

# Footprint

EDITION  
two  
MAY 2007

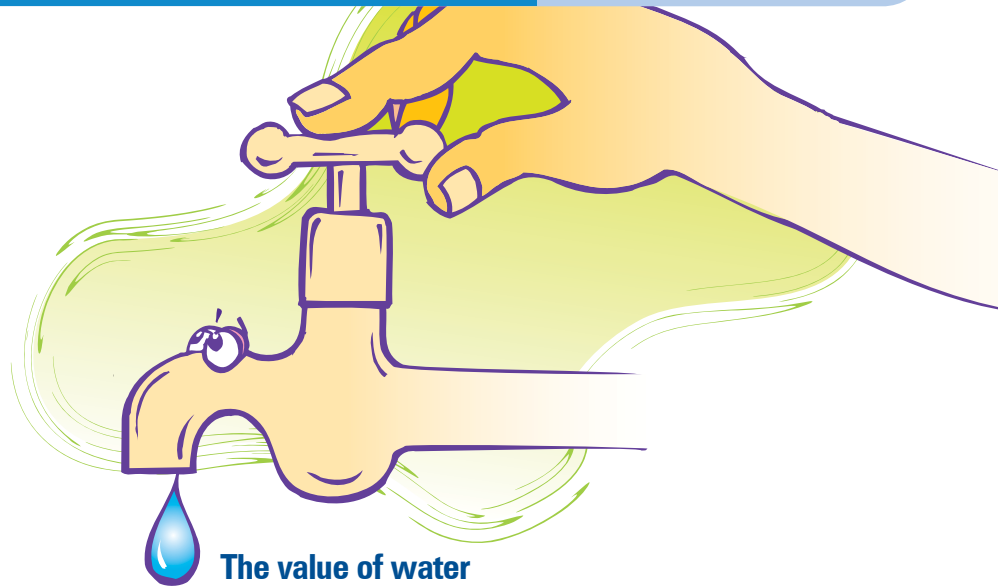


CHOOSING TODAY FOR A  
SUSTAINABLE TOMORROW

Welcome to the second edition of *Footprint*. This is the publication of Australia Post's sustainability program. It's about addressing the challenges we face today so we can look forward to a better future.

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## Water – our precious resource

With a growing population and unpredictable weather patterns, we all have to start thinking about our water supply as a precious resource.

Following a summer of severe drought in most parts of Australia, there has been an almost constant spotlight in the news on the issue of our nation's water supply.

For many Australians living in urban areas, it seems strange that water should be such a significant issue. After all, many of us have grown up in cities where all we've ever needed to do to get water is turn a tap.

Our water has always just poured out – fresh and almost free. As a result, we've tended to take it for granted and we've undervalued it. But like most things that we need for survival, the less we have the more valuable it becomes.

### The value of water

Most of us have always expected that our taxes, rates and water bills will cover the cost of our water supply. But in the future, we should all expect that water is going to cost us more.

In many ways this is a simple economic equation – the demand for water is growing at a time when our water supply seems to be diminishing. Like in any other marketplace, as demand increases and supply falls, the price inevitably rises.

The growing demand is coming from population growth and the increasing requirements of agriculture, industry and the environment.

Our water supply is hard to predict because Australia has always been subject to droughts, but we've now experienced below average rainfall in most parts of the country over the past several years.

### Changing our habits

Fortunately, there are a number of things we can do that will contribute to increasing the supply of water while reducing our overall demand for water. But we need to take action – and change our water consumption habits now.

We will have to commit to using less water, recycling more and collecting rainwater wherever we can. This second edition of *Footprint* contains many tips on things we can all do at work and in our homes to build a future based on sustainable water use.



*Footprint* is printed on a paper stock called Nine Lives which is made from 80% recycled paper. It is printed using environmentally-friendly vegetable and soy inks. We hope you'll file this edition in a special place and refer to the energy-saving tips regularly. However, if you do choose to dispose of this edition, please throw it in the recycle bin.



# Water – what is it?

When you boil it down, water is just a chemical substance – H<sup>2</sup>O. But it's essential for supporting all forms of life, including human life.

## A life-giving substance

Water is an amazing, ever-changing substance. In fact, it's the only substance found naturally on Earth in all three states – solid (as ice), liquid and gas (water vapour) – depending on its temperature.

It appears mostly in the oceans (as saltwater) and the polar icecaps, but it's also present on Earth as clouds, rain, rivers, lakes, airborne vapour and steam. Because it is capable of changing its form, water perpetually moves through a cycle of evaporation, precipitation (rain) and runoff to the sea.

Clean water is absolutely essential for supporting all forms of life on Earth. Approximately two-thirds of the human body is made up of water – and like oxygen, if we can't get enough of it, we die.

Water contributes to just about every activity we humans undertake – we drink it, we cook with it, we play in it, we wash with it and water helps produce nearly everything we eat, drink and use.

## How much water is there?

In the epic poem *The Rime of the Ancient Mariner*, written in 1789, there is a famous line where the sailors on board a boat that is lost, floating at sea, notice that there is: "Water, water everywhere – and not a drop to drink".

And this famous line is becoming increasingly relevant to the world's population. There's certainly no shortage of water on Earth, but only a tiny proportion of it is drinkable.

In fact, if you took all the water on Earth and poured it into one-litre bottles, you would need around 1,397,918,550,000,000,000 bottles! Another way of expressing that gigantic figure is that there are 1.398 billion cubic kilometres of water available on Earth.

But 97% of that water is salt water in the ocean and a further 2.25% is locked up in glaciers and ice fields. So that leaves only 0.75% available as fresh water but most of that is inaccessible groundwater.

So, indeed, there is water, water everywhere, but it's estimated that only about 0.01% of the Earth's water supply is available for drinking at any one time.

## FACT:

The amount of water on Earth hasn't changed in the last two billion years. It's just that we now have many more people wanting a share of our planet's precious water supply. In fact, the Earth's population has increased six-fold over the past 200 years – from about 1 billion to about 6.6 billion.



# Water in Australia

The “land of droughts and flooding rains” has always had a difficult relationship with water. But over recent years our water supply has been particularly unreliable.

## A bone dry nation?

As Dorothea Mackellar wrote, we Australians live in a land “of droughts and flooding rains”.

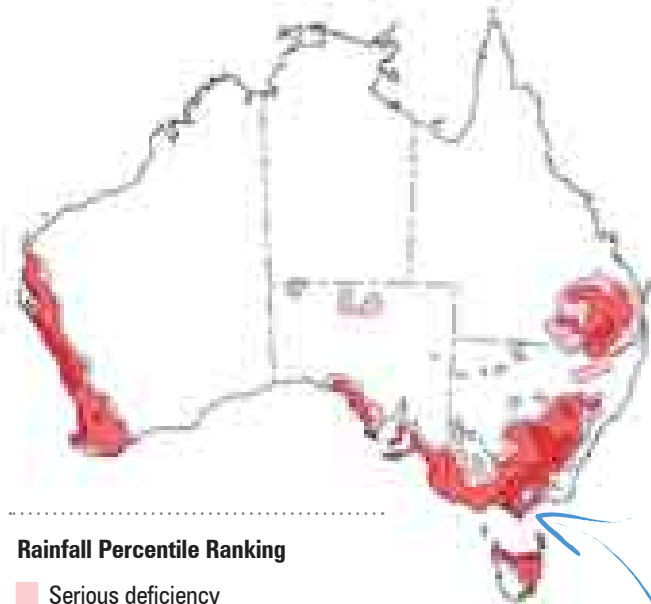
Over recent years, it’s apparent that the drought cycle has dominated the flood cycle in most parts of our country. This has resulted in water restrictions being introduced in many Australian cities and it’s currently threatening the viability of the Murray-Darling irrigation basin, where a lot of Australia’s food is grown.

Figures from the Australian Bureau of Meteorology show that our nation’s average annual rainfall has always varied considerably from year-to-year. Encouragingly, our average rainfall over the past decade has been within the normal historical range.

However, over the past year, many of Australia’s most densely populated areas have received their lowest ever rainfall levels. The coloured parts of the map below show areas where rainfall was either “seriously deficient” or the “lowest on record” during the period March 2006–February 2007.

## Australian rainfall deficiency

(March 2006 – Feb 2007)



### Rainfall Percentile Ranking

- Serious deficiency
- Severe deficiency
- Lowest on record

(Source: Australia Government Bureau of Meteorology.)

*Record low rainfalls over the last year have mainly affected the most heavily populated areas of Australia.*

## The impact of climate change

The world’s scientists now generally agree that the increased concentration of greenhouse gases in the Earth’s atmosphere is causing our climate to change. And there’s no doubt that climate is a fundamental driver of the water cycle: it determines both how much water is available in Australia and how much water we need.

According to the CSIRO, climate change “superimposes on the natural variability” in our weather patterns and it is becoming a threat to the sustainability of irrigation systems, water systems, farming systems and dryland landscapes.

## Our growing thirst

People in “developed” nations, like Australia, tend to use a lot more water than people living in “developing” nations (such as in Africa). This is partly due to the fact that we’re used to having ready access to water – and therefore we’ve taken it for granted. But it’s also due to higher levels of water being used for agricultural and industrial purposes.

Per head of population, Australians now rank as the third highest domestic water consumers in the world. Americans lead the world for water consumption – they use an average of 580 litres a day, per person. In comparison, a British person uses an average of 330 litres per day and an Australian uses about 260 litres. In Africa, average water use is just 47 litres per person, per day.

## About this publication

*Footprint* is mailed to the homes of all Australia Post staff – and to the work addresses of all licensees and mail contractors. This is the second of six editions of *Footprint* that will be published during 2007 and 2008.

The Footprint campaign aims to highlight the many ways each of us can contribute to building a sustainable future for our business – and our world. For more information, please write to us:

**E-mail:** [sustainability@auspost.com.au](mailto:sustainability@auspost.com.au)

**Mail:** The Footprint campaign  
c/o The Environment Manager  
Australia Post  
GPO Box 1777, MELBOURNE VIC 3001

# Water use at Australia Post

In our daily operations, Australia Post doesn't consume large volumes of water. But there are still opportunities for all of us to save water at work.

## Reducing water consumption at work

Unlike some agricultural or manufacturing businesses, Australia Post's core operations do not require large quantities of water to get the job done.

In fact, the major use of water at Australia Post is in the kitchens and toilets of our 1,280 facilities and 2,975 Licensed Post Offices. This means water consumption at Australia Post is almost entirely controlled by the daily actions of staff, licensees and mail contractors.

So whenever you are using water at work – whether it's cleaning the office kitchen, washing vehicles or watering plants – please remember to only use the amount needed to do the job properly.

## Toilets and washrooms

With about 35,000 Australia Post staff using workplace toilets and hand basins every working day, collectively we use a large quantity of water over the course of a year.

Because each of our facilities is slightly different, here are some general suggestions for minimising the water consumed in your work centre's toilets and washrooms.

### Take action now:

- Use dual-flush toilets appropriately to minimise the amount of water used.
- When washing your hands, reduce the flow of water to a suitable level.
- Avoid running the basin taps for longer than needed.
- Always turn off washroom taps firmly to stop drips.



## FACT:

One small drip every second from a tap can waste up to 30 litres of water each day – and a quick drip can waste up to 200 litres in a day.



## Kitchens

In many of our work centres, Australia Post staff, licensees and mail contractors have access to kitchen facilities.

These kitchens are rarely used for large-scale cooking, but water is still used for cleaning dishes, general office cleaning and, of course, for drinking and making tea and coffee.

With so many facilities throughout Australia, we can achieve significant water savings by practising basic water conservation in our workplace kitchens.

### Take action now:

- When washing dishes, only fill the sink to the level required.
- If your office kettle is being constantly used, don't empty and refill it unnecessarily.
- If there is a dishwasher at your work, wait until there's a full load before using it.
- Always turn off kitchen taps firmly to stop drips.

## Vehicle washing

There are about 10,500 motorbikes, vans and trucks in the Australia Post fleet, so many of our mail and transport centres have wash-down facilities for these vehicles.

These wash-down facilities play a crucial role in keeping our vehicles clean and safe. And they are also important for the professional presentation of our brand. But we need to be constantly aware of minimising the amount of water that is used to clean our vehicles.

If there is a vehicle wash-down area at your facility, you also need to be conscious that local water restrictions may affect whether you're allowed to operate it.

Please contact the Corporate Real Estate (CRE) division in your State to check if there are any restrictions on vehicle washing. (CRE also manages the maintenance of external lawns, gardens and trees at all Australia Post facilities – and can inform you about water restrictions if there are gardens at your facility.)



## Be alert and take responsibility

Never assume that someone else will report a leaking tap or a constantly flowing toilet. So, if you spot a toilet cistern that is running constantly, tell your manager or supervisor and they will organise to have it repaired.

Also, try to encourage your colleagues to conserve water whenever possible.

If you have an idea about how Australia Post could use less water, discuss it with your supervisor or manager, or send an email to [sustainability@auspost.com.au](mailto:sustainability@auspost.com.au)

*We all need to take responsibility for good water conservation practices.*

# Where are we using our water?

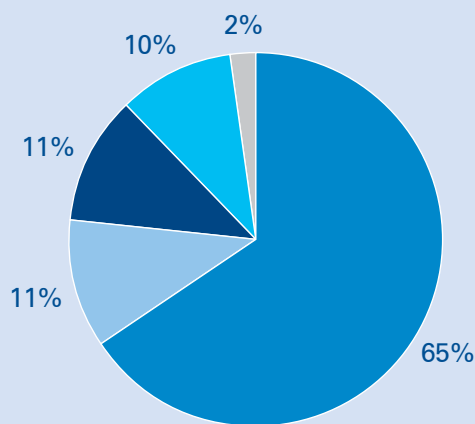
Here's a look at how the nation's water is consumed – as well as how water is used in a typical Australian city and a typical suburban household.

## National water consumption

As a nation, Australia consumed 18,767 gigalitres of water in 2004–05, according to the Australian Bureau of Statistics. In terms of water volume, that's about the equivalent of 37.5 Sydney Harbours.

This water was used for all kinds of purposes – but primarily it was used in agriculture (65%) to grow our food supply, in our homes (11%) and in industry (10%) to manufacture the products that we use (and export to the rest of the world).

### How water is used – nationally



- Agriculture
- Household
- Water supply (sewerage, drainage & water loss)
- Manufacturing & industry
- Mining

(Source: ABS Water Account, 2004/05.)

## Water use in our cities

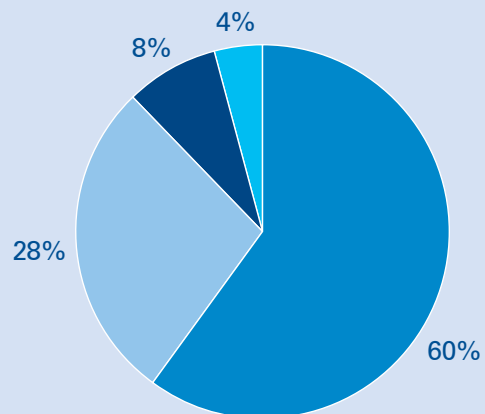
While it might appear that households use a relatively small amount of our national water supply (compared to business use) this can be a little misleading.

Water consumption figures for Sydney and Melbourne clearly show that households are the biggest single category of water consumption in Australia's major urban areas.

The Victorian government estimates that 60% of Melbourne's water is consumed by households and only about 28% is used for commercial and industrial purposes.

According to Sydney Water, the water that Sydneysiders use at home accounts for around 70% of the city's total water consumption, whereas commercial and industrial uses account for only about 20% of the city's water.

### How water is used – in Melbourne

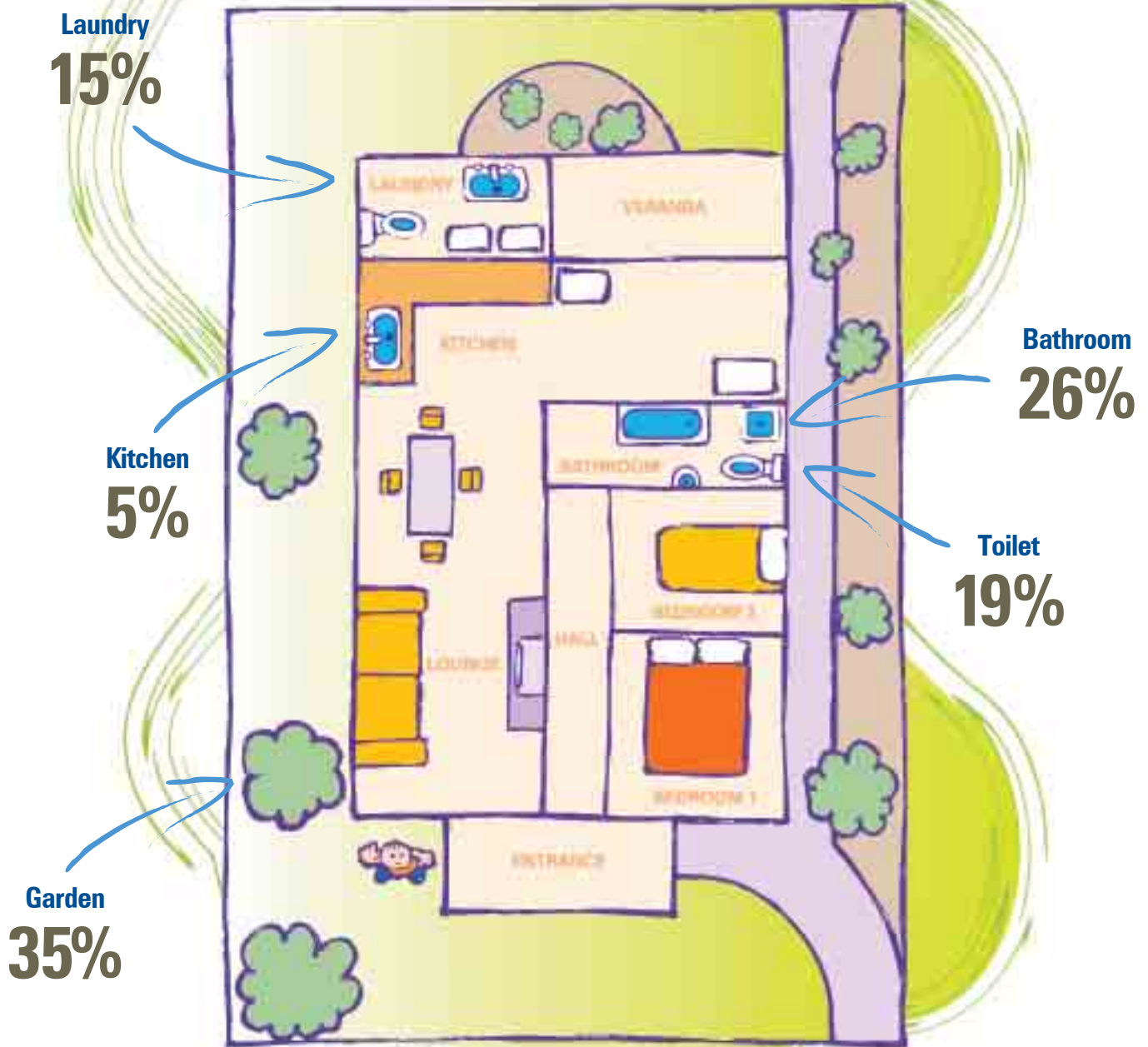


- Household
- Commercial/industrial
- Leakage
- Miscellaneous

(Source: Victorian Department of Sustainability and the Environment, 2004.)

*If you live in a city, your water use at home has a big impact on your city's water storage levels.*

# Water use in a typical\* Australian home



\* When it comes to water consumption at home, there's really no typical Australian household. That's because we all live in different types of homes and Australia's many regions are subject to varying weather conditions.

This illustration is based on average domestic water use for a Melbourne household. The proportion of water used around the home (and especially the garden) will vary from state to state depending on a range of factors, including the local climate and rainfall.

Of course, we all have the ability to reduce our water consumption in each section of our home – and over the next four pages we've listed a range of things you can do in the house and in the garden to reduce your water consumption.

# Saving water at home

With our water supplies dwindling and demand for water growing, we must change our habits in order to save water in and around our homes.

## Changing our habits

Most of us are creatures of habit and we find it hard to change our behavioural patterns, but when it comes to our water use we really have to start doing things differently. There are three things we can do at home to help alleviate our current water shortages:

1. Find new sources of water
2. Re-use waste water
3. Reduce the amount of water we use.

### 1. Find new sources of water

Many of us have the opportunity to reduce our reliance on public water supplies by installing a water tank that captures the rainwater that falls on the roof of our home.

Most local councils now require newly built houses to have a water tank installed as part of the planning approval process. This ensures that new homes are more self-sufficient and it reduces their dependence on limited public water supplies.

In some areas of Australia it might also be possible to get water from other alternative sources, such as local dams or bores.

### 2. Re-use waste water

While some of the water we use at home becomes contaminated (e.g. through its use in toilets), there's still a large amount of household water that can be used for purposes other than drinking.

This recyclable water comes from the shower, washing machines and sinks, so it only contains a small amount of contaminants. Called "grey water", it is ideally suited for use in toilets and on the garden.

You might like to investigate grey water systems to determine if this is a suitable water-saving strategy for your home. The most basic grey water system is to use buckets to capture water before it is sent down the drains. But there are also much more sophisticated systems that can automate the distribution of grey water.

(Please note that local councils have rules to ensure that grey water systems are operated appropriately.)

### 3. Reduce the amount of water we use

Most of the suggestions for reducing household water consumption are common sense. They involve simply being more conscious of how we use this precious resource. Over the next few pages we've included a range of tips for saving water in your home and in your garden.

## The water-wise garden



Use a trigger  
hose

Use mulch



## In the garden

With water restrictions becoming a more permanent part of our lives, it's time to seriously reconsider how we use water in the garden. The good news is that it only requires a few simple changes to create a water-efficient garden. Here are some tips for drought-proofing your garden.

- **Plan carefully.** Effective landscaping and garden design can reduce the amount of water you use in your garden by half.
- **Use mulch.** Mulches prevent evaporation and they're a cheap and easy way to make the most of water in your garden.
- **Choose native plants.** You can drought-proof your garden by using plants that are native to your area.
- **Install a home irrigation system.** A drip system is probably the most beneficial and efficient method of watering your plants.
- **Control the flow.** Use a trigger hose so water isn't wasted in the garden.
- **Use lawns sensibly.** It requires a lot of water to sustain a lawn. So if you don't live in an area that receives healthy rainfall, you should consider planting hardy ground cover as an alternative.
- **Allow your lawn to grow.** When mowing, don't cut the grass shorter than two centimetres.
- **Water less frequently, but more thoroughly.** This encourages your plants to extend their roots deeper, making them hardier and less thirsty.
- **Water after the sun has gone down.** This prevents water loss through evaporation.
- **Put your pot plants in a bucket of water.** Leave them in the bucket for a few minutes so your plants get a good soaking without using much water.
- **Use a broom to clean your paths.** Never use a hose to wash down your paths.
- **Use a pool cover.** If you have a pool, you can reduce evaporation and the need to top up the water level by using a pool cover. Without a cover, more than half the water in your pool can evaporate over a year.
- **Consider installing a rainwater tank.** By catching the water that falls on your home's roof, you can save money and reduce your reliance on the public water supply.

**Note:** All of these suggestions will help reduce water consumption in your garden, but please be aware of your local water restrictions as they may override some of these suggestions.

## FACT:

In Adelaide, where water shortages are a critical issue, about half of all houses are already using rainwater tanks.

# Saving water at home *Continued*

## Inside the house

In the average Australian household, about 65% of water is consumed inside the house – mainly for cooking, drinking, cleaning and sanitation. Here are some tips for reducing water consumption inside your house.

### Bathroom

#### Take action now:

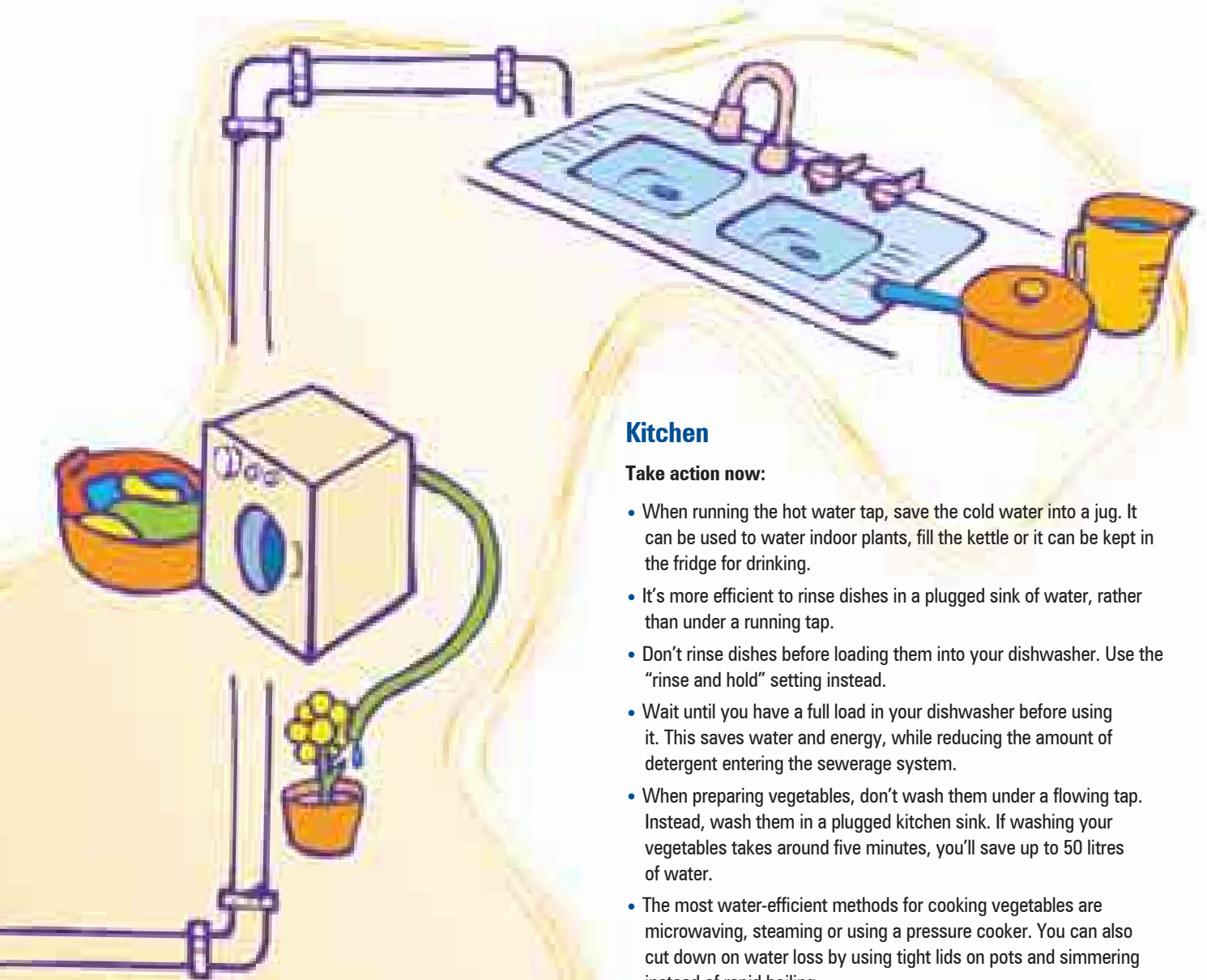
- Put a bucket in your shower so you collect the cold water while waiting for the hot water to run. The bucket of water can either be used on the garden or it can be poured into your toilet bowl as a substitute for flushing your toilet.
- Install a water-saving shower rose. By installing a water efficient shower rose you can save enough water in a year to fill a large domestic swimming pool. It will also save you around \$100 per year on your water and energy bills.
- Cut your shower time from seven to four minutes and you can save around 12,000 litres per person each year. That's about 40,000 glasses of water!
- Avoid using the bath. A normal bath holds about 150 litres of water, which is equivalent to a 13 minute shower.
- Turn the tap off while cleaning your teeth. Simply wet your toothbrush before you begin brushing and use a glass of water to rinse your mouth afterwards.
- When shaving, run a little water into a plugged sink. Rinsing your razor under a constantly running tap whilst shaving wastes a lot of water.

### Toilet

#### Take action now:

- Replace your single flush toilet with a dual flush toilet. This can save up to five litres per flush and it'll save an average household about 30,000 litres of water per year.
- Use the half flush whenever you can. If you have an old toilet with a large capacity, try putting a bottle filled with water or a brick in the cistern to reduce the amount of water used with each flush.
- Check your cistern isn't leaking by putting a little food colouring in it. If the colouring begins to appear in the toilet bowl without flushing, then your cistern should be repaired immediately. A leaking toilet can waste more than 16,000 litres of water in a year.





## Laundry

### Take action now:

- Ensure you have a full load before running the washing machine. Every time you run your washing machine, it uses about 120 litres of water.
- Understand your washing machine's settings. Most washing machines have a load adjustment button, so try to set it to match the amount of washing you're doing. Also, use the "suds saver" setting on your washing machine (if it has one).
- Consider replacing your top-loading washing machine with a front-loading machine. Front-loading machines generally use 60% less water, 30% less energy and they require only half the detergent that top-loading machines use.
- Consider installing a "grey water" system so that the waste water from your washing machine (and shower) is re-used on your garden.

## Kitchen

### Take action now:

- When running the hot water tap, save the cold water into a jug. It can be used to water indoor plants, fill the kettle or it can be kept in the fridge for drinking.
- It's more efficient to rinse dishes in a plugged sink of water, rather than under a running tap.
- Don't rinse dishes before loading them into your dishwasher. Use the "rinse and hold" setting instead.
- Wait until you have a full load in your dishwasher before using it. This saves water and energy, while reducing the amount of detergent entering the sewerage system.
- When preparing vegetables, don't wash them under a flowing tap. Instead, wash them in a plugged kitchen sink. If washing your vegetables takes around five minutes, you'll save up to 50 litres of water.
- The most water-efficient methods for cooking vegetables are microwaving, steaming or using a pressure cooker. You can also cut down on water loss by using tight lids on pots and simmering instead of rapid boiling.

### Plumbing tips:

1. Check that you don't have any leaks in your house. Find a two-hour period when no-one in your house will be using water. Check the water meter at the beginning and at the end of the two-hour period. If your meter has changed at all, something is leaking.
2. Hot water will reach taps much faster if your water pipes are properly insulated. This shortens the time you have to leave the tap running before you get hot water.
3. Tap aerators, which break flowing water into fine droplets, are inexpensive devices that can be installed in taps to reduce water consumption by as much as 60%, while maintaining a strong flow.

# Footprint

## How much water do we use ...

### ... in the kitchen?

Drinking and cooking	8 litres per day
Washing dishes by hand	18 litres
Dishwasher	20–90 litres per load

### ... in the laundry?

Washing machine	40–250 litres per load
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### ... in the bathroom?

Shower	40–250 litres
Bath	50–150 litres
Brushing teeth	5 litres
Washing hands	5 litres

### ... in the toilet?

Single flush toilet	11 litres per flush
Dual flush toilet	3–11 litres per flush

### ... in the garden?

Dripping tap	30–200 litres per day
Sprinklers	1,000 litres per hour
Hand-held hose	10–20 litres per minute

### ... in the yard?

Washing a car with a hose	100–300 litres
Filling a swimming pool	Up to 55,000 litres
Evaporation from a pool	Up to 200 litres a day

# WWW.



## Looking for more information?

If you would like to learn more about how you can save water at home and at work, check out the websites of the water authorities and water businesses in your state.

You might also like to check out your local library for some of the excellent books, videos and DVDs available on water-wise gardening and house design.

Another good source of information is your local nursery or garden centre. They can advise you on what plants will thrive in your area.

The following websites also have valuable advice and information on saving water.

### [www.awa.asn.au](http://www.awa.asn.au)

The Australian Water Association (AWA) is Australia's largest water industry association and its mission is to promote the sustainable management of water. AWA's website contains interesting facts and figures about the Australian water industry.

### [www.savewater.com.au](http://www.savewater.com.au)

The Savewater Alliance is comprised of Victorian and New South Wales water businesses. This website contains all sorts of useful tips, tricks and case studies about saving water at home, in the garden, in business and in agriculture.

### [http://www.southeastwater.com.au/forms/watersewage\\_readyreckoner.asp?area=edu](http://www.southeastwater.com.au/forms/watersewage_readyreckoner.asp?area=edu)

Melbourne's South East Water has a useful ready reckoner on its website which you can use to calculate how much water you are using in your home.

## Competition winner

The winner of the fridge from edition one is <XXX XXXXXXX>

## Acknowledgements

Some of the information contained in this edition of *Footprint* was sourced from the websites of the following companies, organisations and government agencies:

- South East Water • Sydney Water • SaveWater • Queensland EPA • Homesite.com.au • Yarra Valley Water
- NSW Sydney Catchment Authority • Australian Bureau of Statistics • Australian Bureau of Meteorology
- Victorian Department of Sustainability and Environment • CSIRO

