

Why is rainwater harvesting important?

By harvesting rainwater, we can put it to good use. Captured rainwater can be used for crops, greenhouses, livestock and irrigating landscape. Or it can be used indoors for flushing toilets and washing laundry. Capturing rainwater can reduce the flow of stormwater to urban streets, reducing flood risks. Also, capturing rainwater reduces the amount of pollutants which is picked up by stormwater flows through streets and storm drains. Every gallon that is collected and used takes the place of a gallon of precious drinking water.

Can I use the harvested rainwater indoors?

Yes, however, in order for collected rainwater to be used indoors, even for toilet flushing, the California Plumbing Code requires special filtering, plumbing, and permits.

What are the major components of a rainwater harvesting system?

The major components typically include the collection surface, gutters, downspouts, pre-filtration systems or first-flush devices, storage tanks and distribution systems — which can include sanitization (depending on what you will be using the rainwater for).

How much rainwater can I collect from my roof?

One inch of rain falling on 1,000 square feet of rooftop typically produces more than 600 gallons of water. Following is the calculation you can use to determine the amount of water one can harvest from their roof:

$SUPPLY \text{ (gallons)} = INCHES \text{ OF RAINFALL} \times 0.623 \times CATCHMENT \text{ AREA (sq ft of roof)} \times .90$ (runoff coefficient for a metal or asphalt roof)



A well designed rainwater harvesting system, 865 gallon cistern in a residential backyard. (Photo credit: Ecology Action)

Can rainwater be harvested on a large scale?

Yes! Modern tanks used for residential and commercial applications are available in all sizes and range from the 50 gallon barrels that most people are familiar with to cisterns that hold up to one million gallons of water.

Can I leave my rain barrel valve closed during the winter?

Your rain barrel(s) will likely fill up and overflow in 1-2 precipitation events. Including rain gardens and vegetated swales in your landscape will allow the water to remain on-site, minimize runoff, and allow for water to slowly infiltrate the soil. Therefore, to protect our creeks as well as the stormdrains, leave the valve open during the winter when you do not need the water. Near the end of March (or at the end of the rainy season), close the valve and use the last rainstorms to fill your barrels for storage.

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What is the status of national codes that support rainwater harvesting?

The American Rainwater Catchment Systems Association Design and Installation Standards were incorporated into the IAPMO Green Plumbing & Mechanical Code Supplement of the Uniform Plumbing Code (UPC), and the International Green Construction Code of the International Plumbing Code (IPC). The state of California incorporated these new standards into the California Plumbing Code and they became effective Jan. 1, 2014. The new code covers rainwater catchment systems intended to supply uses such as irrigation, water features (i.e., fountains, ponds, and waterfalls), toilet flushing, urinals, floor trap primers, industrial processes, and cooling tower makeup. No permit is required for exterior catchment systems used for subsurface or overhead irrigation up to 360 gallons.

How can I find a qualified designer and installer for a rainwater harvesting system?

The best rainwater harvesters are multi-disciplined professionals. The American Rainwater Catchment Systems Association website (www.arcsa.org) menu includes a member search engine called **Find a Pro**, which effectively identifies members within a selected radius of a zip code. ARCSA recently created an advanced "Certified Professional" status that builds on the Accredited Professional training. To learn more about the Accredited and Certified Professional programs, contact education@arcsa.org or call (512) 617-6528. The Watershed Management Group <http://watershedmg.org> maintains a similar list of trained professionals on the following website: <http://watershedmg.org/certification/certified-practitioners>

Rainwater Harvesting Resources

American Rainwater Catchment Systems Association
<http://arcsa.org/>

BAWSCA Rain Barrel Rebate Program
<http://bawasca.org/conservation/rain-barrel-rebate-program/>

City of Palo Alto Stormwater Rebates
<http://www.cityofpaloalto.org/gov/depts/pwd/stormwater/rebates/cisterns.asp?BlobID=14858>

City of Sunnyvale Rainbarrel Rebate
<http://sunnyvale.ca.gov/Departments/EnvironmentalServices/Water/WaterConservation.aspx>

Greywater Action Information on Rainwater Harvesting
<http://greywateraction.org/content/about-rainwater-harvesting>

Occidental Arts and Ecology Center Reports
<http://oaecwater.org/education/roofwater-in-CA-report>

<http://oaecwater.org/education/roofwater-harvesting-booklet>

<http://oaecwater.org/low-cost-agricultural-roofwater-system>

http://oaecwater.org/sites/oaecwater.org/files/Roofwater_Harvesting.pdf

San Francisco Public Utilities Commission
Rainwater Harvesting
<http://sfwater.org/index.aspx?page=178>



(Photo credit: Ecology Action)



CONTACT US

For more information, contact the **Water Conservation Hotline** at **(408) 630-2554**, email conservation@valleywater.org, or visit our website at valleywater.org and use our **Access Valley Water** customer request and information system. With three easy steps, you can use this service to find out the latest information on district projects or to submit questions, complaints or compliments directly to a district staff person.



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