## Can Your Family Live Off Tank Water Alone?

How much of your family's water needs can be serviced by rainwater being harvested into a tank? If you are environmentally conscious and contemplating buying a rainwater tank, then you've probably wondered about this question. This article aims to help you determine if your family can live off tank water alone.

## Calculating Your Home's Water Usage

The first thing to consider is how much water your household actually uses. This would include the water used for showers/ baths, dishwashing, laundry use and outdoor water usage such as watering lawns and gardens, washing cars and topping up your swimming pool.

Knowing how much water your family uses helps to identify how much water to you need to capture and store. A guide for calculating your families' water usage is available here: How to Calculate Your Home Water Usage.

## How Much Water Can Your Property Harvest?

To work out the amount of rainwater you can harvest requires first knowing how much rainfall your property normally receives, and secondly knowing the surface area of your property being used to collect rainwater (the "catchment area").

Most coastal areas of Australia will experience rain in a consistent manner. The Australian Bureau of Meteorology publishes Rainfall Climate Maps that can show you monthly and annual rainfall total (in millimetres) for your area.

Once you know your rainfall amount, you can calculate your rainwater harvesting capacity by applying the following formula:

## 1 mm of rain falling on $1 \mathrm{~m}^{2}$ surface area yields 1 litre of water

That is, work out the hard surface areas on your property that will be used to collect rainwater (roofs, driveways and pavements, etc) in square metres and times this by the number of millimetres that fall in the higher rainfall months of the year.

The number of litres of water calculated is the annual estimate of the maximum harvestable amount of water possible.

## Two Rain Water Sources You Can Harvest

Many only think about collected rainwater from their roof, however there are two types of water that you can collect on your property:

1. Water that falls on your roof is typically called "rainwater" and is higher quality.
2. Water that falls to and flows over the ground, down driveways, pavements and the like is called "stormwater".

Rainwater can be directly used to wash clothes, dishes, your car and even bathe or shower in. The water is softer, meaning it contains little to no particles within it, so allows a better lather to be worked up with detergents, soaps, shampoos and conditioners.

If you wish to drink your rainwater or use it in cooking, then you need to ensure your water tank is well maintained. It is highly recommended you install filtration with chlorination at your tap as a precaution against any harmful bacteria or parasites that might otherwise be present in your tank water due to poor maintenance or accidental pollutants. It is generally recommended by government health departments that you use a reticulated water supply for drinking purposes if available, since such is treated and doesn't require you maintaining rainwater quality.

Stormwateris normally harvested into underground water tanks, which your above ground rainwater tank overflow can also feed into. Stormwater can be used throughout your gardens, on lawns, watering surfaces and in topping up water in your swimming pool.

Underground water tanks are also a great way to meet any bushfire retention or stormwater detention requirements your local or state government might impose if you live in a bushfire prone region or flooding area. In additional to tanks, inground swimming pools also can provide a valuable reservoir of water for fighting bushfires when mains water is no longer accessible.

A double tank water system, with an above ground tank that collects rainwater and an underground tank for storm water, will go a long way tow ards your own water usage requirements.

## So, can your family live off tank water alone?

Farmers have been doing it for centuries, although they also tap into surface water sources like rivers, dams and creeks or bore into underground water aquifers. So the answer is yes, you just need to have proper plan.

Most developed suburban areas along the East-Coast of Australia could reasonably live off rainwater alone provided you have adequate property space. Nonetheless, always install a rainw ater to mains water switch so your household taps will still give water should your tank ever run dry.

## Recommendations for Average Australian Suburban Family

The Australian Government's YourHome website recommend plumbing in 5,000 to 20,000 litres to have full water supply needs met for an average household with 2 adults and 2 children. That works out to 1,250 litre to 5,000 litres per person.

The optimum setup we would recommend is a large 5,000 gallon ( 22,700 litre) water tank. Furthermore, consider a 5,000 litre Li-Lo underground tank reserve for collecting storm water or rainwater overflowing from your rainwater tank. Harvesting stormwater is especially good if you have a pool and/ or gardens.

## Web version (current):

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