Water Outlook for Melbourne

1 December 2013

City West Water
131 691
www.citywestwater.com.au

South East Water
131 867
www.southeastwater.com.au

Yarra Valley Water
131 721
www.yarravalleywater.com.au

Melbourne Water
131 722
www.melbournewater.com.au

Water storage levels stable

Melbourne's water storages have remained relatively constant over the past year and are at 80.9 per cent of their capacity as of 26 November 2013, compared with 81.3 per cent on 30 November 2012.

Chart 1 shows that at this level, water storage levels are assessed as being in the High Zone. This means the existing water supply system can deliver at least five years of water without entering the Low Zone under a range of modelled climate and demand scenarios.

Melbourne's largest reservoir – Thomson – is currently holding 84.6 per cent of its capacity. Thomson Reservoir acts as Melbourne's drought reserve, so it is important to maximise its recovery during wetter years to prepare for potential future droughts.

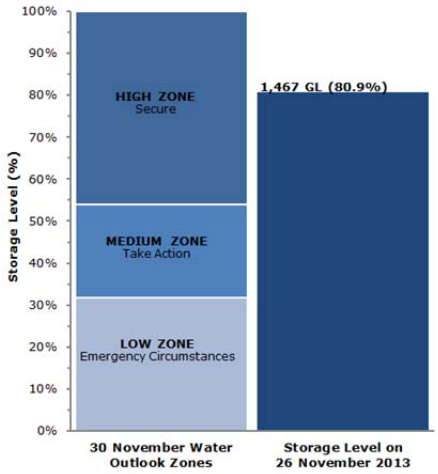

Chart 1 – Storage levels on 26 November 2013

Water use stable at low levels

Melburnians continue to demonstrate a sustained commitment to using water efficiently; however water use per person is up slightly on last year's level.

Chart 2 shows that total water use in Melbourne has risen marginally, from record lows over the past years. This outcome has been influenced by factors including continued population growth and a hot, dry summer last year.

Chart 3 shows that total water use (i.e. residential, non-residential and non-revenue water) on a per person basis rose to **252 litres per person per day** in 2012–13. It is expected that demand will stabilise in normal seasonal conditions.

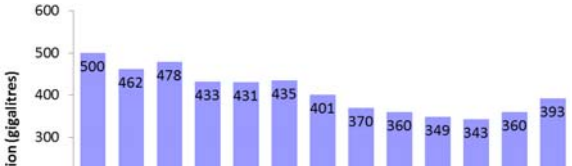

Chart 2 – Total water use in Melbourne (gigalitres)

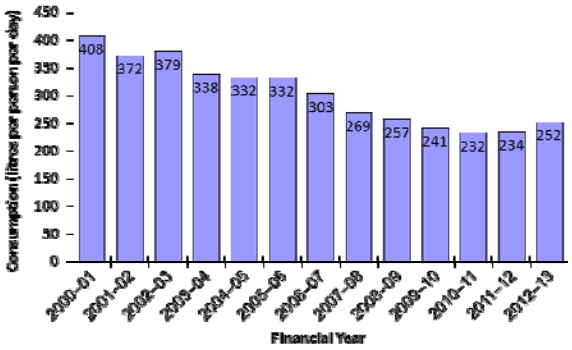

Chart 3 – Total water use in Melbourne (litres per day)

Residential water

Chart 4 shows that residential water use on a per person basis rose to **161 litres per person per day** in 2012–13 from record lows of 147 litres during the drought. This was influenced by a hot, dry summer last year.

The water utilities continue to provide the community with water efficiency education and advice.

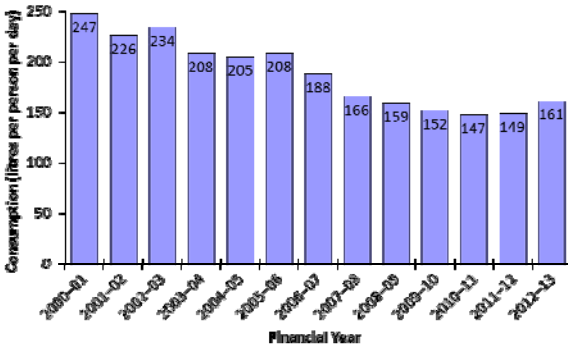

Chart 4 – Residential water use per person

Non-residential water

Non-residential water use includes water used by large and small businesses, schools, universities, hospitals, parks and sportsgrounds. Chart 5 shows that non-residential water use has also risen slightly.

The move to Permanent Water Use Rules means open space and recreation facilities can be watered efficiently but unencumbered by restrictions. Ongoing engagement with these customers and the continued investment in the development of alternative water sources minimised the size of the increase.

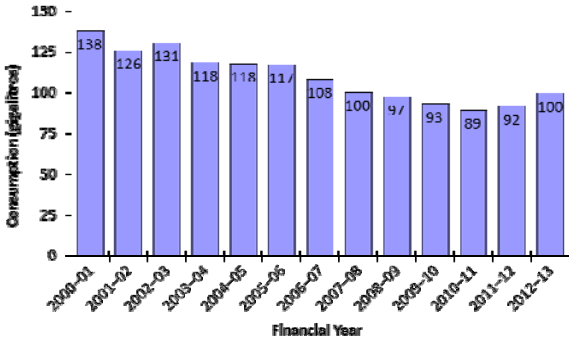

Chart 5 – Non-residential water use

Non-revenue water

Non-revenue water is water that is not billed to customers. This includes the loss of water through water main bursts and leaks, water used for fire fighting and theft of water. Chart 6 shows that non-revenue water use has risen slightly in comparison to recent years. This is not unexpected given the overall increase in water use means more water is transferred through the system. Continued investment in proactive system leak detection ensures Melbourne's level of non-revenue water remains among the lowest in the world.

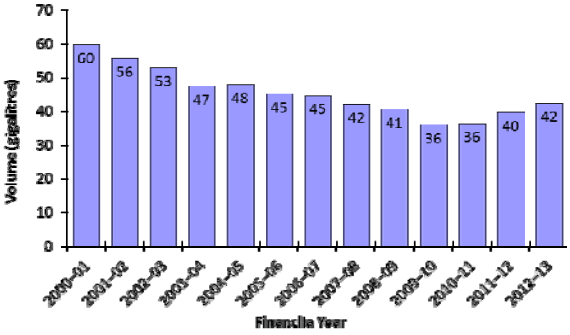

Chart 6 – Non-revenue water use

Outlook for summer is warmer than the median

The Australian Bureau of Meteorology's October seasonal climate outlook indicates median rainfall and above median maximum daily temperatures over the upcoming summer.

Temperature and rainfall influence water use, especially during summer periods for uses such as watering gardens, parks, and sportsgrounds. At the same time, rainfall and temperature also influence catchment moisture levels and inflows to Melbourne's storage reservoirs. The water utilities continually monitor the Bureau's monthly seasonal climate outlooks.

Rainfall outlook – The Bureau's outlook for rainfall (issued on 27 November 2013 – Chart 7) for the period November 2013 to January 2014 indicates that for Melbourne and its water supply catchments the chances of a wetter or drier season are roughly equal.

Temperature outlook – The Australian Bureau of Meteorology outlook for temperature (issued on 27 November 2013 – Chart 8) for the period December 2013 to February 2014 indicates that for Melbourne and its water supply catchments there is a 55 to 60 per cent chance of exceeding the seasonal median maximum temperatures.

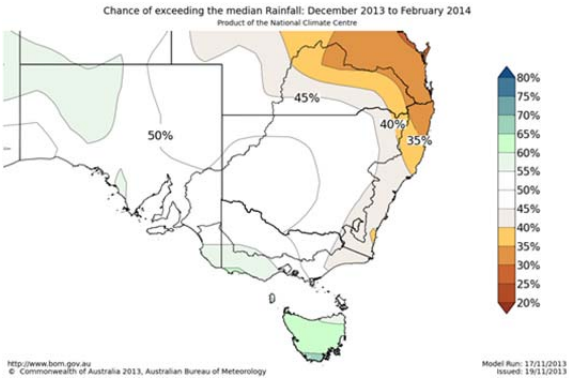

Chart 7 – Seasonal rainfall outlook for November 2013 to January 2014

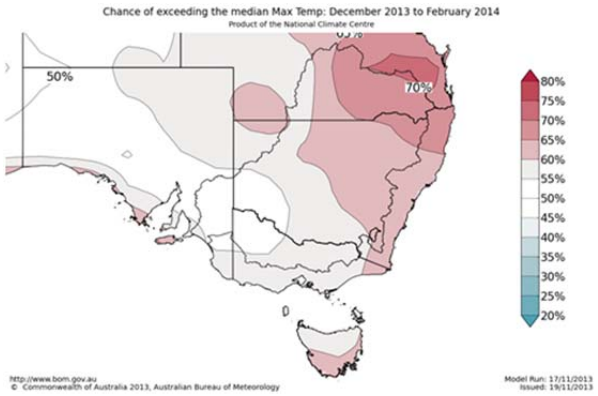

Chart 8 – Seasonal temperature outlook for November 2013 to January 2014

Future storage levels

Under a range of possible future streamflow scenarios, Melbourne's water storages are likely to be in the High Zone on 30 November 2014.

Predicting Melbourne's future water storage levels is complex and uncertain. This is primarily because it is not possible to accurately forecast the timing, extent and seasonal variation of rainfall events across the catchments for up to one year ahead.

The water utilities undertake modelling to assess possible future water supply system conditions based on a range of inflow and demand scenarios, including considering possible drought scenarios. Based on this analysis there is a high likelihood that Melbourne's water storages will be in the High Zone on 30 November 2014.

The Victorian Government did not order any water from the Victorian Desalination Plant for delivery in the period ending 30 June 2014.

Permanent Water Use Rules

Permanent Water Use Rules are currently in place for Melbourne.

On 1 December 2013, Permanent Water Use Rules were enacted again and will remain in place for the next 12 months. These rules require the community to use common sense and best practice as part of their everyday use of water.

Melbourne's households and businesses have demonstrated a strong commitment to the efficient use of water and the water supply system is now able to meet the needs of customers.

More information on the Water Outlook and Permanent Water Use Rules is available from water retailer websites.

City West Water	South East Water	Yarra Valley Water
www.citywestwater.com.au	www.southeastwater.com.au	www.yarravalleywater.com.au

Securing supplies into the future

The ongoing management of Melbourne's water resources requires a range of activities to be undertaken in the short to medium term.

The water utilities consider management of water resources and supply security to be an ongoing task. Even when current water storage levels are in the High Zone, there remains a need to continue to monitor climate conditions, streamflow, storage levels, demand patterns and to continue investment in programs that contribute to long-term water availability.

The water utilities are actively working with the Office of Living Victoria to develop a Metropolitan Integrated Water Cycle Strategy that will ensure a smart and resilient water supply is available to all customers. Appendix 1 outlines programs and projects that the water utilities are undertaking to enhance supplies and keep water demand at efficient levels.

Appendix 1 – Annual Action Plan: Annual Actions to Manage Security

In accord with the retailers' Drought Response Plans, the Water Outlook must include an annual action plan for implementation over the 12 month period ending 30 November 2014. As storages are forecast to remain within the High Zone, the planned actions are consistent with existing planning commitments including water efficiency and investment in alternative water sources. They are also consistent with current government policy.

PROGRAM/PROJECT NAME	DESCRIPTION	RESPONSIBILITY	UPDATE
Permanent Water Use Rules	Continue to inform the community about the common sense rules that ensure the wise use of water at all times.	City West Water South East Water Yarra Valley Water	Permanent Water Use Rules remain in place.
Planning – city scale	Work with the Office of Living Victoria (OLV) to develop the first Metropolitan Water Cycle Planning Framework.	Office of Living Victoria City West Water Melbourne Water South East Water Yarra Valley Water	A draft Melbourne's Water Future was released by OLV and comments were provided back to OLV.
Planning – regional scale	Work with the Office of Living Victoria, the Metropolitan Planning Authority (MPA) and local councils to develop integrated water plans at a regional and local level.	Office of Living Victoria City West Water Melbourne Water South East Water Yarra Valley Water Metropolitan Planning Authority Local councils	Office of Living Victoria is leading this in collaboration with water authorities, MPA and councils.
Efficiency programs – residential customers	Continue to provide customers with proactive water efficiency education and advice programs that complement the Living Victoria Water Rebate Program for households.	City West Water South East Water Yarra Valley Water	Ongoing
Education and awareness programs	Continue implementation of education and awareness programs including: → schools programs → whole of water cycle education programs.	City West Water Melbourne Water South East Water Yarra Valley Water	Ongoing
Non-residential benchmarking	Completed the National Benchmarking study and used it to create a website.	City West Water South East Water Yarra Valley Water Smart Water Fund	A national interactive website is now live for non-residential customers to benchmark their water use against best practice.
Efficiency programs – industry customers	Continue to work with industry to deliver the voluntary Water Management Action Plan program that encourages businesses using greater than 5ML/year to invest in water efficiency. Particular focus areas will include cooling towers, evaporative coolers and council irrigation systems.	City West Water South East Water Yarra Valley Water	The water retailers continue to target key non-residential customer segments to proactively encourage water efficiency and increase the uptake of the Living Victoria Water Rebate Program for businesses.

PROGRAM/PROJECT NAME	DESCRIPTION	RESPONSIBILITY	UPDATE
Non-residential rebates, grants and other incentives	Promote the Living Victoria Water Rebate program for small businesses.	City West Water South East Water Yarra Valley Water	Ongoing
Network efficiency	Undertake active leak detection, proactive renewals of water mains, pressure management, intelligent network technologies and rapid response to bursts and leaks.	City West Water Melbourne Water South East Water Yarra Valley Water	Ongoing
Integrated Water Cycle Management (IWCM) strategy – City West Water	Development of a strategic framework and an implementation plan for IWCM within City West Water's service area.	City West Water	IWCM Strategy developed and will be presented to the City West Water board in late 2013.
IWCM Strategy – Yarra Valley Water	Development of the servicing strategy for the northern growth area and associated waterway catchments using an IWCM approach.	Yarra Valley Water Melbourne Water Local councils Other key stakeholders in the catchments	Ongoing
IWCM Strategy – South East Water	Development of IWCM strategy for 50,000 new lots in Casey and Clyde. The project is also being used to test the OLV's planning frameworks and assessment guidelines.	South East Water Office of Living Victoria Local councils Metropolitan Planning Authority	The strategy is scheduled to be released in December 2013 and development is expected to commence in early 2014.
West Werribee dual supply project	Provision of 'fit for purpose' alternative water supply to service new urban development and public open spaces in the West Werribee area.	City West Water	On track for alternative water supply in September 2014.
Partnerships in Stormwater Reuse program	Partnering with local government in the City West Water region to deliver stormwater harvesting projects for irrigation.	City West Water	Current projects are on target for delivery between late 2013 and early 2014. Projects include Green Gully Reserve, Keilor Public Golf Course, Paisley Park and Laverton Recreation Reserve.
Dual pipe recycled water schemes – South East Water	Ongoing provision of recycled water projects to 50,000 customers across the growth areas of Casey, Cardinia and Pakenham.	South East Water	Over 10,000 houses are currently connected with dual pipes.

Appendix 2 – Medium Term Action Plan

In accord with the retailers' Drought Response Plans, the Water Outlook must include a medium term plan outlining the actions required to meet current water security objectives. As storages are currently in the High Zone, the medium term plans will focus on planning for future integrated water cycle management solutions and system optimisation, rather than bringing forward any works or actions.

PROGRAM/PROJECT NAME	DESCRIPTION	RESPONSIBILITY	UPDATE
Melbourne's Water Future Strategy	Following completion of the strategy, review the current plans and actions with a particular focus on investment programs to be included in future price reviews.	City West Water Melbourne Water South East Water Yarra Valley Water	A draft of Melbourne's Water Future was released by Office of Living Victoria (OLV) and comments were provided to OLV.
System optimisation	Use the learnings of the past ten years to ensure the existing systems are optimised, which will reduce the need for further centralised supply options.	City West Water Melbourne Water South East Water Yarra Valley Water	A review has been undertaken and additional work is currently underway to further understand and quantify the network benefits.
Coburg stormwater harvesting project	Harvest and treat stormwater from the catchment around the Coburg activity district and return for use to new residents.	Yarra Valley Water Melbourne Water	The construction contract has been released for tender. Construction is scheduled to commence in March 2014.
Aquifer storage and recovery	Using aquifers in regions to store alternative water.	City West Water Melbourne Water	Investigations into aquifer storage and recovery are currently underway at Western Treatment Plant, Greek Hill, Ravenhall and Ballan Rd tank site.
Altona recycled water project stage 2	Provision of 'fit for purpose' alternative water supply to industries in the Altona industrial precinct.	City West Water	City West Water is working with the Office of the Minister for Water, OLV and customers to optimise the project and secure the relevant funding.
Western growth area scheme	Development of the servicing strategy for the western growth area using an integrated water cycle management approach.	City West Water	This will synergise with the development of a strategy for the west and the growth area plans lead by OLV.
Inner Melbourne IWCM Project	Development of the servicing strategy for inner Melbourne using an integrated water cycle management approach.	Office of Living Victoria City West Water South East Water Melbourne Water	Office of Living Victoria plans to commence the servicing strategy in December 2013.

PROGRAM/PROJECT NAME	DESCRIPTION	RESPONSIBILITY	UPDATE
Northland activity centre stormwater redevelopment services scheme	Define the infrastructure arrangements required to achieve best practice water sensitive urban design within the Northland activity centre.	Darebin Council Melbourne Water Yarra Valley Water	Integrated stormwater management options are under development and will be assessed in terms efficiency of delivery of improved waterway outcomes.
Dual pipe stormwater recycling at Botanic Ridge estate	Development of a servicing strategy that incorporates integrated water cycle management principles in a dual pipe estate of 3,200 properties in Cranbourne.	South East Water Melbourne Water	Analysis of the options is continuing.
Troups Creek dual pipe stormwater	Provision of treated stormwater to 58 houses in Narre Warren North.	South East Water Melbourne Water	Ongoing monitoring of catchment performance and treatment technology.
Dual pipe recycled water projects – Yarra Valley Water	Ongoing provision of recycled water projects to 97,000 customers across Epping, Craigieburn West, Kalkallo, Wallan and Croydon.	Yarra Valley Water	Recycled water supply has been mandated to all residential developments in these areas and is being implemented progressively as development occurs.
Kalkallo retarding basin stormwater harvesting project	Development of the business case for large scale recycling of stormwater into drinking water in the Kalkallo area. Water would be harvested from the proposed Kalkallo stormwater retarding basin, and owned by Melbourne Water.	Melbourne Water Metropolitan Planning Authority Yarra Valley Water	The available volumes for stormwater for harvesting are being assessed which will inform stormwater treatment infrastructure requirements for this scheme.
Technical and commercial viability of rainwater harvesting in an existing suburb	Development of the business case for harvesting and recycling rainwater at a sub-community scale. The scheme will evaluate the case for shared rainwater collection and reticulation infrastructure in a fully developed urban context.	City West Water Melbourne Water Yarra Valley Water	This site does not currently have a traditional curb and drainage system, and investigations will be undertaken to ascertain whether a common solution can be found for drainage and water supply services.