



AUSSIE
RAIN TANKS

When it rains, it stores!

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Rainwater Harvesting in Australia



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Australia Overview

Geography: Tropical in the north, temperate in the south, desert in the center. Great Dividing Range in the west.

Political; Constitutional monarchy/
Democracy with Federal, State and Local Governments.

Population: 20Million + 2.8 people/km
95% live within 100 miles of the coast .
Seven states with five major population centers of over 1 million.



Major Cities

City	State	Pop	Annual Rainfall	
Sydney	New South Wales	4.4m	48in	Sydney Water
Melbourne	Victoria	3.9m	26in	Melbourne Water
Brisbane	Queensland	2.0m	37in	Qld Water Comm
Perth	Western Australia	1.6m	35in	Water Corporation
Adelaide	South Australia	1.2m	20in	SA Water





Rain tanks for today

All these factors came together after 9 years of drought in Australia (dam levels dropped below 60%)

Even with conservation efforts, new methods had to be developed to save water.

Residential rain tanks were developed and became an instant hit:

- Manufactured from *food grade* quality polyethylene;
- Easy to install (no plumber required)
- Shaped to fit against the side of a suburban house, discreetly under the eaves;
- Large enough to store an usable amount of water for the garden;
- Come in a variety of colors to match the house;
- Could be used to store water to flush toilets.



A Bushman 205 gallon tower

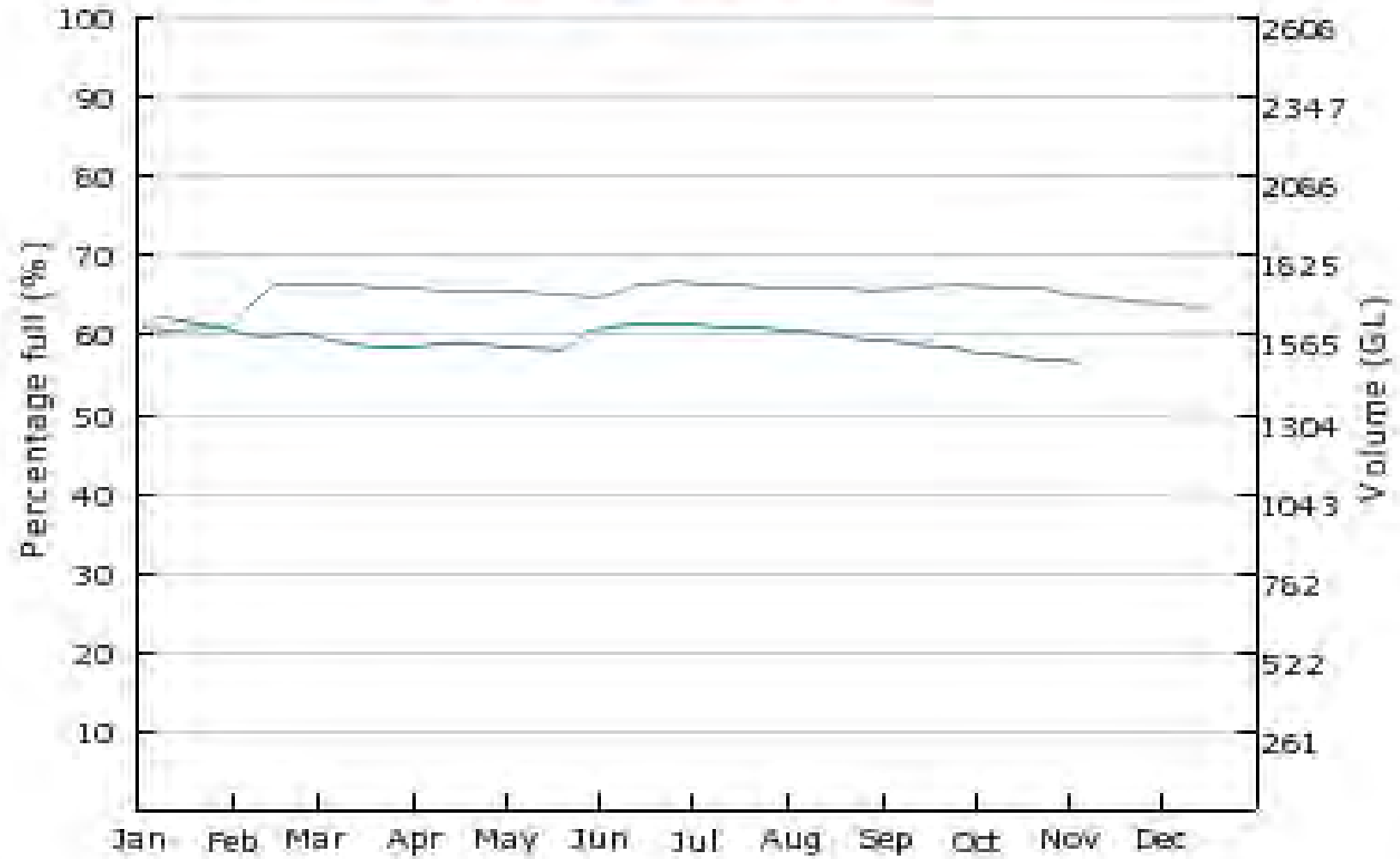
Sydney Water

Managed by Sydney Water www.sydneywater.com.au

- “Rainwater tanks help save our drinking water and also help manage stormwater run-off.”
- “In urban areas NSW Health supports the use of rainwater tanks for non-drinking uses, such as flushing toilets, washing cars and clothes, watering gardens, filling swimming pools, spas and ornamental ponds, and fire fighting. Rainwater can also be used in hot water systems.”
 - Rainwater tank rebate. **Up to \$1,500 rebate.**

—2008 —2009

Sydney Catchment



Dam levels @ 5 Nov = 56.3% (down 0.4%)

Sydney Water Planning

- Building a desalination that can provide up to 15% of Sydney's water supply. It has been designed to be quickly upgraded to twice its size, if needed.
- Dams + recycling + Desalination + Water efficiency= Water Life

Sydney Water Restrictions

- **The new Water Wise Rules (june 21, 2009 are:**
- All hand held hoses must now have a trigger nozzle.
- Watering with hand held hoses (with a trigger nozzle), irrigation systems and sprinklers is allowed before 10 am and after 4 pm on any day – to avoid the heat of the day.
- No hosing of hard surfaces such as paths and driveways. Washing vehicles is now allowed.
- A fine of \$220 applies for all breaches of water saving rules by individuals. Businesses face a fine of \$550 for each breach.
- Authorized Sydney Water staff will carry out random checks to ensure compliance

Melbourne Water

- Since 1939, restrictions have been applied in metropolitan Melbourne on 15 separate occasions to conserve water during drought.
- Target 155 aims to achieve household water consumption of 155 liters/person/day.
- Currently at 150 lt
- www.ourwater.vic.gov.au/target155

Melbourne Water Advice

- Install a rainwater tank. Great for the garden and pool and you can use it anytime.

Use a plumber to connect your tank to your toilet and washing machine to achieve the greatest water savings.

- Install a permanent grey water system
This enables you to collect grey water for reuse on your property. Remember to follow EPA's guidelines on safe use of grey water.



Brisbane

- From 2006, Brisbane and surrounding temperate areas have experienced the most severe drought in over a century, with dam levels dropping below one quarter of their capacity. Residents have been mandated by local laws to observe water restrictions on gardening and other outdoor water usage.
- Per capita water usage is below 140 litres per day, giving Brisbane one of the lowest per capita usages of water of any Western city in the world

Brisbane restrictions and fines

- Water patrol officers patrol our streets and will fine anyone caught breaching the current water restrictions. Fines include:
- first offence - \$200
- second offence (within two years of first offence) - \$600
- third offence (within two years of first offence) - \$1,400

Brisbane Rain Tanks

- **Rainwater tanks**
- Brisbane City Council's rainwater tank rebate program ended 30 June, 2009.
- All applications must have been lodged by 30 September, 2009.
- Residents who have purchased or installed a rainwater tank after 30 June, 2009 are not eligible for a rebate.
- With more than 90,000 tanks installed across Brisbane at a cost of \$65 million, this program has achieved its goals and helped make our city one of the most water efficient in the developed world.

Perth

Water Corporation

- Perth gets 70% of its rainfall in four months of winter and spring.
- The State Government provides a rebate of up to \$600 for tanks greater than 2 kilolitres (500 gallons) that are plumbed into the house. Tanks greater than 0.6 kilolitre that are not plumbed in attract a \$50 rebate.
- More than 12,800 rebates have been granted, with more than half of these in the Perth region. Most of these were for rainwater tanks that were not plumbed into the home.
- The estimated saving of scheme water from each of these tanks is about 21 kilolitres a year, and the total cost to Government so far has been \$1.4 million.

Thinking 50

- A 50 year plan to make Perth and surrounding areas more climate resilient to ensure sufficient and sustainable water supplies for Western Australia
- **By 2030, we plan to:**
- reduce water use by 15%;
- recycle 30% of wastewater; and
- develop 70-100 gigalitres of new water sources.

<http://www.thinking50.com.au/>

Rain tanks for new premises

- **New South Wales**

BASIX (the Building Sustainability Index) requires all new homes (and large alterations) **to use up to 40% less potable water** and produce up to 40% fewer greenhouse gas emissions than the average home. **A rainwater tank is the preferred option** to meet the water elements of this requirement.

A rebate of up to \$1,500 is available for tanks not installed under the BASIX requirements.

- **Victoria**

New homes are required to either install a rainwater tank for toilet flushing or a solar hot water system. Rainwater tank must be reticulated to toilets and a minimum size of 2kl.

A rebate of between \$150 - \$1,000 is available.

- **Queensland**

All new homes are required to meet a mandatory water saving targets. **A 5,000 litre (1,000 gallon)** rainwater tank is the preferred option to meet this target.

The Home and Garden Waterwise Rebate Schemes closed on Wednesday 31 December 2008. Previously up to \$1500 was available for internally plumbed tanks.

Rain tanks for new premises

West Australia

No requirements relating to rainwater tanks. \$50 for the installation of a tank
\$600 for a tank that is plumbed internally Currently extended to 30 June 2009.

South Australia

New dwellings (and large extensions) are required to have an additional water supply plumbed into the house to supplement the mains water. In many areas a rainwater tank is the only option. \$200 - \$1000 to retrofit a plumbed rainwater tank into an existing home for internal use

Impact of residential rainwater tanks on drinking water supplies

- The April 2009 study by Marsdon Jacob for Water Corporation (WA) undertook modeling of the impact of residential rainwater tanks in reducing the demand for reticulated water supplies.
- They found that rainwater tanks could provide between 0.1 and 2.9 gegalitres by 2015, and between 2.3 and 13.9 gegalitres per year by 2030, depending on the level of rebate or regulation.
- We note that the volume of water available from rainwater tanks in the short term is relatively small compared with many of the larger scale water supply options currently being considered. However, in the longer term (2030), as the number of installations cumulatively increase, rainwater tanks could contribute a total volume of between 2% and 12% of the supply-demand gap of 120 GL.
- www.thinking50.com.au



Modern residential rain tanks

Australia designs the widest range of rain tanks specifically for the homeowner. Rain tanks are now being manufactured in the US by four vendors (all with Australian management or design)

They reduce urban run-off and provide a secondary source of water for the garden

- Ideal for water restrictions
- Clean additive-free rainwater
- Can be used in an emergency



What effects do rain tanks have?



Consumers instantly become more aware of local rainfall patterns and home water usage

Captured rain water is used in drier periods and reduces run-off

Overall household water consumption decreases

Many consumers take interest in other conservation programs such as efficient landscaping, drought tolerant plants and graywater management



Who is "Aussie Rain Tanks"?

A newly formed company importing and distributing residential rain tanks to the Bay Area.

Owned by Bruce Hallinan, an Australian/US citizen with over twenty years experience in the marketing and distribution of consumer products.

Agreements with four rain tank & accessory manufacturers in Australia and US.

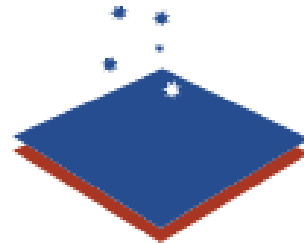
Free on-site quotes. Estimates optimal tank location, size and shape for customer. Full delivery and installation services.

Stores a supply of slimline tanks 'ready-to-go' in San Jose. Five day delivery for round and large tower tanks.



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Vendors



BUSHMANTM
SAVING CANADA'S AND AMERICA'S WATER



Challenges for rainwater harvesting

- Misunderstanding that the Bay Area is too dry to collect rainwater
 - (1 inch on 1,000sq ft of roof will produce almost 600 gallons)
- Misunderstanding that stored water will 'go off'
 - Rain tanks can safely store water for months
- Some water agencies not ready or unwilling to promote rainwater harvesting
 - It will be too late when city water supplies are reduced due to overuse or drought