

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



# City West Water's Water Conservation Solutions program

Damien Connell

Coordinator

Water Conservation Solutions program

City West Water

Melbourne, Australia



# Presentation Outline

---



- I. City West Water who we are
- II. Water security and Melbourne's (S/E Australia) situation
- III. Water Conservation Solutions – Industrial and Commercial customer program solutions
- IV. Summary of Results and next steps



# City West Water: who we are

---



***Vision – To be a truly sustainable water business***

## Strategic Goals

### Environment

- Significantly more with significantly less
- Towards zero waste

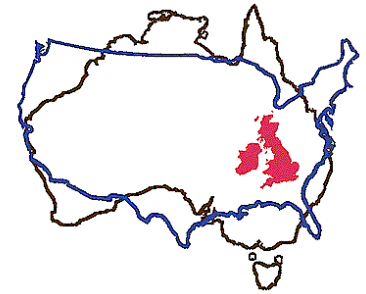
### Social

- Conservers, not consumers
- Clean producers, not polluters

### Economic

- Efficiency and growth

# City West Water – our location



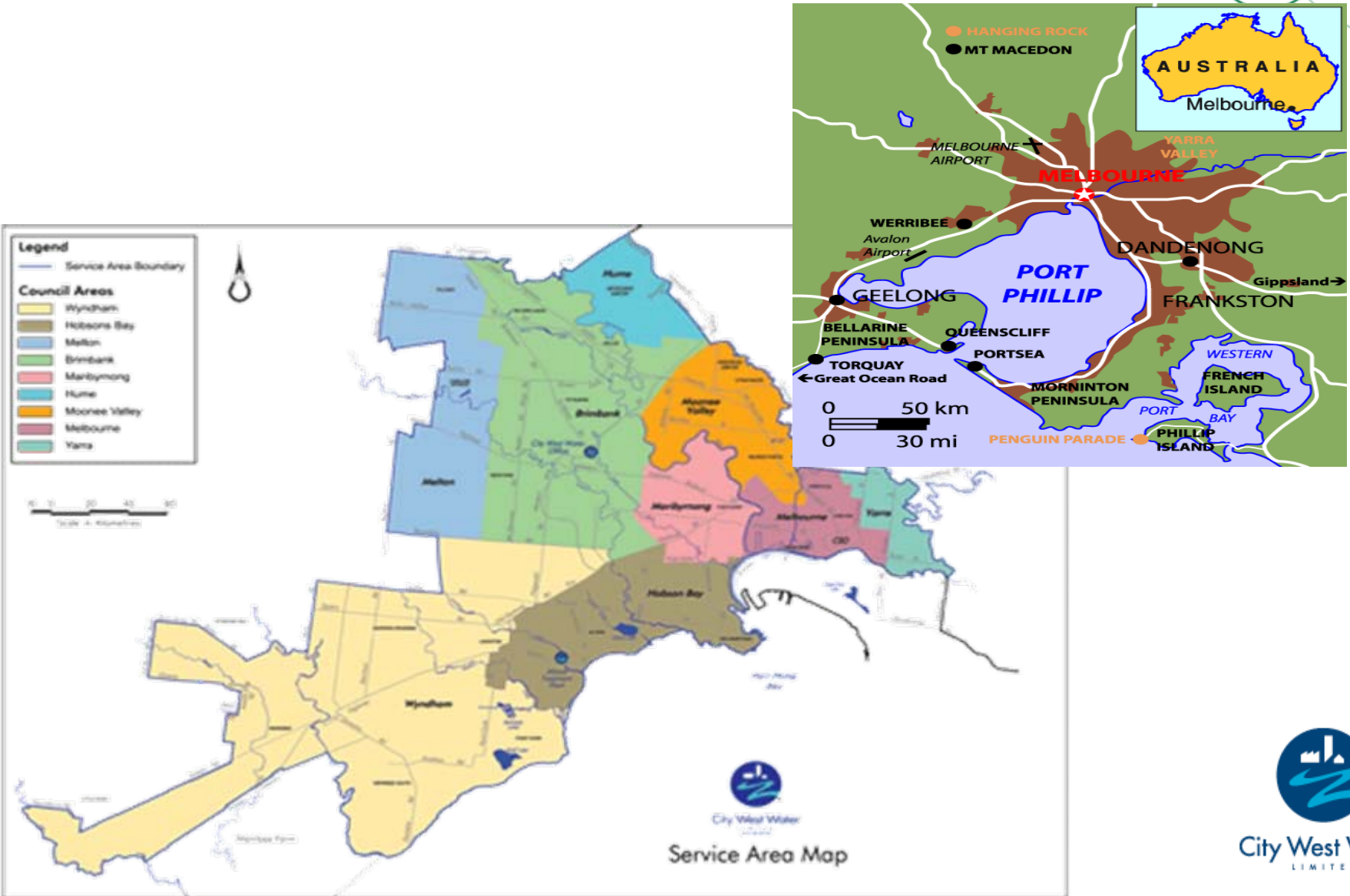
# Melbourne – background & statistics



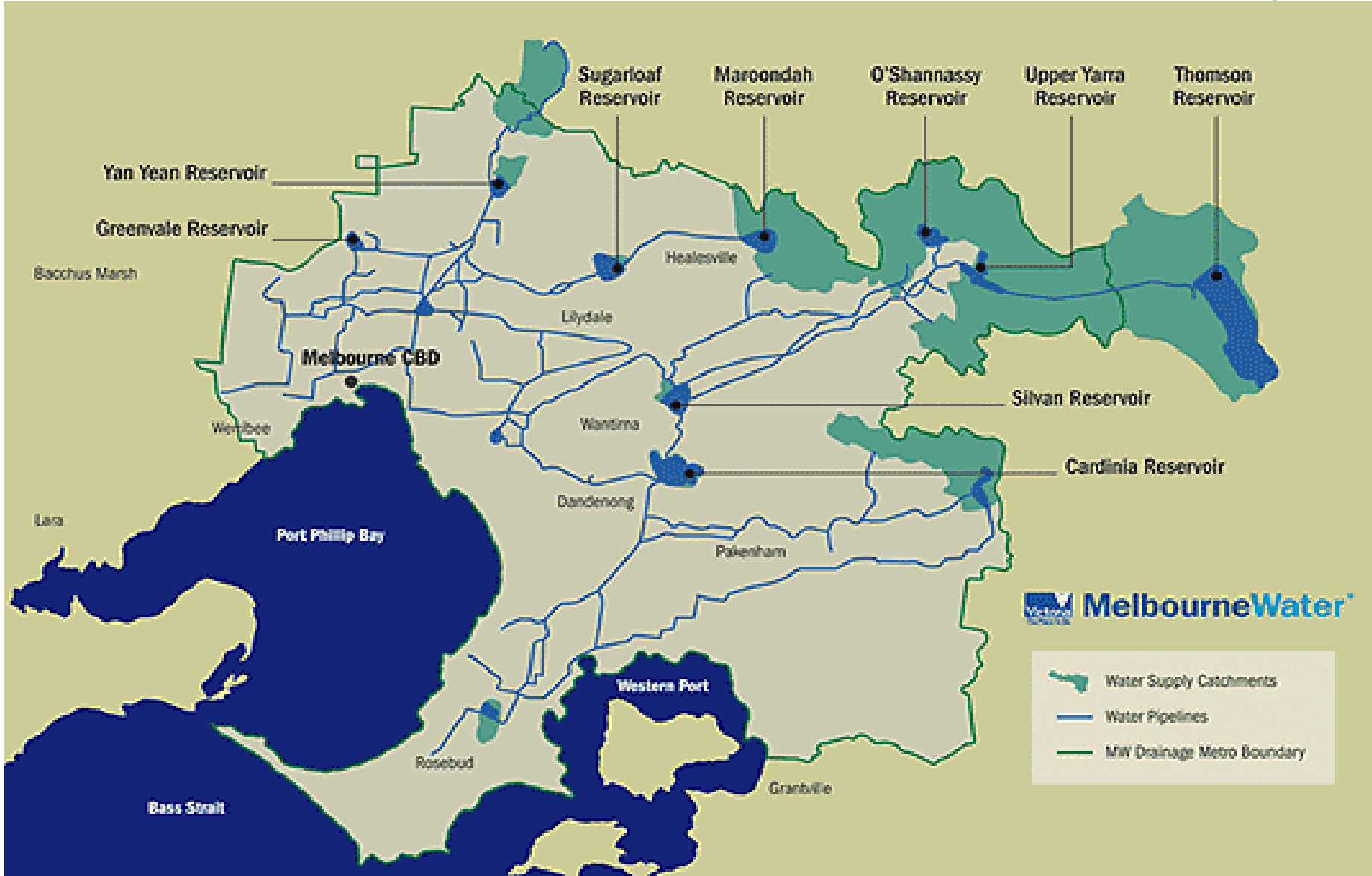
- size - **5,472 sq. miles**
- population - 3,806,092 people
- median age - 36 years old
- average annual rainfall: **25 inches**
- average annual days of rain: **146**
- manufacturing hub of Australia
- attractions:
  - Cafes, restaurants, theatre and art galleries
  - Melbourne Cup Carnival
  - Australian Football League
  - Melbourne Comedy Gala



# Our Service Area



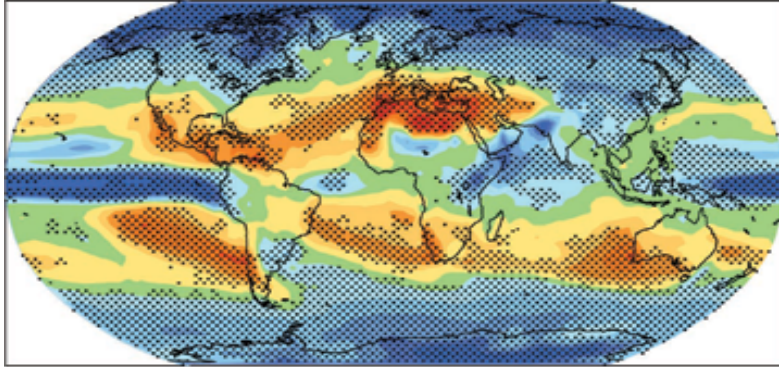
# Melbourne's Water Supply



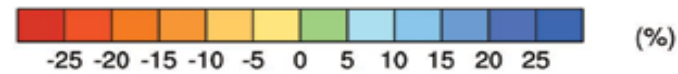
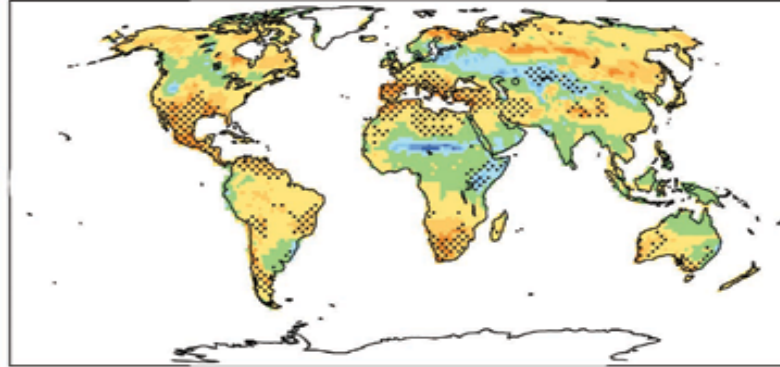


# A Global Challenge

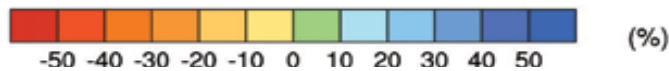
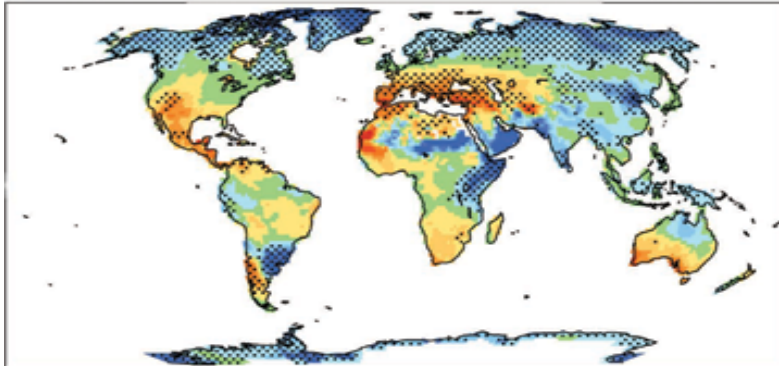
a) Precipitation



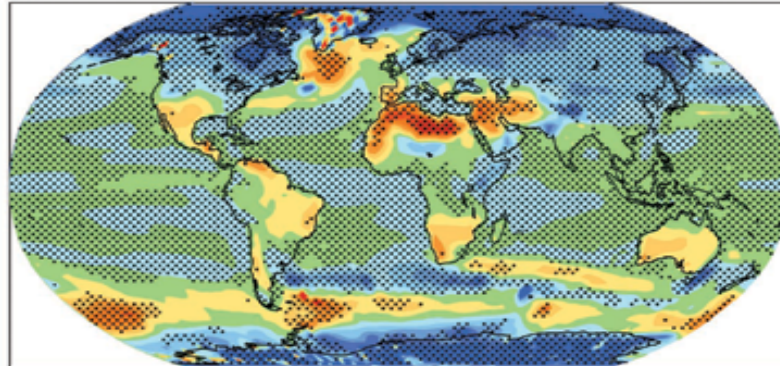
b) Soil moisture



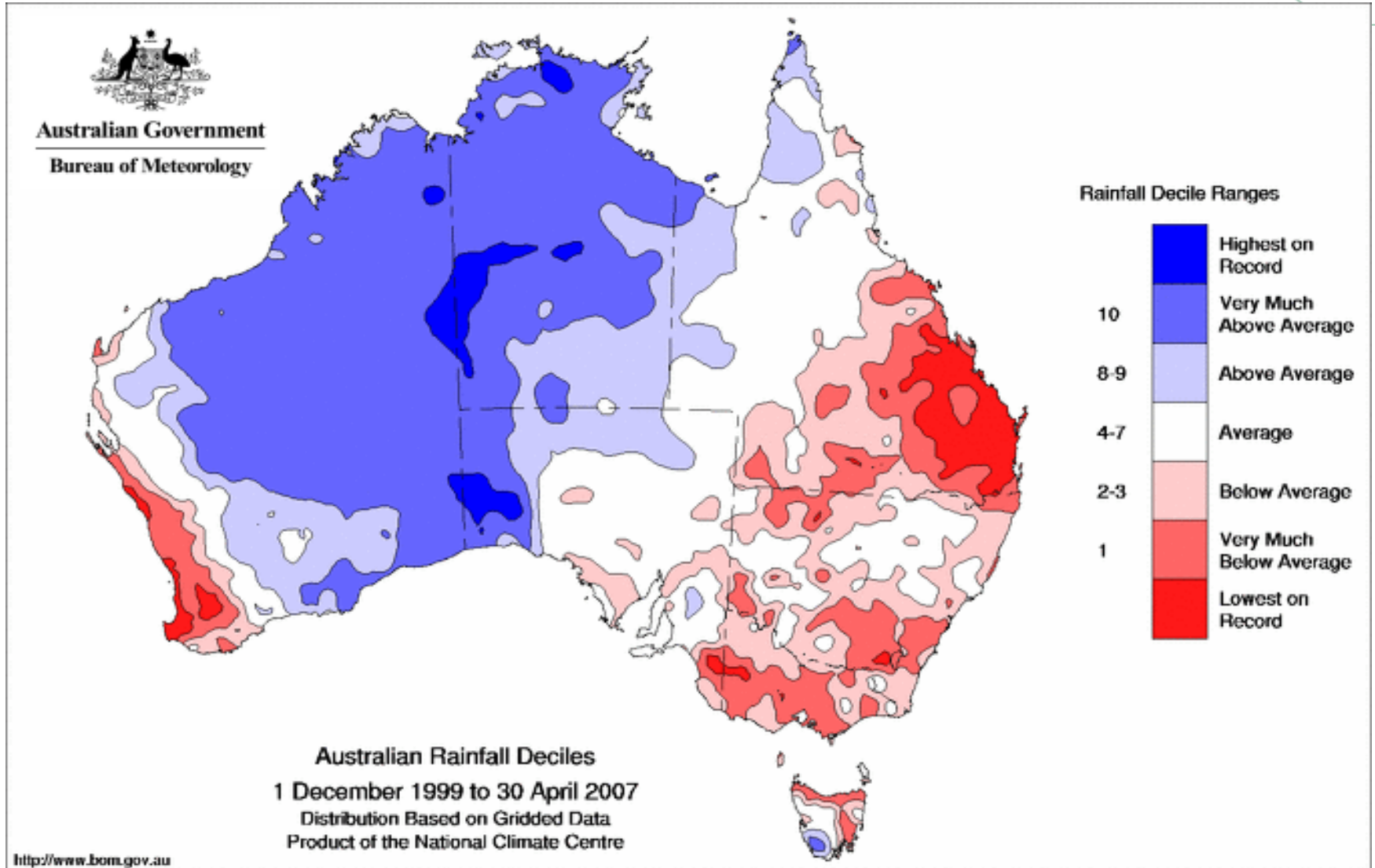
c) Runoff



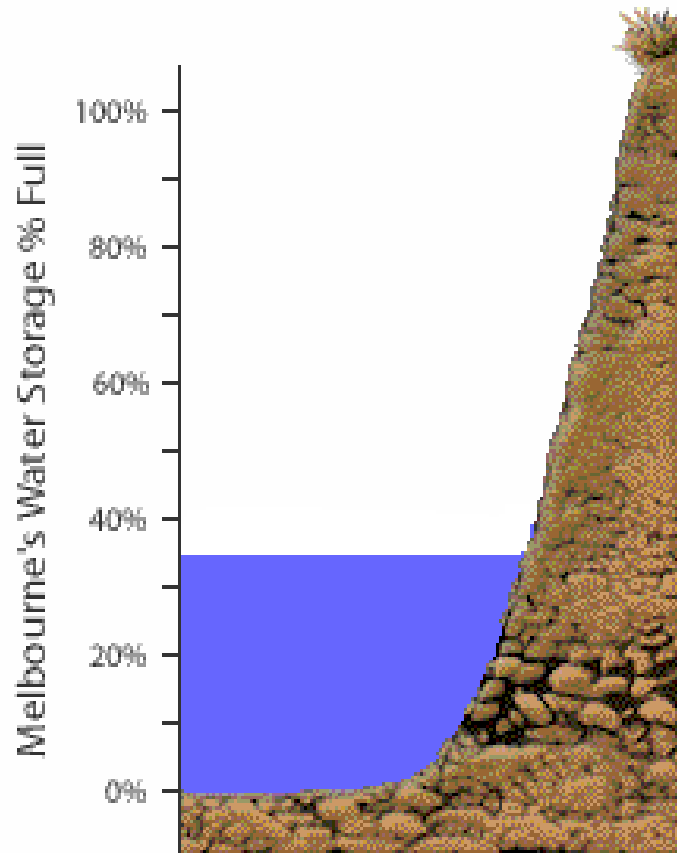
d) Evaporation



# The worst drought in 100 years



# Melbourne's Water Supply



💧 Our current water storage is

**34.5%**

or 161 billion gallons of 468 billion gallons total capacity

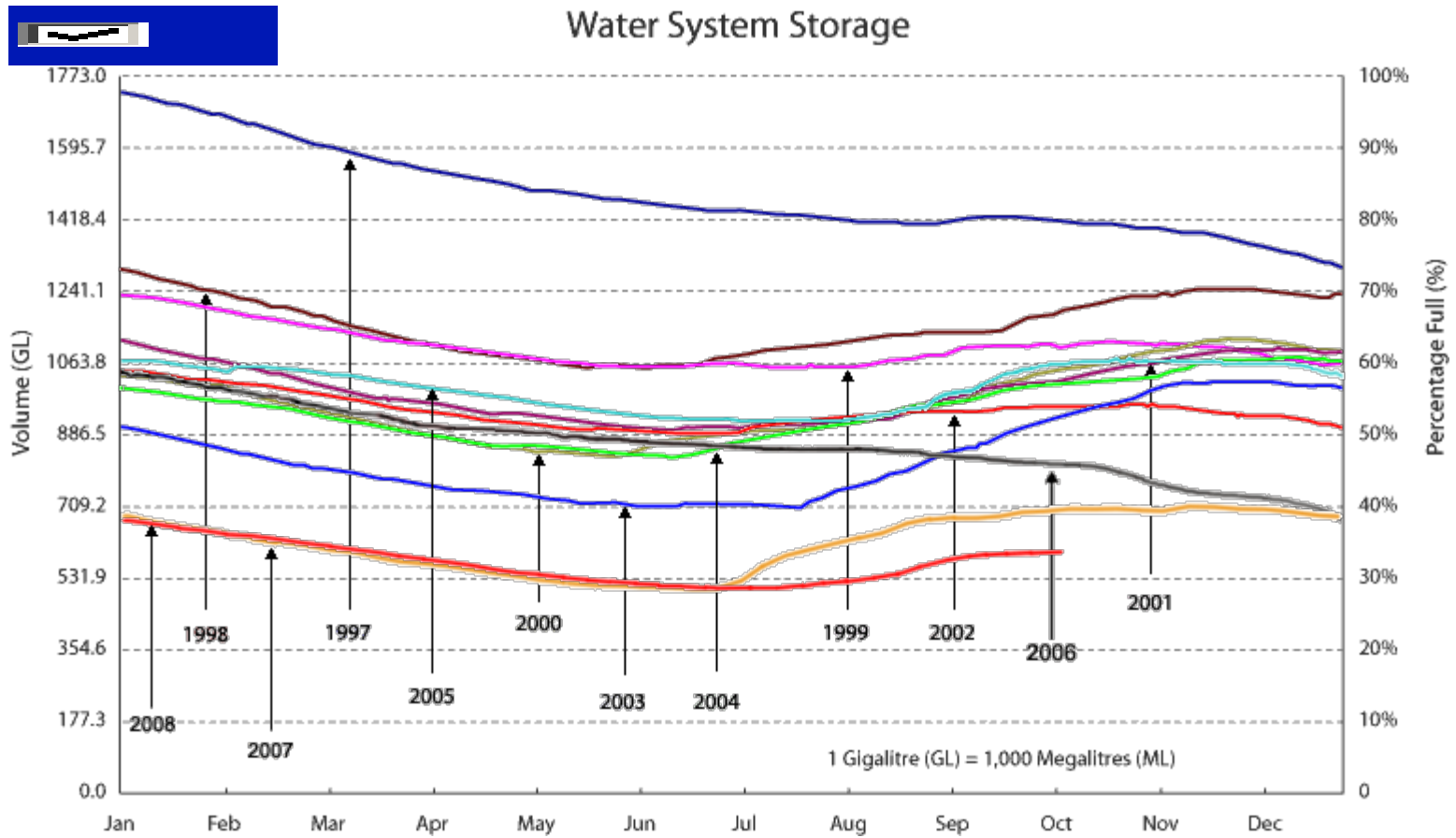
Melbourne uses about 317 million gallons per day in peak restricted demand

(as at 6/10/08)

*Slide courtesy of Melbourne Water*



# Melbourne's Water Storage Trends



# State Government targets we work towards

---



## Victorian State Government Water Reduction Targets for Central Region

### *Sustainable Water Strategy - Central Region Pathways to Sustainability*

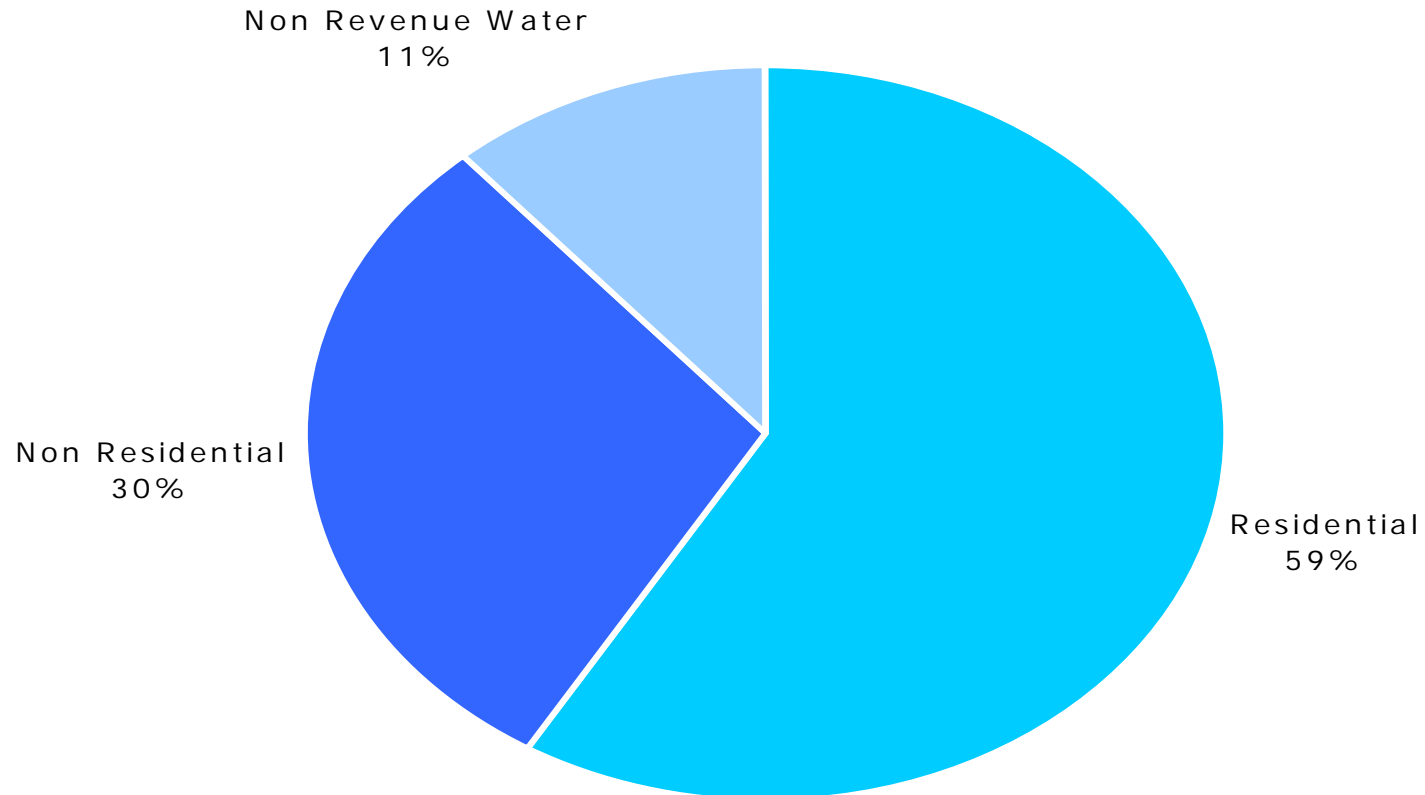
- 25% reduction in total per capita water use by 2010
- 30% reduction in total per capita water use by 2015
  - 1.32 billion gallons pa from non-residential customers using 2.6 million gallons or more per year; **plus**
  - 2.1 billion gallons or 1% pa savings from whole non-residential sector (includes 1.69 billion gallons from our Altona Industrial Project Recycling scheme)



# Who uses the water ?



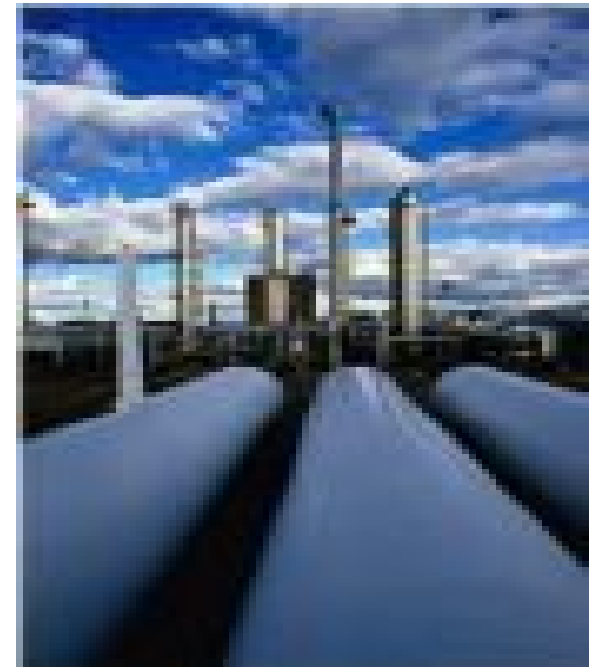
## TOTAL CONSUMPTION - MELBOURNE



# Water Use in Non-Residential Sector



- Industrial - Oil refineries
- Commercial - Office buildings
- Institutional - Hospitals



# Partner Customers





# Water Conservation Solutions



City West Water  
WATER

For further information on the programs that City West Water markets to commercial and institutional customers please contact:

Client Production Team  
Service Sustainability Department  
City West Water Limited  
Locked Bag 300  
Sunshine VIC 3020

Telephone 03 9919 8556  
Facsimile 03 9919 8683  
Internet: [www.citywestwater.com.au](http://www.citywestwater.com.au)  
Email: [info@citywestwater.com.au](mailto:info@citywestwater.com.au)

water conservation solutions - we can save

INTRODUCING CITY WEST WATER'S WATER CONSERVATION SOLUTIONS PROGRAM

City West Water's Water Conservation Solutions program seeks to improve water efficiency amongst our major water using commercial and institutional customers.

We are dedicated to working with our customers in the Melbourne Metropolitan 1000 water users group.


We can help identify opportunities to improve your water efficiency in order to meet the Victorian Government's target of a 20% per capita reduction in drinking water consumption by 2030.

we can save




City West Water  
WATER

- Targets large water using ICI customers
- Programs tailored to different business needs
- Helps customers prioritize actions to improve water efficiency



Cleaner Production Solutions Program



City West Water  
WATER

we can save

# Water Conservation Solutions

---



- Commercial & Institutional customers



WaterMAP

- Industrial customers



ResourceMAP



# The team

## Water & Resource Efficiency

- Water Conservation Solutions successfully launched 2006

**Result:** CWW non-residential customers saved over 1.06 billion gallons of water out of 2.37 billion gallons across Melbourne in (06/07) financial year . Over 2.37 billion gallons of potential savings identified in waterMAPs with CWW largest 500 consumers for the 07/08 year

- Salt reduction of 47 tonnes/day against a target of 49 by 2009
- R and D projects - detergent and cooling towers research deliver results for us and the community in conserving water resources
- Customer relationships - Team maintains strong & ongoing customer relationships

# City West WaterMAP Steps

---

Baseline  
Water Usage

Investigation

Expert advice

Education

**city west water**MAP™

---

Implementation

Feedback

Additional ideas

Co-funding





# Telstra Dome - Melbourne

Telstra

Dome



**Project 1:** Rainwater Capture and reuse

**Cost: \$331,000 (USD) CWW co-funding: \$165,500**

**Water savings: 6.8 million gallons per annum**



City West Water  
LIMITED

## Ongoing Efforts at Qenos, Melbourne



### **Heat exchanger replacement and Trade Waste variation**

**Cost:** \$180,000 (USD)    **CWW co-funding:** \$33,000

**Water savings:** Target 52 million gallons initially

Further projects conducted by Qenos = 450 million gallons saved

**Next** – potable replacement of a further 528 million gallons with Class A recycled water

# The Dame Phyllis Frost Centre



Grey water, flow restrictors & prisoner sustainability competition

**Total Cost: \$19,820 (USD)**

**CWW co-funding:  
\$5,400**

**Water savings: 2.6  
million gallons**



# Expertise – Skilled Staff and Service Providers Expo



Our staff and a link to skilled and knowledgeable service providers

One-on-one customer assistance with trained water management consultants to prepare waterMAPS and tailor resources to individual customer needs

Site walk-throughs offered to customers



# Best Practice Handbook

## Recreational facilities

**Fact:** Just one dripping tap can waste 2,000 litres a month. Regularly check outdoor taps, pipes and plumbing fixtures for leaks.

### Ways to save:

- **Speak to a specialist.** As each sporting/recreational facility will have individual requirements, City West Water recommends you seek the advice of a specialist with regard to the playing surface/turf selection
- **Adhere to Melbourne's water restrictions.** Ensure that irrigation practices are in accordance with current water restrictions. Consider installing a reuse/recycling scheme to replace the use of drinking water in irrigation
- **Educate users to conserve water.** Ensure users of the amenities/showers are aware of the water they are wasting by having long showers or leaving taps running. Use signs to encourage users to report leaks to relevant maintenance personnel
- **Introduce water saving measures.** Install a rainwater tank to collect run-off from the roof to water the grounds. Install a check-meter on the water supply line to the irrigation system. This will help control the amount of water used for irrigation and also help identify leaks
- **Select the right grass.** Aim for species that are drought tolerant while providing a high standard of playing surface
- **Avoid over-watering.** Ensure that a rain sensor and suitably programmed irrigation controller are used, rather than manual on/off valves. Over watering will reduce the availability of air to the root system and increase problems with compaction. Water running off the surface of the grounds during irrigation indicates excessive water use.

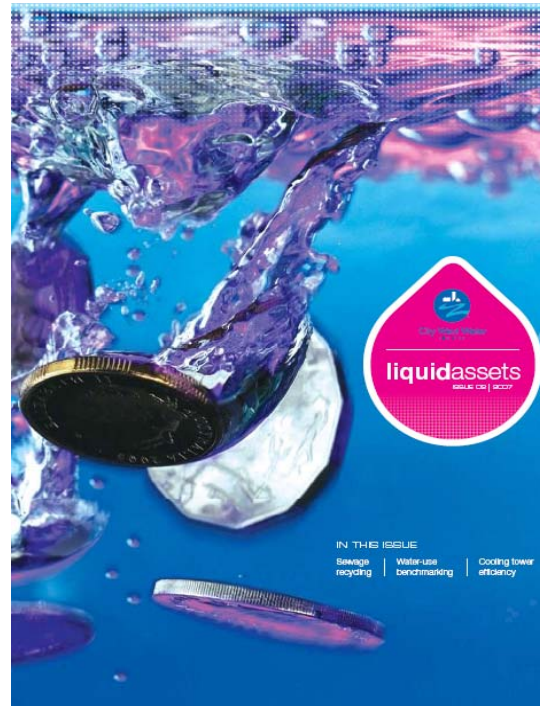


### Contact us

To find out more ways your business can save, visit the CWW website at [www.citywestwater.com.au](http://www.citywestwater.com.au) or contact the Cleaner Production team on 9313 8254.

# Behavioral change - Communications

- Website
- Information Sessions
- Workshops/Seminars
- Stickers/Posters
- Internal Communications
- Liquid Assets Magazine



# Woking the Way to Water Savings



City West Water  
LIMITED

247-251 St Albans Road  
SUNSHINE VIC 3020

[www.citywestwater.com.au](http://www.citywestwater.com.au)

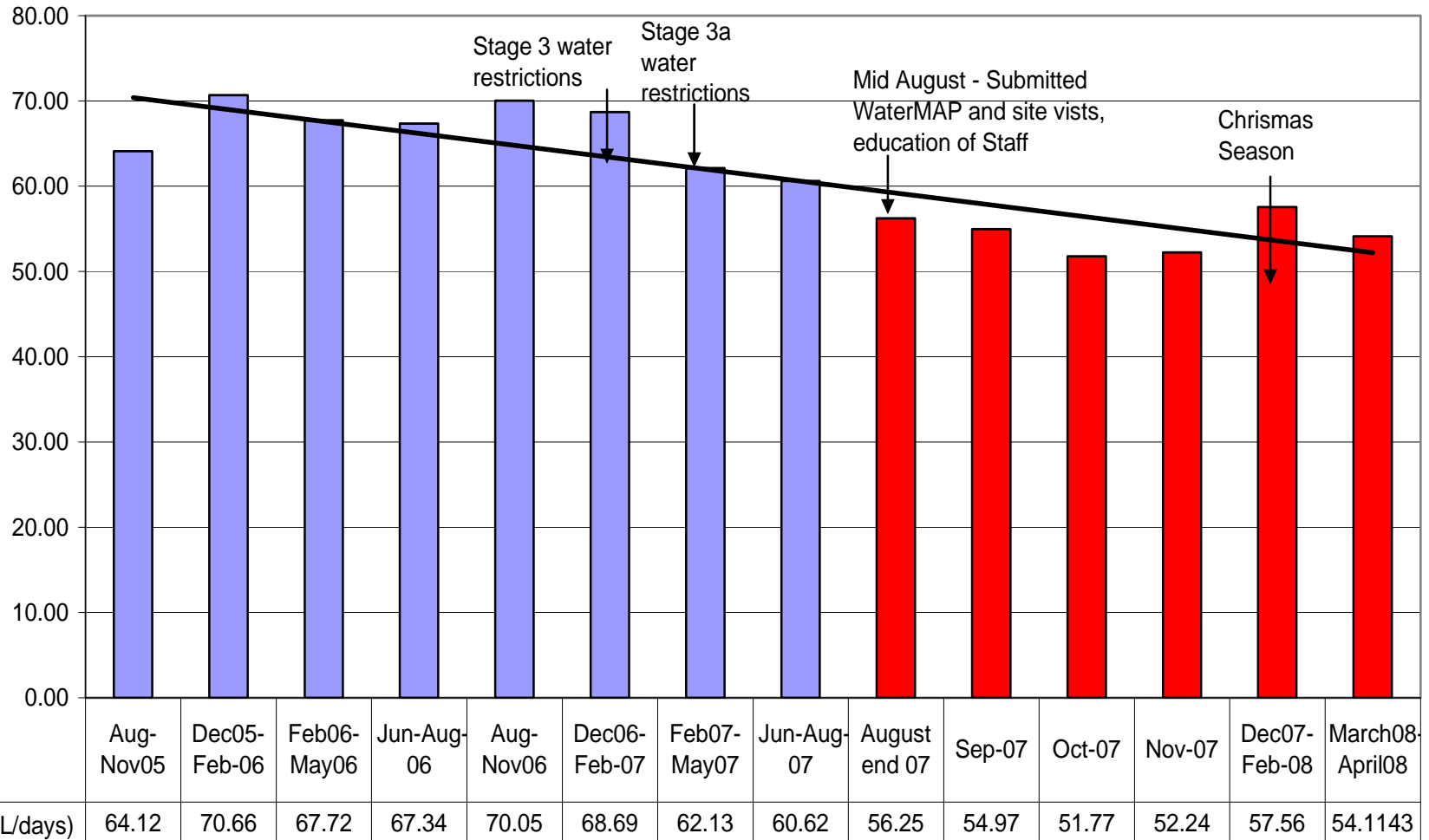


Give a man a fish and you feed him for a day.  
Teach a man to fish and you feed him for a lifetime. *Chinese Proverb*

# Woks water use trends






## Gold Leaf Chinese Resturant Water Use(Large resturant 300 seats)



# Other resources



---

**Scale - Commercial non-residential water meters**  
**MR251C Code - 2742**  
**MR251C Description -** This meter consists of units mainly required in operating commercial property and land development (residential)

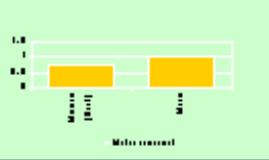
**Industry overview**  
*The primary collection of flows in this industry unit*      *The major products and services in this industry unit*

- Buildings, non-residential, rental or leasing (as owner or lease holder) - Office
- Property, non-residential, rental or leasing (as owner or lease holder) - Retail
- Land development or subdivision (except residential) - Industrial

• Waterfield Group      • RMP Ltd  
 • GPT Group      • Maguire Goodwin Group  
 • Stockland      • CPS Retail Property Trusts

**Key Statistics (ML/ha/27sqm)**

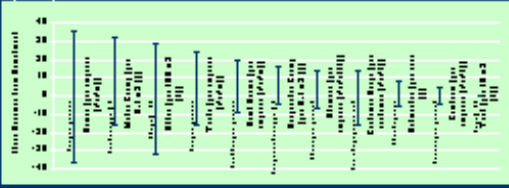
	Water usage (ML/ha)	Water loss (ML/ha)
Water (2015)	8.75	
Water (2016)	1.41	
	[Bull's Bay, 2015]	



**Water usage**  
 This meter is included in the larger group of meters, known as Employee and Customer Use. Specific areas of meters are attributable to:

- Number of employees
- Number of employees
- Number of food outlets



Specific measurable areas of meters are:



**Deal Practice**  
 Evidence suggests that deal practice usage ratios broadly as ensuring existing meters are well maintained. Upgrading the timing equipment of the meters reduces water usage.

Other specific elements of deal practice require the organisations to:

- Fit water realisers to all taps.
- Use waterless urinals and replacing older toilets with dual flush toilets.
- Place signage near all taps to remind people of the need to conserve water.
- Regularly adjust intensity targets for water usage, eg. a litres of water per square meter.

- Data logging
- Check metering
- Ultrasonic flow meters
- Benchmarking study



# Summary of Results and next steps

## Water Saving Progress

462 waterMAPs received so far

Over 500 actions with quantifiable savings identified

Potentially 7,458 acre foot (US) / **year** of savings



## Co-Funding

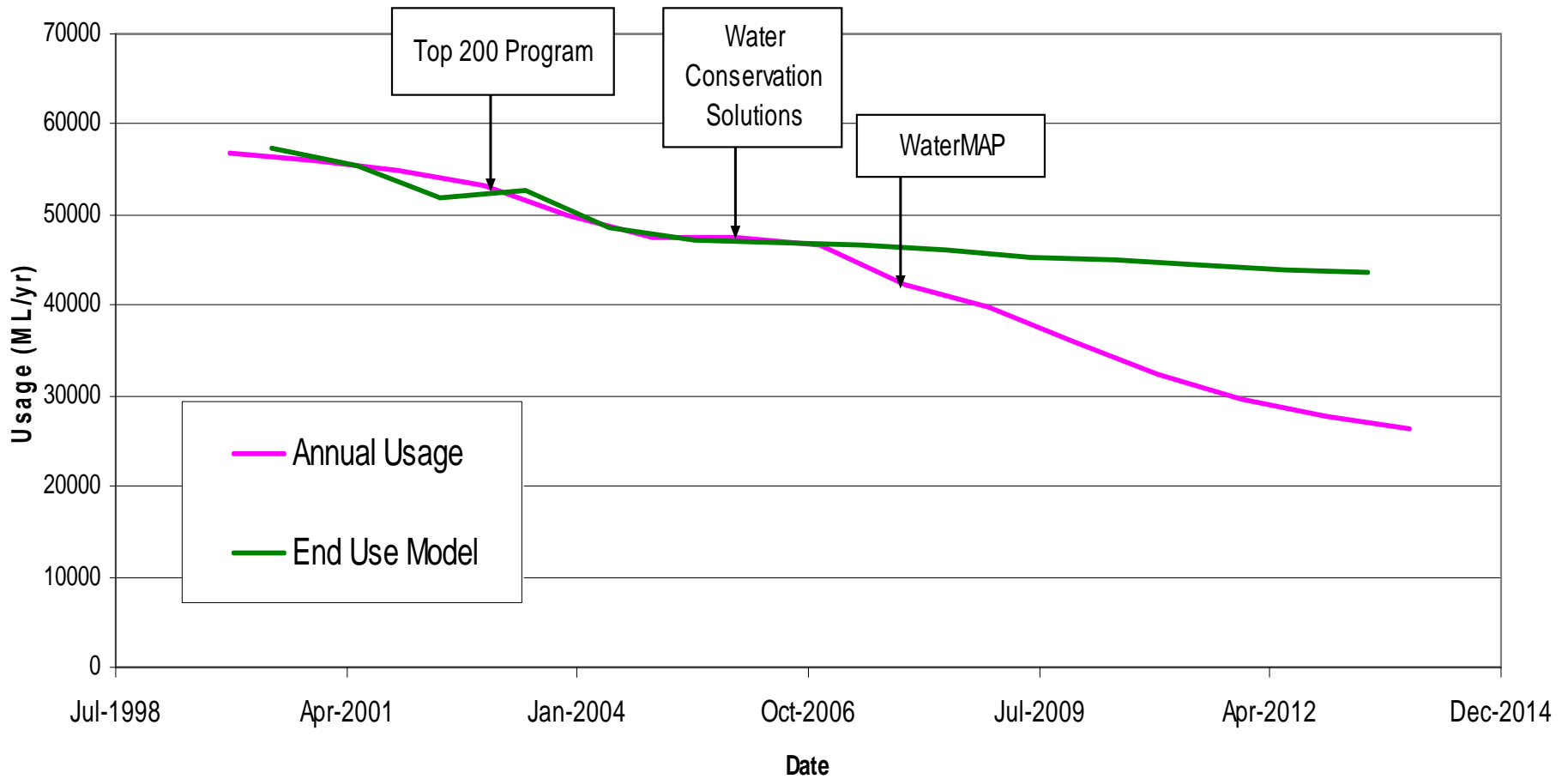
30 projects approved for funding  
AUS \$2.08 million (US) to date

Estimated 382 acre foot (US) /year  
in savings

CWW Evaluation Matrix



# Water Usage - Total CWW Non-Residential Customers 10% savings continue thru 2013





# Other Key State Government projects

- Water efficient cooling towers
- Smart meters for large water users
- Fire sprinkler pilot project



# Where to from here?

---



1. Continuing to implement Water Conservation Solutions
2. Advocating for our key customers for large water efficiency projects
3. Continue assisting customers with R& D projects
4. Working with customers to help facilitate wider sustainability initiatives
  - Energy efficiency projects
  - Landfill Waste projects
  - Join Australian Emission Trading Scheme in 2010

# Thank you and any Questions?

---



**Damien Connell**  
**Coordinator**

**Water Conservation Solutions program**  
**City West Water, Australia**  
**[dconnell@citywestwater.com.au](mailto:dconnell@citywestwater.com.au)**



**Internet: [www.citywestwater.com.au](http://www.citywestwater.com.au)**