

What is rainwater harvesting?

Rainwater harvesting for irrigation involves collecting the water that falls on your roof in a rain barrel or cistern and using it for watering your lawn and garden. Rainwater harvesting conserves water and can reduce the impact of heavy storm flows on our streams and Lake Washington.

What is a rain barrel?

A rain barrel is a storage container that typically holds 50 to 60 gallons and is made of plastic. Rooftop runoff from a gutter downspout is diverted to the barrel for storage and use. The rain barrel is also fitted with an overflow that returns excess rain water back to the downspout drainage system or diverts it safely away from the house to soak into the soil.

What is a cistern?

A cistern is similar to a rain barrel, but it can be located above or below ground and is larger, typically designed to hold 100 to 200 gallons of water or more.

What are the benefits of rainwater harvesting?

- **Reduced runoff** – diverting a portion of roof rainwater runoff can help reduce flooding and erosion in small streams by reducing runoff volume.
- **Healthier plants** – rainwater does not contain chlorine and fluoride, both of which can be found in tap water and are not necessary for plant growth.
- **Water savings** – rainwater harvesting can conserve water and reduce your water bill, but these savings depend on the storage capacity of the system as well as proper use and maintenance.



Helpful Resources

- King County – Rain Barrel Information and Sources: <http://bit.ly/KC-RainBarrels>
- Seattle Public Utilities Rain Wise – Installing a Cistern (PDF): <http://bit.ly/RainWise-Cistern>
- Seattle Public Utilities Rain Wise – Materials and Suppliers (PDF): <http://bit.ly/RainWise-Suppliers>
- Seattle Department of Planning and Development – Rainwater Harvesting for Beneficial Use (PDF): <http://bit.ly/Seattle-CAM701>
- Georgia Rainwater Harvesting Guidelines and the Texas Manual on Rainwater Harvesting: <http://www.ecy.wa.gov/programs/wr/hq/rwh.html>
- Washington State Uniform Plumbing Code (WAC 51-56-1600, Part III – Rainwater Harvesting): <http://apps.leg.wa.gov/WAC/default.aspx?cite=51-56-1600>

This brochure contains general principles only, which may not be appropriate or safe for every property or project. The City of Mercer Island is not responsible for your modifications to drainage flow or your property.

Rainwater Harvesting for Irrigation



Is rainwater harvesting right for you?



What types of roof materials work the best for harvesting rainwater for irrigation?

Rainwater from the following types of roofs should not be used for irrigation due to pollutants:

- Wood shingles or shakes that have been treated with any chemical to make them resistant to rot and moss, lichen, and algae growth
- Copper roofs or roofs with copper gutters
- Roofs with zinc anti-moss strips or other zinc fixtures

Where can you harvest rainwater in your yard?

A suitable location for a rain barrel or cistern has:

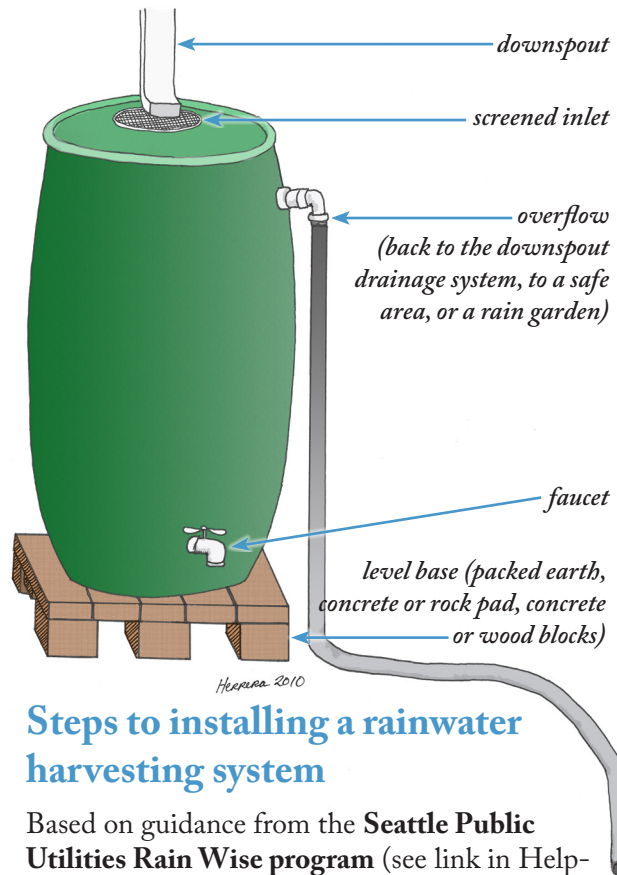
- A level location near a downspout
- A solid base (packed earth, concrete or rock pad, concrete or wood blocks)

A suitable overflow can include:

- A connection back to the downspout drainage system (required if your home is on a steep slope or in an erosion or landslide hazard area)
- or*
- A diversion away from your house to soak into the soil a minimum of:
 - » 5 feet from your home (if you have a crawl-space)
 - » 5 feet from a property line
 - » 10 feet from your home (if you have a basement)
 - » 10 feet from neighboring buildings

or

- A rain garden



Steps to installing a rainwater harvesting system

Based on guidance from the **Seattle Public Utilities Rain Wise program** (see link in Helpful Resources section of this brochure).

- Level the ground.
- Build a level foundation using packed earth, a concrete or rock pad, or concrete or wood blocks.
- Place the tank.
- Secure the tank for earthquake safety (if taller than wide).
- Install a screened inlet.
- Connect downspout to the screened inlet.
- Install a 3- to 4-inch overflow pipe.
- Extend the overflow pipe to a safe discharge point.
- Install a drain valve.

How can you use the collected rainwater?

- Harvested water may be used to irrigate lawn and garden areas.
- Avoid watering vegetables and herbs with rain barrel water collected from asphalt-shingle roofs. Collected rainwater from this type of roof can be used to water lawn, ornamental plants, and shrubs.
- Do not use collected water for drinking, cooking, or bathing.
- To use harvested water for other purposes (toilet flushing, laundry, etc.) refer to the *Georgia Rainwater Harvesting Guidelines* (Chapter 5) and the *Texas Manual on Rainwater Harvesting* (Chapter 3) (see link in Helpful Resources section of this brochure). Washington has not yet developed a guidance manual for rainwater reuse.
- Chapter 16 of the State of Washington amendments to the Uniform Plumbing Code (WAC 51-56-1600) provides guidance on the design of system components and required signage for rainwater reuse.

How do you maintain a rainwater harvesting system?

- Clean leaves and other material off the top to keep the screen from clogging.
- Make sure the overflow is not clogged.
- In the winter, reconnect your downspouts or use a downspout adapter to send the heaviest flows back into your drainage system.
- Ensure that the overflow is directed away from your house to prevent damage to your siding and foundation.