

## What's Happening to the Water Cycle?

As we develop our land and increase the amount of paved surfaces and buildings (known as impervious cover), the water cycle is changed. Less rainfall and snowmelt sinks into the ground and more water flows rapidly over the land into our lakes, rivers and estuaries. Stormwater runoff can lead to increased flooding, erosion and pollution and decreased groundwater recharge during dry periods.

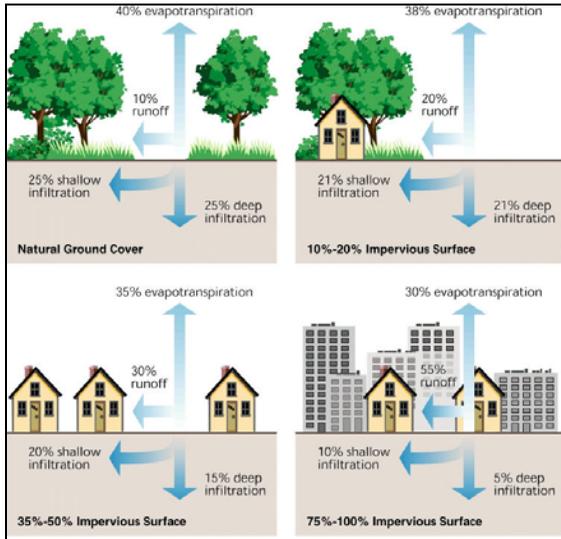


Photo: FISRWG

As impervious surfaces increase, the problems associated with stormwater quality also increase. Stormwater can contain pollutants such as sediment, nutrients, bacteria and chemicals that can threaten aquatic health, and contribute to the loss of water dependent recreational activities. Unmanaged stormwater is recognized nationally as the leading cause of water pollution today.

Conventional methods of land development collect and convey stormwater quickly into a series of drains and pipes that flow directly into the closest waterbody with little or no water quality treatment.

## How can we help? Install a Rain Barrel!

Low Impact Development (LID) techniques manage stormwater runoff by mimicking the natural movement of water in the environment. One of the easiest and most cost effective methods for conserving water and improving water quality is to **INSTALL A RAIN BARREL**. Rain barrels collect water from rooftops and store it for later use. The water can then be reused for a variety of water needs. Using a rain barrel at your home can:

- Capture a valuable resource that would otherwise be lost to storm drains
- Divert stormwater back to the landscape
- Conserve tap water and energy use
- Lower your water and utility bills

Installing a rain barrel is also an easy way to make your home environmentally friendly!



Photo Aaron's Rain Barrels

## What is a Rain Barrel?

Rain barrels are specially designed containers that hold about 40-75 gallons of water. Rain barrels come in a variety of different styles, colors, and materials ranging from wooden barrels to recycled plastics. Designs include a screen or closed top for keeping debris and mosquitoes out of your rain barrel.

## Why Use a Rain Barrel?

Installing a rain barrel can reduce the amount of stormwater runoff and improve water quality in your community. Diverting runoff from your roof into a rain barrel reduces the amount of stormwater being discharged into storm sewers that empty into nearby rivers, lakes, and streams. Collecting rooftop runoff in rain barrels and using it for other purposes can help to:

- Help to control local flooding
- Recharge local groundwater resources
- Protect rivers and streams from erosion
- Keep pollutants from paved areas from entering waterways
- Help to reduce the need for sewer upgrades in combined sewer overflow communities

Installing a rain barrel is a simple and easy way to save money and conserve water, with the added benefits of decreasing stormwater runoff and improving water quality!

## How a Rain Barrel Works

A rain barrel is a container that stores water from the downspout of a rooftop gutter. Rain barrels have a spigot at the bottom that attaches to a garden hose and an overflow device to route excess water away from the foundation. They have better water pressure when full - elevating the barrel can help the water to drain more easily due to gravity. Rain barrels can weigh up to 500 lbs. when full, so it is important to place the barrel on a firm, level surface such as cement blocks or pavers.



Photo: CT DEP

## It Pays to Conserve Water!

**Reduce Local Flooding** – Rain barrels can help to reduce local flooding if used on a larger scale. If 100 houses in a neighborhood installed three 50-gallon rain barrels, 15,000 gallons of water could be saved after just ¼ inch of rainfall. That is enough water to run the average sprinkler for over 62 hours!



Photo: NE Rain Barrel Company

**Save Water and Energy**– Most people don't realize that conserving water can also save



Photo: A. Cadman

energy. Over 9% of the electricity in the United States is used to pump, treat and heat water! By collecting water in rain barrels, you can personally make a difference in reducing the energy use that contributes to excess greenhouse gases. Rainwater harvesting can help to reduce water related energy use as well as save you money.

**Save Money** – Just ¼ of an inch of rainfall can yield up to 150 gallons of water from a 1000 ft<sup>2</sup> rooftop – enough to fill three rain barrels! If you have public water, you can save money on your water bill. If you have your own well, a few rain barrels could provide savings on your energy bills.



Photo: CT DEP

## Frequently Asked Questions

**Do rain barrels provide mosquito habitat?**  
Most rain barrels are fully enclosed or have a screen and caulking around the downspout to prevent mosquitoes and other debris from entering the barrel. If the rain barrel is properly installed and maintained, mosquitoes do not have the opportunity to breed.

**How much does a rain barrel cost?**  
An average rain barrel costs between \$55 and \$120. Many watershed associations and garden clubs offer reduced pricing on rain barrels. You can save even more money by making your own rain barrel. The reference section has a web site with detailed instructions on how to construct a rain barrel.

**How do I maintain my rain barrel?**  
To keep your rain barrel in good condition:

1. Use the water in your rain barrel frequently so that storage is available for the next rain event
2. Before the winter months, drain the barrel, clean it with a non-toxic cleaning solution, and check all of the connections for repairs
3. Store the empty barrel upside down to keep it from freezing until you are ready to use it again in the Spring.

If properly maintained, the average life span of a rain barrel is 20 years – a great investment!

**How can I use the water in my rain barrel?**  
You can use the water to irrigate your lawn, water indoor/outdoor plants, fill outdoor fountains, wash your car, or clean household windows. The water in the rain barrel can collect pollutants from your roof and *should not be used for drinking water*. Depending on your property, the water may not be suitable for vegetable gardens. Larger collection systems called cisterns can be used as a potable water source if the water is properly treated prior to use. Further details on rainwater harvesting can be found in the reference section.

## Want to Know More? Click to Explore!

### Resources in Connecticut:

The CT DEP's Watershed Management Program:  
[www.ct.gov/dep/watershed](http://www.ct.gov/dep/watershed)

The CT DEP's 2004 Connecticut Stormwater Quality Manual:  
[www.ct.gov/dep/cwp/view.asp?a=2721&q=325704&depNav\\_GID=1654](http://www.ct.gov/dep/cwp/view.asp?a=2721&q=325704&depNav_GID=1654)

UConn's Nonpoint Source Education for Municipal Officials (NEMO) Planning for Stormwater web site:  
[www.nemo.uconn.edu/tools/stormwater/index.htm](http://www.nemo.uconn.edu/tools/stormwater/index.htm)

### How to Construct Your Own Rain Barrel:

Center for Watershed Protection's *How to Build and Install a Rain Barrel* Fact Sheet:  
[www.cwp.org/Resource\\_Library/Center\\_Docs/Residential/rainbarrelgarden.pdf](http://www.cwp.org/Resource_Library/Center_Docs/Residential/rainbarrelgarden.pdf)

### For Local Vendors That Sell Rain Barrels:

Check your local garden supply center  
Ask your local watershed association  
Google Search for: "Rain Barrel and Connecticut"

### Other resources:

The EPA's Municipal Handbook - Rainwater Harvesting Policies:  
[www.epa.gov/npdes/pubs/gi\\_munichandbook\\_harvesting.pdf](http://www.epa.gov/npdes/pubs/gi_munichandbook_harvesting.pdf)

The EPA's WaterSense Program:  
[www.epa.gov/watersense/water/simple.htm](http://www.epa.gov/watersense/water/simple.htm)

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

The Texas Manual on Rainwater Harvesting:  
[www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual\\_3rdedition.pdf](http://www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf)

Information on the link between energy use and water:  
[www.rivernetwork.org/water-energy-nexus](http://www.rivernetwork.org/water-energy-nexus)

## Additional Town Information: Including contacts and local resources

### \*Third Brochure of the LID Series\*

For more information contact CT DEP's Nonpoint Source Pollution Program:

- Jessica Morgan - LID Coordinator  
[jessica.morgan@ct.gov](mailto:jessica.morgan@ct.gov)  
860-418-5994  
<http://www.ct.gov/dep/watershed>

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# Rainfall as a Resource

## A Resident's Guide to Rain Barrels in Connecticut



Rain barrels collect and store water from rooftop runoff for later use. Photo: P. Young



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