

# Moreland's Achievements

## Watermap 2020 – Progress Review

### November 2019

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# Introduction

Council continues to move towards a more integrated approach to planning across the organisation, presenting an opportunity for Council to ensure strong commitments to sustainability - across water, climate, carbon and green infrastructure. Watermap 2020 – Moreland’s Path to a Water Sensitive City (2014-2020) has this approach at its core.

Transitioning to a Water Sensitive city is an important climate change adaptation response to the increasing frequency and severity of both flooding and drought episodes. The sustainable management of water resources remains crucial for urban climate resilience.

This review summarises Council’s shared achievements to date on the targets outlined in the Watermap 2020 strategy.

## Context for monitoring and reporting

The integrated water management targets contained in Watermap 2020 are designed to achieve transition to a Water Sensitive City over time. They are used to track, monitor and report progress over time.

A summary of Council’s targets is presented below.

*Table 1- Watermap 2020 targets*

<b>Target 1.0</b>	Reduce Council’s total potable water usage by 30% from 2001 levels (400ML/a) to 280ML/a by 2020.
<b>Target 1.1</b>	Increase Council’s use of alternative water sources through:
<b>1a.</b>	30ML/a of community sports field or open space irrigation water to be reclaimed from local stormwater harvesting infrastructure by 2020.
<b>1b.</b>	Sourcing additional alternative ‘fit for purpose’ water supplies to the above where feasible.
<b>Target 1.2</b>	Improve community sportsground irrigation efficiency to 75% for all class A sportsfields and irrigation parks by 2020.
<b>Target 1.3</b>	All Council facilities to have best practice fittings, appliances, toilets and rainwater tanks installed where possible.
<b>Target 2.0</b>	Treat 11% of Council’s stormwater catchments to best practice by 2020. Post-2020, continue to make proportional progress to treat 100% of catchments to best practice by 2070.
<b>Target 3.0</b>	Implementation of WSUD into all Council capital works projects.
<b>Target 4.0</b>	Advocate IWCM to and on behalf of the community.
<b>Target 5.0</b>	All new residential developments of greater than 2 dwellings and non-residential developments greater than 100m <sup>2</sup> to incorporate best practice water efficient fittings, water reuse and/or recycling and stormwater management.

<b>Target 06</b>	25% reduction in community potable water consumption from 2001 baseline consumption to 10.1 GL/a by 2020.
<b>Target 07</b>	50% of Moreland households have an installed rainwater tank by 2020. 25% of Moreland households have an on-lot stormwater treatment raingarden or other stormwater treatment mechanism by 2020.

# Moreland's Achievements

In 2014, Council adopted Watermap 2020 continuing our proactive approach toward water management. Watermap 2020 set out Council's goals for the five-year period to 2020 particularly with regards to:

- Making best use of irrigation and ensuring responsible management of scarce drinking water resources
- Harvesting stormwater and other alternative water sources to displace the use of drinking water for irrigation
- Making our buildings as water efficient as possible
- Building and maintaining assets that protect our waterways and natural habitats from the threat of pollution
- Supporting the community to reduce the use of potable water and pollutants
- Influencing other water managers and policy makers to strengthen and improve water management
- Moreland has achieved a cumulative 11% of new catchment area treated to best practice water quality improvement.
- In 2012-13, 11,453 megalitres of drinking water was used by Moreland community which equals to average of 200 Litre per capita per day. In 2018-19 the Moreland community has increased drinking water consumption to 12,400 megalitres. However, the average water usage per capita is 187 Litre per capita in 2018-19 which has been reduced by 7 %.

In the past five years Moreland has been committed to delivering improved water management and we have made steady progress toward our Watermap 2020 goals.

We have maintained reporting on all areas of Watermap 2020 and tracked progress against all targets. The achievements to date are all measured and reported on a quarterly basis and are also presented in Council's Annual Reporting. Our progress is reflected in some notable achievements for Council as follows:

- The construction and commissioning of two stormwater harvesting systems Hosken Reserve – and anticipated completion of Moreland's largest stormwater harvesting system, Coburg City Oval in June 2020. Once City Oval is completed and functioning, combined with council's harvesting systems (including – Sewell Reserve and Mutton Reserve) will save approximately 39 megalitres of potable water per annum (approximately 12 Olympic size swimming pools of drinking water), saving Council \$114,000 per year.
- Design and construction of new wetlands at Yaruk'ho Wilam Merri Edgars Park, Jones Park and Herbert Road Reserve, which will greatly improve local stormwater quality and creek habitat, and local amenity for residents.
- Construction of 16 streetscape raingardens and tree pits, including the prominent raingardens on Dawson Street near Brunswick Library.
- Increase in the area of catchment that has been treated to best practice which met the 2020 target of 11%.

- Incorporation of Water Sensitive Urban Design (WSUD) into 18 capital works projects. Capital works projects are led by different units within Council and have been incorporated by Urban Design, Engineering, Open Space and Transport teams. This shows how Integrated Water Management (IWM) principles are being successfully embedded across Council's internal teams and staff members. Improving whole of life cycle costing to allow for ongoing maintenance will be a continued focus area of the new Action Plan.
- Moreland's ESD Policy (Clause 22.08 'Environmentally Sustainable Development') gazetted into the Moreland Planning Scheme in November 2015, includes several IWM measures as policy objectives and sets out expectations for developers. Since 2015, 96% of applications constructed have indicated compliance with the IWM requirements. These developments have resulted in the installation of 8.1 ML of rainwater tank volume across Moreland, displacing 3 Olympic size swimming pool of drinking water per year.
- Applied Pilots and Trials, such as the Barrow Street Passive Irrigation Street Tree Trial, in partnership with Melbourne University. This has led to another externally funded project that will be delivered in 2020/2021-2021/2022
- WSUD Asset Management Project involving five other Council Partners (Yarra, Geelong, Moonee Valley, Melbourne and Brimbank) reviewing our approach to current water sensitive urban design asset management practices. This review has led to another successful external funding application that about embedding of a successful WSUD asset management practices. This project will be delivered in 2020/2021-2021/2022
- Additional rainwater storage at the Depot, Coburg Civic Centre and planter box raingardens.
- Moreland taking a lead local government role in the 2018 Victorian Ministerial 'Improving Stormwater Management Advisory' Committee.
- Delivery of the WaterSmart Moreland Community Pilot Project in partnership with Melbourne Water and the Australian Energy Foundation.
- Leveraging significant financial contributions and support from funding from partners such as Melbourne Water and DELWP (through the IWM Forums) to deliver a range of stormwater harvesting and wetland infrastructure funding, capability and capacity building, development of guidelines. This has been approximately \$2.5m over the 5 year term of the Watermap Strategy.

Council has made significant progress in many areas of water management in the past five years. Key areas where this has occurred include the increase in the area of catchment now treated to best practice which now sits at 11% meeting the 2020 target. Implementation of WSUD in capital works has occurred in 18 projects since 2014 demonstrating commitment across the organisation. Advocacy for Integrated Water Management has also been strong and Moreland has emerged as an IWM leader during this period with strong recognition from industry. This has also included the commitment to implementing local planning policy to ensure IWM outcomes are achieved in private development where dedicated resourcing has resulted in a high level of compliance and significant contributions to overall targets.

Throughout this, as a leader in this space Council has been in the fortunate position of receiving significant support from Melbourne Water Living Rivers Program every year.

### **Council irrigation efficiency**

All nine Class A sports fields have received irrigation upgrades and are now operating with an average irrigation efficiency of 75%.

### **Stormwater harvesting**

Moreland has developed and installed two stormwater harvesting schemes with a combined capacity to supply 22 million litres of harvested water per year in the period of Watermap 2020.

Moreland’s largest stormwater harvesting system, Coburg City Oval is anticipated completion of June 2020. Once City Oval is completed and functioning, combined council’s harvesting systems including Hosken reserve, Sewell Reserve and Mutton Reserve, will save approximately 39 megalitres of potable water per annum (approximately 12 Olympic size swimming pools of drinking water), which exceeds the Watermap 2020 target of 30 million litres per year.

In this period of Watermap Council have achieved completion of two A grade harvesting systems for sportsfield.

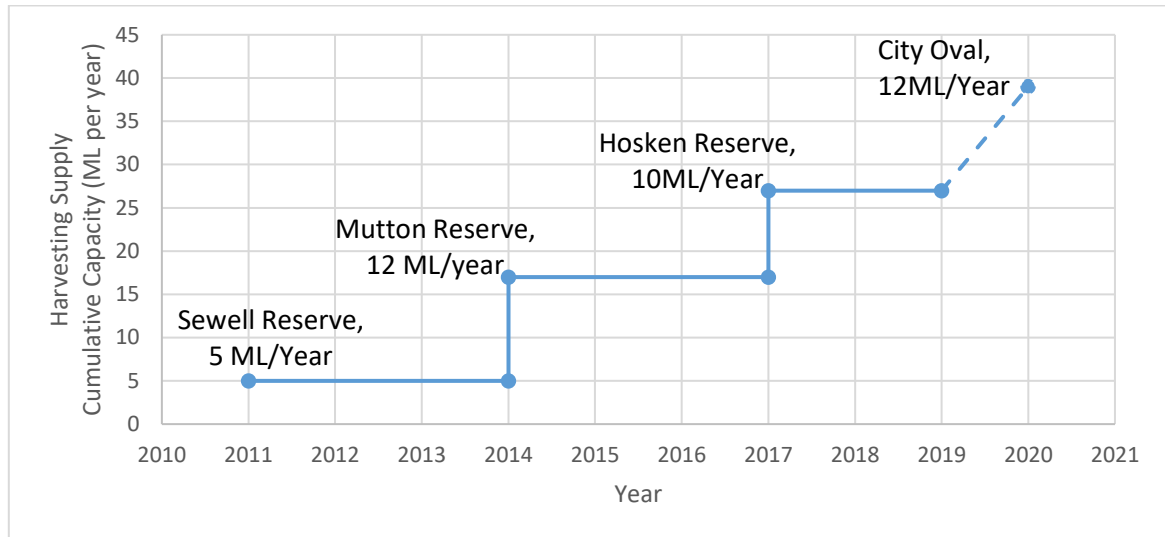


Figure 1. Existing Stormwater Harvesting Schemes- Four stormwater harvesting systems were installed since 2010

### Water efficient council buildings

Moreland has undertaken water saving works on eleven council owned facilities since 2014. A range of projects have been undertaken such as large rainwater tanks on the Coburg Civic Centre or rainwater tanks, water efficient fixtures and fittings at the Shirley Robertson Children’s Centre. We are committed to reducing our water consumption and are implementing water efficient fixtures and fittings in all new buildings and building upgrades. We are also working to replace ageing fixtures and fittings through our building maintenance program.

### Water quality treatment

Our combined efforts have resulted in 11% of Moreland’s catchment area receiving stormwater treatment. This represents a combination of actions including stormwater harvesting, streetscape and open space water sensitive urban design and water sensitive urban design undertaken through private development. This meets the 2020 target of 11%. With one tenth of our area now sustainably managed through water sensitive urban design there remains a further 89% of our municipality still requiring treatment through ongoing actions.

### Advocacy

Moreland has worked hard with partners to advance our water agenda. We have successfully worked with State Government to ensure water sensitive urban design remains in local planning policy. Through the Chain of Ponds Collaboration, we have also worked with partners to develop new strategies for the Moonee Ponds Creek. Moreland has also been working closely with partners through the Yarra and Maribyrnong Integrated Water Management Forums to ensure a catchment-based approach is taken to water planning.

## **WSUD in new development**

Council has implemented water sensitive urban design in planning with excellent results. Moreland City Council's planning scheme includes water sensitive urban design policy objectives and sets out expectations for new development. Since 2015, 96%<sup>1</sup> of developed area has indicated compliance with WSUD requirements. Over 700 planning scheme applications have resulted in the installation of 5.9 million litres of rainwater tank volume across Moreland.

Moreland has developed guidance and case studies for applicants and developers, that can be found on the Moreland website<sup>2</sup>.

## **Challenges**

While Council has made significant progress in many areas of water management in the past five years, both Council and community potable water use has increased, and usage targets are unlikely to be achieved. It's important to note that during this time there has been a change in understanding of the importance of irrigation for urban forests and heat mitigation, and an increased knowledge of the long-term damage sustained through underwatering during the Millennium Drought.

A summary of the progress against each of the targets in 'Watermap 2020' is given in the Table 2. Some of the challenges that limited achievement of these targets and will be addressed in the future plan are outlined below.

Council water usage has been influenced by a change in knowledge and understanding about the importance of irrigation for public open space and the impacts of underwatering during the Millennium Drought. Ensuring an appropriate balance between water use and meeting open space water requirements has been a challenge and therefore, Council's water use has not reduced.

Council has worked with the community to facilitate a reduction in water use however, the impacts of increased population have meant that overall water use has not dropped significantly with use dropping 10% compared to the 25% target. However, water usage per capita has been reduced by 31% from 2001-2.





Council has worked closely with the community to support the voluntary installation of rainwater tanks and raingardens on existing homes. It has been a challenge to achieve strong uptake. Water restrictions have not been in place for almost a decade resulting in a lack of general awareness or concern of water scarcity issues and limited incentive to find alternatives to drinking water use. State-wide water saving campaigns (both funding support and information) have also not occurred for many years. Installing raingardens requires appreciation of the impacts of urban stormwater which are not immediately obvious at the household level and voluntary uptake has been limited in scale as a result.

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<sup>1</sup> Source up to 2016/17 refer to D16/195496, Source from 2016/17 refer to D18/390460



<sup>2</sup> [www.moreland.vic.gov.au/planning-building/environmentally-sustainable-design/water-sensitive-urban-design/](http://www.moreland.vic.gov.au/planning-building/environmentally-sustainable-design/water-sensitive-urban-design/)

Table 2. A summary of the progress against each of the targets in 'Watermap 2020'

No.	Target	Comments	Likelihood to achieve target by June 2020
<b>Council Leading by Example</b>			
1	Reduce Council's total potable water usage by 30% from 2001 levels (400ML/a) to 280ML/a by 2020.	During the millennium drought water use reduced to about 200 ML/a. This resulted in significant drop in the level of service provided across Moreland's parks, gardens and playing surfaces. The effects of water restrictions and resultant severe cutbacks in irrigation have since been identified to have resulted in a range of negative impacts including, tree deaths, the need to resurface sporting reserves and stress related impacts to parks and gardens. New knowledge relating to the benefits of irrigated landscapes on urban heat load has also emerged post Millenium Drought. Since 2012 potable consumption has increased to about 400 ML/a rebounding to water use demands like those prior to the drought.	
1.1	a) Increase Council's use of alternative water sources through 30ML/a of community sports field or open space irrigation water to be reclaimed from local stormwater harvesting infrastructure by 2020. b) Sourcing additional alternative 'fit for purpose' water supplies to the above where feasible.	Capacity of stormwater harvesting systems is 39 million litres per year which exceeds our 2020 target of 30 million litres per year	
1.2	Improve community sportsground irrigation efficiency to 75% for all class A sportsfields and irrigation parks by 2020.	All nine Class A Sports Fields had irrigation upgrades and are now operating with an average irrigation efficiency of 75%. Of the irrigated parks, three from forty-seven have been upgraded to 75% efficiency.	
1.3	All Council facilities to have best practice fittings, appliances, toilets and rainwater tanks installed where possible.	Moreland has undertaken water saving works on eleven facilities since 2014	



No.	Target	Comments	Likelihood to achieve target by June 2020
2	Treat 11% of Council's stormwater catchments to best practice by 2020. Post-2020, continue to make proportional progress to treat 100% of catchments to best practice by 2070	11% of Moreland's catchment area has stormwater runoff treated to best practice	
3	Implementation of WSUD into all Council capital works projects.	Moreland City Council has incorporated WSUD into 18 capital works projects where this would have been appropriate since 2014. Capital works projects are led by different units within council and have been incorporated by urban design, engineering, open space and traffic teams. This suggests that IWM and WSUD principles are being successfully embedded across council's internal teams and staff members. It is of note that Urban Design are the most successful at IWM integration and there is room for other areas of Council to increase uptake. There are a number of actions in the new Action Plan which will focus on the improvement of tracking and reporting and the development of a WSUD Policy that covers all council capital works projects.	
4	Advocate Integrated Water Catchment Management to and on behalf of the community	Moreland has participated in twenty-five advocacy activities since 2013. From a single activity undertaken in that year, Moreland's annual participation in advocacy events has grown significantly to eight events in 2018. Advocacy events include community working groups, policy presentations, tours for international delegates and regional forum participation. Advocacy has tended to be weighted toward industry stakeholders.	

No.	Target	Comments	Likelihood to achieve target by June 2020
5	All new residential developments of greater than 2 dwellings and non-residential developments greater than 100m2 to incorporate best practice water efficient fittings, water reuse and/or recycling and stormwater management.	Clause 22.08 of Moreland City Council's planning scheme includes several IWM measures as policy objectives and sets out expectations for developers. Since 2015, 96% of developed area has indicated compliance with the IWM requirements. These developments comprised 724 planning scheme applications and has resulted in the installation of 5.9 ML of rainwater tank volume across Moreland.	
<b>Council Supporting Community Action</b>			
6	25% reduction in community potable water consumption from 2001 baseline consumption to 10.1 GL/a by 2020.	In 2012-13, 11,453 megalitres of drinking water was used by Moreland community which equals to average of 200 Litre per capita per day. In 2018-19 the Moreland community has increased drinking water consumption to 12,400 megalitres. However, the average water usage per capita is 187 Litre per capita in 2018-19 which has been reduced by 7 %.	
7	50% of Moreland households have an installed rainwater tank by 2020. 25% of Moreland households have an on-lot stormwater treatment raingarden or other stormwater treatment mechanism by 2020.	In 2017, the Moreland Household Survey indicates that 37% of households had installed a rainwater tank and 6% of households had installed a raingarden. At the current rate of adoption, it is unlikely that the 2020 targets will be met for rainwater tanks or raingardens. Data has not been available since the 2017 survey.	