

Using Rain Barrels in Northwest Gardens



SAVING WATER
PARTNERSHIP

Conserving water—improving the efficiency of its use—is one important way to address local water needs and ensure adequate supplies in the future. Finding other sources of water can complement conservation. Rainwater is one source, and systems designed to catch and store rainwater take many forms. Rain barrels are one rainwater storage option.

What are Rain Barrels?

They're systems designed to capture and store rainwater coming off a roof, usually attached to a downspout. They consist of a storage container (usually plastic), a system for diverting downspout water into the barrel, and an overflow that returns to the downspout or diverts water safely away from the house to percolate into the soil.

They should also have the following:

- Durable, rot resistant construction.
- Opaque containers to discourage bacteria/algae growth.
- Kid, pet, and pest-proof openings.
- Valves for hose attachment.
- Screens and/or filters to keep debris out of the barrel.

Cisterns are above or below ground water storage systems, designed to serve large portions, or all, the water needs of a building or landscape. See Resources (back) for more information on larger rain harvest and storage systems.

What are Some Benefits of Rain Barrels?

- **Flexibility** As water storage needs change, the number of barrels in a system can follow suit.
- **Happier plants** Rainwater is free of the additives (e.g., chlorine and fluoride) in tap water that plants don't need or want. Rainwater is also slightly acidic, helping plants access soil nutrients. However, certain roofs can affect water quality. See "Is a Rain Barrel Right for Me?" on the back of this page.
- **Reduced stormwater runoff** Rain barrels can divert a limited amount of stormwater from roofs, reducing strains on urban creeks and storm systems.
- **Some water savings** Rain barrels can save water, but savings depend on the storage capacity of the system and proper use and maintenance. Additional outdoor water savings can be achieved by creating a water-wise yard and garden—call (206) 684-SAVE or see www.savingwater.org.

How much water can I catch?

Puget Sound averages about 3 feet of rain per year, but 2/3 of it falls from November to March. Most areas in the region average less than 2 inches total rainfall for July and August. To determine the amount of rain your roof catches, multiply your home's width by its length (in feet) to estimate its footprint. Then estimate the portion of this area that drains to the downspout you'll be using to catch your rain. The following formula will give a rough estimate of how much rain you can catch:

Rain caught (gallons) = (inches of rain) x .6* x (portion of building footprint)

For example, if your home's footprint is 1,400ft², and you want to know the amount of water that comes from a 1/4" (.25") rain event, you would solve the following:

Rain caught (gallons) = (.25) x (.6) x (1,400), or 210 gallons. However, storage is limited to the capacity of your system. Added capacity helps your system weather the dry spells. Capacity and cost are directly related: decide how much you want to spend for saving!

*One inch of rain falling on a square foot of surface yields approximately .6 gallons of water.



**BROUGHT TO YOU
BY YOUR LOCAL
WATER PROVIDERS**

Bryn Mawr – Lakeridge
Water & Sewer District

Cedar River
Water & Sewer District

City of Bothell

City of Duvall

City of Mercer Island

Coal Creek Utility District

Highline Water District

King County Water District No. 20

King County Water District No. 45

King County Water District No. 49

King County Water District No. 90

King County Water District No. 119

King County Water District No. 125

Northshore Utility District

Olympic View
Water & Sewer District

Seattle Public Utilities

Shoreline Water District

Soos Creek
Water & Sewer District

Woodinville Water District

Is a Rain Barrel Right for Me?

Before installing a rain barrel, find answers to the following:

- **What are my landscape water needs?** Most rain barrels hold about 50 gallons. The difference between your summer and winter water use provides an estimate of current outdoor use. Multiple barrels increase storage capacity, but also cost more. Reducing landscape water demand (with compost-amended soil or water-wise plantings, for example) will help your rain barrel water last longer. Visit www.savingwater.org or call (206) 684-SAVE for more information.
- **What kind of payback do I want?** Rain barrel kits run from \$80 to \$130 or more for one-barrel models. Payback depends on system size, cost, rain patterns, use and maintenance, and your water rates. A “Do it Yourself” rain barrel can make the payback much shorter.
- **Do I have the space?** Be sure you have room near the downspout for a rain barrel. Some designs allow for the barrel to lay flat against the house.
- **Will I care for a rain barrel?** Barrels need to be kept free of debris and inspected to ensure they’re working as intended. Untended barrels can breed mosquitoes and algae. Poorly directed overflow can damage siding, foundations, introduce moisture into the home, or cause runoff and erosion, impacting surface water quality.
- **Am I creating a safety hazard?** Children like to play in water—use barrels designed to keep kids safe. Make sure homemade rain barrels are kid-proof too.
- **Is the water from my roof safe to use?** Roof materials and treatments such as treated shakes, copper, or asphalt can affect water quality. Also, the “first flush” of rain after a dry spell can wash contaminants into the barrel—look for systems with devices that divert this water.

Where Can I Find a Rain Barrel?

Rain barrels can be bought pre-assembled, as kits, or homemade. King County maintains a list of local and online retailers, local city departments and water providers offering barrels and/or rebates (see Resources, below). Seattle Public Utilities does not currently offer rain barrel rebates.

You can save money by building your own rain barrel, using common hardware store items. Finding a used barrel reduces cost even further. Locally, barrels can be found at some industrial surplus business and hardware stores or by searching the online Industrial Materials Exchange (IMEX: <http://www.metrokc.gov/hazwaste/imex/>). Never use barrels that have stored hazardous materials—find barrels that held food or food-grade substances.

Resources

General Information:

- King County Dept of Natural Resources:
<http://dnr.metrokc.gov/wlr/pi/rainbarrels.htm> (206) 296-4439
- “Harvesting Rainwater for Landscape Use” by P. Waterfall, Arizona Cooperative Extension: <http://ag.arizona.edu/pubs/water/az1052/harvest.html> has detailed information on rainwater systems.
- “Rainwater Harvesting” by Daniel Winterbottom (Landscape Architecture, April 2000). On the King County website:
<http://dnr.metrokc.gov/market/RainwaterHarvesting.pdf> (requires Adobe Acrobat).

Do-It-Yourself rain barrel design drawings and assembly instructions:

- King County: <http://dnr.metrokc.gov/wlr/pi/covrainbarrels.pdf> (requires Adobe Acrobat).
- Maryland: <http://www.dnr.state.md.us/programs/greenbuilding/rainbarrels.html>

Cisterns and large rainwater storage systems:

- *Texas Guide to Rainwater Harvesting*:
<http://www.twdb.state.tx.us/publications/reports/RainHarv.pdf>
- *Sustainable Building Sourcebook*:
<http://www.greenbuilder.com/sourcebook/RainwaterGuide3.html>
- Treepeople (a non-profit Los Angeles group advocating urban forestry) cistern and on-site stormwater retention demonstration project:
<http://www.treepeople.org/trees/PBsite1.htm>