



Wholly H2o Rainwater Harvesting Tips

Choices, Choices

- Start with making a water budget, which will include knowing your average annual rainfall roof catchment area, cost and location of rainharvesting tank and your current garden's watering needs.
- Use a dual water supply system that will automatically top-up the tank with water from the main supply when tank water levels fall to a minimum level.
- Select a pump system to distribute water for use inside or outside the home, if one is necessary.
- Consider appliances that can operate at less than mains pressure, as some appliances do require high water pressure.

Right Roof

- Make sure your roof surface is suitable for collecting quality rainwater. Some roofs are composed of lead-based paints and flashing, and tar-based coatings. Be certain that your roof is non-toxic. Steel sheets, well fired glazed tiles, concrete or cement tiles, clay tiles, and composite tiles are popular choices safe for rainwater collection.
- Speak with the manufacturer to confirm that the roofing material is suitable for potable water collection. You can obtain a certificate of classification.

Glorious Gutters

- Install roof gutters according to appropriate standards and building codes. Be aware that gutters which pond water can create a mosquito breeding habitat and may incubate bacteria.
- Prevent leaves and debris from blocking gutters by installing a fireproof mesh gutter system. Screening material must be both fire proof and allow maximum sunlight into the roof gutter system. It also must not be too fine, which can create the perfect habitat for spiders.
- Fit gutter outlets on the underside of the roof to minimize sludge build up. Gutter outlets that are fitted from inside the roof create a lip of up to 4mm at the water outlet point. Instead, fix gutter outlets on the underside of the gutter itself, so there is no water flow obstruction and the gutters will drain well.

No leaves, debris, or bugs please!

- Rain heads direct leaves and larger debris out of the flow of the water. The type of rain head required depends on the type of system. Using 'multiple screen' rain heads is often the best strategy.
- Consider using dry gutters. They last longer, keep the water moving downward, and prevent water accumulation between flushes. Dry gutters also eliminate any breeding ground for mosquitoes.
- In wet systems, pipes and gutters hold water. Fit insect-proof screens on all pipes that hold water and all openings to or from your tank. You can also fit insect-proof flap valves or screens on the end of the pipe system at the entry to the rainwater tank, and to the overflow from the tank.

First flush

- Install a first flush diverter on the downpipe. This is critical for achieving good quality water and is especially important in areas of high pesticide use or atmospheric pollution.
- First flush water diverters prevent the first, most contaminated rainwater from entering the tank.

- The recommended volume to be diverted is based on an assessment of roof area, and a pollution factor (between 0.5L to 2L of water per m² of roof area).
- A sump box between the downpipe and the tank can slow water flow down and separate out any sediment not previously diverted.

Think Tanks

- Match the size of your tank to your water budget, your financial budget, and available space.
- Make sure your tank is made of dark, nontransparent material. Light will stimulate the growth of algae in stored water. Where an algal problem already exists, it is best to drain the tank and clean it.
- Tanks should be positioned in a shady spot, preferably away from trees to prevent leaves, etc., contaminating water.
- All openings should be equipped with close fitting lids, or mesh screens.
- All openings should be screened so that the mesh gauze will fit on a collar about 50mm deep. This will allow effective water flow into the tank. Ensure that screens are mosquito proof.
- Ensure that screens and filters are positioned so they are accessible for cleaning.
- Avoid brass or copper screens as they may react with the galvanising of the tank.
- **Make sure there is an overflow valve on the tank outlet**
- A close fitting lid which is readily removable is recommended.
- If you plan to have a large tank, consult a licensed builder or engineer to help design and construct the proper structural support.
- Have your tank installed by a plumber or the tank manufacturer. This will ensure the system operates efficiently, validate any available warranties, and lead to easier maintenance.

Water at the bottom and water at the top

- Draw water out of the tank from two places. Water at the top of the tank is better quality.
- Install a valve at least one third of the way from the top of the tank (aerobic zone) for use inside the home, and the other valve at the bottom of the tank (in the anaerobic zone) for use outside the home and overflow. Tank overflows that simultaneously take excess water and vacuum out sludge from the bottom of the tank are best.
- Make sure the tank overflow outlet is connected back into the stormwater pipe or irrigation system.
- Aerate the tank water so it does not become stagnant.
- Vent pipes and tanks to provide airflow over the water surface, which improves its aerobic content. This also prevents a vacuum from forming when large quantities of water are quickly drawn from the tank.
- Flap valves should have double seals, be self-cleaning, and have a flap that cannot be over-rotated and left open.

Keep the system in order

Maintenance is one of the most important factors to ensure good quality water. Clean the inside of the tank every few years, as sediment will accumulate. All components, including gutters, rain heads, water diverters and water tanks, should be checked and maintained regularly. Also, consider registering your rain harvesting system with the proper local officials.



Wholly H2o Landscaping Tips

Timing is Everything

Water gardens and landscaping only early in the morning to avoid solar evaporation, which can dramatically decrease soil saturation. Evening watering can promote undesirable fungal growth.

On Target

If you are using sprinklers (and we hope you are not), avoid windy days that can carry your water off target. If pavement is getting wet, you are overwatering, creating a stormwater nuisance.

Brooms - Not Just for Witches Anymore

Use a broom instead of a hose to clean driveways and sidewalks. This saves as much as 150 gallons of water each time.

Savings: 150 gallons per cleaning

Irrigation on the Ground Level

Install drip irrigation rather than overhead sprinklers. Drip irrigation systems use between 20 to 50 percent less water than conventional in-ground sprinkler systems. They are also much more efficient than conventional sprinklers because no water is lost to wind, runoff, and evaporation. Routinely check for leaks and damage to the system. *Savings: Up to 500 gallons a month*

Irrigation PhD

Install a rain sensor on your irrigation controller so your system won't run when it's raining. Smart Sprinkler controllers greatly reduce misused water in your landscaping. Visit our [PRODUCTS PAGE](#) to find the best smart controller for your situation.

Savings: 40 gallons per day

Soak Right!

Plants' roots benefit from a deep soaking. However, overwatering can take a toll on your landscape. Soggy, water-soaked soil can prevent air and nutrients from reaching plant roots. It can also invite problems like root rot and other plant diseases that result in serious damage and unwanted replacement costs down the road.

Mulch Matters

Mulch is one of a landscaper's and water saver's most important allies. Mulch and compost add nutrients to the soil, keep water from evaporating, deter weed growth and are great medium for filtering greywater and rainwater. Add 2-4 inches to be effective. There are many types of mulches from which to choose.

Go Native!

Native plants are already adapted to the climate and water availability. They use less water and are naturally more disease resistant than many non-natives. Native plants bring other native species into your landscape. If you do choose non-natives, make sure they are well suited to the climate and drought-tolerant.

Falling Leaves

Leave lower branches on trees and shrubs and allow leaf litter to accumulate on top of the soil. This keeps the soil cooler and reduces evaporation. (Athens Clark County)

Water Cliques

Grouping plants according to their water needs will help you provide targeted water use, which will save water and promote optimal conditions for plant health.

Plan your Planting

Consider planting in the fall, when conditions are cooler and rainfall is more plentiful.

Love your Lawn?

In California's wet/dry seasons, lawns (turf) often require heavy doses of water and chemical fertilizer to retain their beauty. We recommend replacing your lawn with xeriscaped raingardens. However, if you are devoted to your turf, try aerating it with golf shoes or special aeration shoe strap-ons. Punch holes in your lawn so rainwater will reach the roots rather than running off the surface. Adjust your lawn mower to a higher setting. Taller grass shades roots and holds soil moisture better than when closely clipped.

Car and Dog Washing Start at Home... on the Lawn!

If you've decided to keep your lawn, why not reduce water use by washing your car and animals on it? This also reduces water running down streets and carrying pollutants into storm drains, and further into the hydrological systems. It is preferable to wash your car at a carwash, which can use much less water. Many carwashes now collect polluted water in sewers rather than storm drains that drain into streams, rivers, bays and oceans.



Wholly H2o Efficiency Tips

Fix That Leak!

Leaky faucets that drip at the rate of one drip per second can waste more than 3,000 gallons of water each year. A small drip from a worn faucet washer can waste 20 gallons of water per day. A leaky toilet can waste 200 gallons per day. If you are unsure whether you have a leak, read your water meter before and after a two-hour period when no water is being used. If the meter does not read exactly the same, you probably have a leak. If you have a well at home, check your pump periodically. If the pump turns on and off while the water is not in use, you have a leak.

Savings: 8 - 200 gallons per day

Just Add Air

You can double the efficiency of a kitchen faucet made before 1994 by installing a low-flow aerator. This quick, cost-efficient project, along with a change in habits, can save hundreds of gallons a year.

Savings: 100s of gallons a year

Bathing for Dollars

A full bathtub requires about 70 gallons of water, while taking a five-minute shower uses 10 to 25 gallons. If you take a bath, stopper the drain immediately and adjust the temperature as you fill the tub.

Savings: 45 - 60 gallons per shower (per person)

Shower Shortage

A four-minute shower uses approximately 20 to 40 gallons of water. Inexpensive water-saving low-flow shower heads or restrictors are easy for the homeowner to install. "Low-flow" means it uses less than 2.5 gallons per minute.

Savings: 10 - 30 gallons per shower (per person)

Brushing

The average bathroom faucet flows at a rate of two gallons per minute. Turning off the tap while brushing your teeth can save up to 8 gallons of water per day, which equals 240 gallons a month!

Savings: 8 gallons per day (per person)

Shaving Savings

The average bathroom faucet flows at a rate of two gallons per minute. Rinse your razor in the sink filled with a few inches of warm water. This will rinse your razor just as well as running water, with far less waste of water.

Savings: 5 gallons per shave (per person)

Fill 'er Up

The average washing machine uses about 41 gallons of water per load. High-efficiency washing machines use less than 28 gallons of water per load. To achieve even greater savings, wash only full loads of laundry or use the appropriate load size selection on the washing machine.

Savings: 13 gallons per load

Dishwasher

There are many water saving and energy saving models to choose from. Scrape, rather than washing plates before you load them. Air dry and only wash full loads.

Savings: 3-12 gallons per load

Tame Your Toilet

Your toilet's tank is full of treated drinking water. This means that energy is being wasted to clean water that will be mixed with urine and feces and flushed away, only to be treated again! If your toilet is from 1992 or earlier, you probably have an inefficient model that uses at least 3.5 gallons per flush. New and improved high-efficiency models use less than 1.3 gallons per flush. That's at least 60 percent less than their older, less efficient counterparts. If you can't afford a new toilet, then put a brick or filled water bottle in the tank to reduce the amount needed to fill the tank.

Savings: 2.2 gallons per flush

Smart Flushing

With each toilet flush, we are literally throwing water imported from outside our watersheds and then heavily treated to drinking standards down the toilet. Why not install a rainwater and/or graywater system, which can fill your tank with properly treated water you've harvested yourself? For a manual graywater system, put a bucket under the faucet while your shower water is heating up and then use that water to flush your toilet.

Say "No!" to Flow

Turn off your kitchen sink instead of letting the water run over dishes and vegetables. Better to partially fill up a small tub or bowl for rinsing. When you are done, you can pour the water into the soil around nonedible plants. When washing dishes by hand, use the least amount of detergent possible. This minimizes the rinse water needed. Don't turn on your faucet full blast when just a trickle of water will do.

Garbage In, Water Out

In-sink garbage disposals require lots of water, and add considerably to the volume of solids delivered to waste water systems and septic tanks. Start a compost pile or worm composter for kitchen scraps as an alternative method for disposing of food waste. You can use the compost on your water-wise garden or contribute to your city's compost pick-up plan.

Savings: 50-150 gallons per month

Recyclables Relief

Only rinse recyclables with minimal water before putting them in collection bins. Plastics with food residue may need wiping, but glass & metal is recycled at high temperatures that vaporize food.

Devise a Device

Now that saving water has become popular, you can add many water saving appliances, such as low-flow faucets, low-flow toilets, low-flow showerheads, water efficient laundry and dishwashers. There are many rebates throughout California available for these items. Visit our products page [\[LINK\]](#) to find the water savers appropriate for you.

Savings: Thousands of gallons a year.

Just add Hot Water

Installing an on-demand water heater will reduce the amount of water you waste waiting for the water to heat. While waiting you can also capture running water in a bucket, and distribute it to your needy plants. Better yet, install a graywater system.

Fish Poop Soup

When cleaning out fish tanks, give the nutrient-rich water to your plants. After steaming vegetables, let the nutrient-rich water cool and then water a plant with it.