pressure, just a way of carrying excess water from one barrel to another. Use the same instructions described earlier.

That completes the basic rain barrel project.

## Two Barrel System

If you would like more water, you simply add a second barrel with its own 'Y' hose connector at the base for drawing water. You would then connect the two barrels as follows:

The 'overflow' fitting on the first barrel now becomes the source of water for the second barrel. Install the second plastic threaded connector on the second barrel and this becomes the input. Insert a short length of scrap hose between these two fittings. Be sure to install the real 'overflow' fitting on the second barrel about an inch lower than the input fitting.

After the adhesive/sealer has dried (allow 24 hours for maximum strength), connect the two barrels with a short length of scrap hose, 5 or 6 inches is plenty. Just slide the hose on the ends of the two plastic connectors. You don't have to force them all the way on as there will be no pressure to draw them apart. The overflow water from the first barrel will now go through the hose into the second barrel. Air will escape or be drawn in through the overflow fitting of the second barrel thus preventing a vacuum which would keep the water from being drawn out.

With this method, you would first draw water from the second barrel. When it becomes empty, you then draw from the first barrel. Hopefully we will have enough rain to fill the barrels as needed.



Single Rain Barrel Completed

In the photo above you will see the short hose connected to one of the ‘Y’ connector faucets. This is used to fill your watering can. You could attach a ‘soaker’ hose to the other connection. (A ‘soaker’ hose is just a length of garden hose with a couple of old socks tied to one end. The water is absorbed by the socks and slowly ‘soaks into the ground.’) Out of sight behind the barrel is the ‘overflow’ hose that is used to drain the excess water away from the foundation. Note also that the barrel is sitting on a couple of cement blocks. This is optional but it will give you a little bit more water pressure by raising the barrel. The barrels used in this project had screw in caps so it was not necessary to cut any additional openings in the top of the barrel.

## Double Rain Barrel System



In the above photo, note the short hose connecting the two barrels. This is the overflow line. When the first barrel becomes full, additional water will simply flow through this hose into the second barrel. When the second barrel becomes full, that overflow hose will drain onto the ground away from the foundation.

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