## Contents

1. Introduction .......................................................................................................................... 4  
   1.1 About this Document ......................................................................................................... 4  
   1.2 Context ............................................................................................................................ 4  
   1.3 Drought Preparedness Plan Scope ................................................................................... 5  
   1.4 Objectives of Drought Preparedness Plan ....................................................................... 7  
2. Past Drought Experience ..................................................................................................... 8  
   2.1 The Western Water region ............................................................................................... 8  
   2.1.1 Rosslynne System ....................................................................................................... 8  
   2.1.2 Romsey System .......................................................................................................... 10  
   2.1.3 Woodend System ....................................................................................................... 11  
   2.1.4 Merrimu system .......................................................................................................... 12  
3. Legal and Institutional Context ........................................................................................ 14  
   3.1 Water Entitlements .......................................................................................................... 14  
   3.2 Permanent Water Savings Rules ..................................................................................... 14  
   3.3 Water Restriction By-Law ............................................................................................... 14  
4. Adaptive Management Framework .................................................................................... 15  
   4.1 Long Term planning ......................................................................................................... 16  
   4.2 Implementation and operation ......................................................................................... 16  
   4.3 Emergency Response Planning ....................................................................................... 16  
5. Drought Response Options ............................................................................................... 17  
   5.1 Introduction ..................................................................................................................... 17  
   5.2 Demand Reduction during Drought .................................................................................. 17  
   5.2.1 Community Awareness Campaigns ............................................................................ 17  
   5.2.2 Empowering customers ............................................................................................. 18  
   5.2.3 Water Restrictions ..................................................................................................... 18  
   5.3 Supply Augmentation During Drought ............................................................................ 20  
   5.3.1 Merrimu system .......................................................................................................... 22  
   5.3.2 Rosslynne System ....................................................................................................... 23  
   5.3.3 Romsey-Lancefield .................................................................................................... 24  
   5.3.4 Woodend .................................................................................................................. 25  
   5.3.5 Options Regarded as Having Less Potential ............................................................... 26
6. Drought Response Plan ................................................................................ 28
   6.1 Activation of the Drought Response Plan .................................................. 28
   6.2 Normal Operation ...................................................................................... 29
   6.2.1 Normal Operation Actions .................................................................... 29
   6.3 Drought Response Actions ....................................................................... 33
   6.3.1 Emergency Response Actions ................................................................. 36
   6.4 Updating Actions During Drought .............................................................. 38
   6.5 Lifting of Restrictions and Restriction Levels .............................................. 38
7. Pre and Post Drought Evaluation ................................................................... 39
   7.1 Preparing for Drought ............................................................................... 39
   7.1.1 Availability of Supplementary Supply ..................................................... 39
   7.1.2 Drought proofing community assets ....................................................... 39
   7.1.3 Alternate Water Sources ....................................................................... 40
   7.1.4 Consumer Education and Promotional Material ...................................... 42
   7.1.5 Watching Brief .................................................................................... 42
   7.1.6 Training and Education ......................................................................... 42
   7.1.7 Proposed Funding Strategy ................................................................... 42
   7.2 Post Drought Phase – Evaluation and Revision ........................................... 43
   7.2.1 Evaluation of Objectives ....................................................................... 43
   7.2.2 Evaluation of Water Supply Management Actions .................................... 43
   7.2.3 Impact of Restrictions on the Community ............................................... 43
   7.2.4 Feedback from Western Water Staff ....................................................... 44
   7.3 Updating of the Drought Preparedness Plan .............................................. 44
   7.4 Knowledge Gaps ..................................................................................... 44
8. References ..................................................................................................... 45

Appendix A – Annual Water Outlook
Appendix B -Water Restriction By-Law 11/11
Appendix C – Priority public open place planning
1. Introduction

1.1 About this Document

This Drought Preparedness Plan (DPP) builds upon Western Water’s Drought Response Plan (DRP) 2016.

Western Water’s previous DRPs were developed in 2005, 2012 and 2016. This DPP has adopted the same objectives as the previous Drought Response Plan (DRP), as well as any actions that are still relevant to the current Western Water supply systems, identified during the development of the Urban Water Strategy 2017.

1.2 Context

Established under the Water Act 1989, Western Region Water Corporation (trading as Western Water) is one of Victoria’s thirteen regional urban water corporations. Western Water provides water, sewerage and recycled water services to over 69,000 properties across an area of 3,000 square kilometres. The region serviced by Western Water is located to the west of Melbourne, extending from Eynesbury in the south to Lancefield in the north, as shown in Figure 1.

Western Water has access to a diversified water supply, including water harvested from local catchments, groundwater, recycled water and water from the Melbourne supply system.

Western Water operates under the Statement of Obligations issued under Section 4i of the Water Industry Act 1994. The purpose of the Statement of Obligations (SoO) is to specify the obligations of Western Water in performing its functions. In Item 6-4, the SoO requires applicable water corporations to develop a DRP for Urban Systems. A water corporation must:

- develop and implement a DRP for each water supply system operated;
- not rely on the Minister declaring water shortages;
- comply with guidelines issued by the Minister;
- make its DRP available to the public; and
- review and if necessary amend the DRP at an interval of no more than 5 years or within 12 months of lifting water restrictions or any major change to water supply arrangements.

In complying with guidelines issued by the Minister, for Western Water’s Urban Water Strategy, the DRP must form part of a Drought Preparedness Plan.

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1.3 Drought Preparedness Plan Scope

The DPP assumes that the Levels of Service objectives set in Urban Water Strategies are being met through the implementation of actions identified in those strategies and an adaptive planning process.

The DPP is seen as the overall framework for managing the rare occurrences when there is a water shortage, the prospect of a water shortage, or when implementation of actions under water resources planning has not been successful. The DRP contains the specific actions Western Water will take in the event of a drought or water shortage.

This DPP will be used by Western Water to guide the organisation in making decisions about appropriate actions to manage water shortages as a result of:

- an extreme dry period;
- a water quality event of an intensity, magnitude and duration that is sufficient to render water acutely toxic or unusable for established local uses and values.

As all water shortage situations are different, this DPP should be used as a guide only and adjustments should be made based on the specifics of each water shortage event.

The DPP should also ensure the community and regulators are informed about impending water shortages so the potential impacts of water shortages are minimised.

A DPP is designed for use by water resource managers and provides a mechanism by which a drought may be responded to systematically and rationally thereby minimising the social, economic and environmental impacts of drought. A DPP considers all aspects of Drought Preparedness Planning including pre and post drought actions, identification of supply augmentation, demand reduction options and a sequential action plan to be followed during periods of drought.

The Western Water DPP has been designed to comply with the relevant guidelines\(^1\).
Figure 1 - Western Water service region
1.4 Objectives of Drought Preparedness Plan

Western Water’s DPP seeks to ensure Western Water provides efficient and effective management of water supply to Western Water’s customers during times of water shortage.

This strategic objective is complemented by a number of planning and operational objectives, as detailed in Table 1.

Table 1 - Planning and Operational Objectives

<table>
<thead>
<tr>
<th>Planning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify key actions that should be taken to effectively manage Western Water’s water resources during various stages of drought, including clear triggers that instigate these actions.</td>
</tr>
<tr>
<td>Create an adaptive drought response framework for application both prior to and following a drought event.</td>
</tr>
<tr>
<td>Establish methods for reviewing the plan, both during and following the implementation of Drought Preparedness Plan actions, and making adjustments where required.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operational Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Align drought response actions, including water restrictions, where relevant, with those for the Melbourne water supply system.</td>
</tr>
<tr>
<td>Identify back-up drought response actions (not aligned to the Melbourne system) for each system to maintain minimum storage reserves under emergency conditions.</td>
</tr>
<tr>
<td>Provide clear indicators to enable a reliable assessment of drought status by Western Water.</td>
</tr>
<tr>
<td>Maintain minimum flows to meet any downstream operational commitments or environmental requirements.</td>
</tr>
</tbody>
</table>
2. Past Drought Experience

The history and the experience of drought in the Western Water region are critical to drought response planning. This provides information on pathways that have been successful that can be implemented again, pathways that have been unsuccessful that should not be explored again or implemented in a different manner and may stimulate new ideas for action. In general, drought has been shown to have the following impacts on local communities:

- Loss of amenity for the community due to the deterioration of plants, gardens and sporting facilities
- Financial loss to the community, incurred whilst restoring services to pre-drought conditions
- Inconvenience to the community caused by forcing users to alter their water use practices
- Financial loss to local businesses and agriculture
- Stress on in-stream flora and fauna.

1.1 The Western Water region

Across the region serviced by Western Water, average rainfall is less than half that in Melbourne’s water supply catchments to the east and north of Melbourne.

The Western Water region has a long history of drought. Low security of supply from small storages, and the drought of 1967/68, led to the construction of the Rosslynne Reservoir and Merrimu Reservoir in the late 1960s and early 1970s to improve the reliability of supply from the Maribyrnong and Werribee catchments.

Increasingly dry conditions over the past 20 years have resulted in significantly reduced inflows to Western Water’s supply systems, to the extent that local water supplies are unable to meet demand. This led to the connection of Western Water’s supply systems to the Melbourne system, with Sunbury connected in March 2000, Bacchus Marsh and Melton in April 2004, and Gisborne, Riddells Creek and Macedon and Mt Macedon in May 2004.

Notably, it has been drought, not growth that shaped the evolution of Western Water’s supply system. Growth is now set to increase the demand for water in the region which will become the principal driver for further water supply augmentation across the region.

2.1.1 Rosslynne System

Rosslynne Reservoir, situated in the upper Maribyrnong Basin, has had historically highly variable rainfall and streamflow. This high variability led to severe droughts on a number of occasions over the past 100 years. Over the last 50 years, notable droughts occurred in 1967/68, 1981/82, 1994/95, the Millennium Drought (1998-2010) and 2015/16.

The 1967/68 drought saw relief bores sunk in the Shire of Romsey at Riddells Creek and at Monegeetta. Although these bores have since been abandoned, a number of new bores currently exist in the area, including those that supply Lancefield and the test bore at Romsey. The drought of 1967/68 also brought water shortages to the Sunbury and...
Gisborne areas and the water Trusts of the time drilled bores to try to boost their dwindling supplies.

The drought of 1967/68 served as a trigger for the construction of the Rosslynne Storage. Further drought conditions began to impact on the Maribyrnong system in the summer of 1997. Sunbury, Gisborne and Riddells Creek experienced stage 3 restrictions (of the then 8 stage policy) from October 1998 to November 2000. Macedon and Mt Macedon were not subjected to restrictions at the time as they were utilising the Macedon storages system, which was providing enough security for these towns.

A water efficiency campaign aimed at raising community awareness of water use and encouraging responsible water consumption was implemented in the summer of 1999. The mascot used for this campaign was ‘Sammy the Snake’.

The Millennium Drought, from 1998 to 2010, was the most severe on record, at least in terms of duration. Average inflows to the Rosslynne system during this period were significantly below average. This drought caused several measures to be introduced including:

- Water restrictions to Stage 4a (modified Stage 4) in most towns in the Rosslynne system
- Construction of the supplementary supply connection from the Melbourne system to Sunbury, which was commissioned in March 2000
- Construction of a pipeline between Macedon and Rosslynne, completed in June 2001 to connect Macedon storages to Rosslynne Reservoir
- Commissioning of the pump station to deliver water sourced from the Melbourne system to Gisborne, Riddells Creek, Macedon and Mt Macedon in May 2004
- Intensification of the community water efficiency campaign
- Acceleration of the program for substitution of recycled water
- The water mains cleaning program was deferred during this time to conserve water and also reduce customer backlash
- Temporary amendments were obtained to relax some of the passing flow requirements stipulated in the Bulk Entitlements, notably in Jacksons Creek.

The commissioning of the pipeline connecting the Rosslynne system to the Melbourne supply system has since eased the demand on the Rosslynne system. In addition, surplus water from the Macedon storages can now be transferred to supplement inflows to Rosslynne Reservoir.

Recent dry conditions in 2018 have seen Western Water transfer water from the Melbourne system into Rosslynne Reservoir during the off-peak demand season. This allows a storage buffer to be maintained locally for use during the high demand summer season when both the Melbourne system and Rosslynne Reservoir must be available to meet peak demands.
2.1.2 Romsey System

Restrictions in Romsey were applied in 1982/83 due to drought and in 1983/84 during the upgrade of Kerrie Reservoir. Stage 3 restrictions (of the then 8 stage policy) were applied again from April 1998 to October 1998.

In March 1991, the Romsey-Lancefield Water Board saw the need to introduce Stage 3 restrictions to Lancefield. This was due to depleting surface water storages -Lancefield Service Basin and Garden Hut Reservoir - and problems with one of its groundwater bores. Overall, restrictions were accepted favourably, perhaps due to the prior history of water shortage in the district. Further restrictions for Lancefield were implemented in March 1992 (Stage 2) and in December 1994 (Stage 3). Bore No 2 was upgraded in 2001.

The Millennium drought, from 1998 to 2010, led to measures being introduced in the Romsey system including:

- The emergency bore in Romsey was brought into operation from December 2002;
- The pipeline from Wrights Reservoir to Kerrie Reservoir was commissioned in February 2003.
- Pipeline connecting Kerrie Reservoir to Lancefield Service basin to allow water from as far as Melbourne to be supplied to Lancefield.

Post the Millennium drought in 2010, Bore 2 in Lancefield was not required for several years due to the availability of surface water. Subsequently, when the bore was required again, the water quality had changed enough that this bore is no longer suitable for drinking water supply even post treatment.
2.1.3 Woodend System

One of the worst affected supply systems in the 1982/83 drought was Woodend. In July 1982 there was only 20 ML of water in storage in the system (about 4 weeks’ supply). Substantial effort was spent in searching for alternative supplies; bores were drilled, water was carted from local dams and extensive carting from outside the district was considered.

At the end of November 1982, the Trust asked for Governor in Council approval to restrict domestic supplies to 40 L per person per day with discretion to reduce this to 20 L per person per day if the situation failed to improve. The occurrence of rain deferred this decision, but later in the season the Trust was again forced to cart water to maintain supply for its customers. Records show that a total of 9,255 KL of water was carted during February and March of 1983.

The Millennium drought, from 1998 to 2010, led to the construction of a pipeline from the Macedon and Mt Macedon system to provide supplementary supply to Woodend. With Macedon and Mt Macedon now supplied from Rosslynne Reservoir, surplus water in the Macedon storages can also be transferred to supplement Reservoir C in the Woodend system. Water from Kitty English and Frank Mann Reservoirs can also be pumped into Reservoir C.

A short drought in 2015/16 saw minor infrastructure upgrades and changes to operational rules that now allow potable water from the Rosslynne system to be directly fed into the Woodend reticulation system. This enables three sources of water supply - Campaspe, Reservoir C and Rosslynne/Melbourne - provided transfers are enacted prior to local storages emptying, to be supplied to Woodend.

Figure 3 - Campaspe Reservoir, Woodend
2.1.4 Merrimu system

The Merrimu system has a long history of drought. Growing demand for agriculture and urban water supplies, combined with a dry period immediately post 1960, led to the construction of Merrimu Reservoir in 1969 to secure water supplies.

Notable droughts within the past 50 years have included the droughts of 1967/68, 1981/82, 1994/95, the Millennium Drought 1998-2010 and 2015/16.

Melton experienced Stage 4 and 5 restrictions (8 stage policy) between September 1982 and September 1983. These restrictions were necessary due to a reduction in allocation of supply from Merrimu Reservoir by the Rural Water Commission to 75% of the previous year’s consumption. Djerriwarrh Reservoir, which had been used in the previous winter, was empty during the period of restrictions. The application of restrictions during 1982/83 appears to have worked well, with good co-operation from customers. The progress of the drought and details of restrictions and demand targets were well advertised in local newspapers at the time. Only a few complaints were recorded on file.

The Millennium drought, which commenced in 1998, triggered water restrictions up to modified stage 4 to be applied in the Merrimu system. In addition to the water efficiency campaign, several other drought management options were implemented:

- Following negotiation with Southern Rural Water and the Department of Natural Resources and Environment, the entire volume of unallocated water (4,900 ML) in Merrimu Reservoir was made available to Western Water as a temporary transfer
- A total volume of 985 ML of water was purchased in 1999/2000 through a temporary transfer of water right from rural irrigators being supplied from Merrimu Reservoir
- Supply to the system was further supplemented with water from Djerriwarrh Reservoir, with approximately 400 ML/annum being used. This water was mixed with water from Merrimu Reservoir prior to being passed through the treatment plant
- A connection to the Melbourne supply system at Hillside as a means of supplementing the Merrimu Reservoir supply to Melton and Bacchus Marsh was also implemented by April 2004
- Intensification of the community water efficiency campaign
- Acceleration of the program for substitution of drinking water with recycled water for non-potable uses
- The water mains cleaning program was deferred during this time to conserve water and also reduce customer backlash.

The possibility of transferring water from alternative storages, including Newlyn, Colebrook and Lal Lal Reservoirs, was also investigated but found not to be feasible. If implemented, water was to have been delivered to Ballan via existing pipelines, transferred into the Werribee River at Ballan and finally stored at Pykes Creek Reservoir. A transfer of water rights involving Southern Rural Water between the Merrimu and Pykes Creek storages would then have resulted in an increase in Western Water’s capacity share of storage at Merrimu Reservoir. The primary difficulty with this alternative as a drought response measure was the lack of available water at Merrimu Reservoir to effect the water right transfer from Pykes Creek Reservoir. Difficulties associated with arranging the physical link between the alternative storages and Pykes Creek Reservoir were also identified.
The unallocated entitlement volume in Merrimu Reservoir was purchased on a temporary basis. However, the absence of any significant inflow meant that Western Water’s share of storage in Merrimu, including the unallocated share, continued to draw down and had reached approximately 1,500 ML by the end of April 2004. By this time however Bacchus Marsh and Melton were able to draw their whole supply from the Melbourne system as a new connection had been commissioned. The system operates under gravity and can be boosted by pumping. The gravity supply was operational from late January 2004 and the pump station was commissioned during April 2004.

A short term drought was experienced in 2015/16 where the Merrimu Reservoir was drawn down to 10%. Significant water quality issues, and high salinity, saw Merrimu supply ceased causing Melton and Bacchus Marsh to receive all supply from the Melbourne system.

Similar to the Rosslynne system, the Merrimu system needs supply from both Merrimu Reservoir and the Melbourne system to meet peak summer demand. At this time, investigations commenced to connect Merrimu Reservoir to Western Water’s potable transfer network to allow Western Water to transfer water from the Melbourne system off peak to create a storage buffer for use during peak summer demands.
3. Legal and Institutional Context

3.1 Water Entitlements

Western Water supplies water from its various sources under the provisions of the Water Act 1989. The quantity of water harvested and the rate at which it may be taken are governed by:

- Bulk entitlements governing surface water resources
- Groundwater licences governing groundwater resources
- Water shares (part of Myrniong supply).

Western Water has 10 bulk entitlements to surface water, five Take and Use Licences for groundwater extraction and two water shares (10 ML High reliability, 5 ML low reliability).

3.2 Permanent Water Savings Rules

Western Water introduced new Permanent Water Savings Rules in its Permanent Water Savings Plan in December 2011. Permanent Water Savings Rules were legislated under the Water Act 1989. The revised Permanent Water Savings Rules consist of five simple rules, which will guide the efficient use of water on a permanent, ongoing basis. As Permanent Water Savings Rules have already been implemented by Western Water, they are not an option for further demand management during periods of drought.

3.3 Water Restriction By-Law

Mandatory water restrictions are an effective tool to manage water demand during periods of water shortages. Western Water currently has a four-stage water restriction policy that is designed to restrict non-essential water uses such as garden watering and car washing. This policy is given legal effect under Water Restriction By-Law 11/11 under the Water Act 1989 (December, 2011). This By-Law is contained in Appendix D.

Under each stage of water restrictions, various non-essential uses of water are restricted or banned. As the water restrictions levels increase, so do the limits on non-essential water use. The limitations that Western Water may implement under each stage of water restrictions are detailed in Water Restriction By-Law No. 11/11.
4. Adaptive Management Framework

There are three main components involved to build resilience in water supply systems for periods of water shortages. These are:

- **Long Term planning** – identifying actions that ensure the supply system satisfies current and future demands, ensuring that potential future shortfalls are minimised
- **Implementation and operation** - the implementation of identified actions to minimise the potential of future water shortfalls and the operation of water supply systems for best use of available water resources
- **Emergency Response Planning** - ensuring that if shortfalls in supply occur outside of those explored in long term planning, a range of appropriate response mechanisms are available.

Encompassing the above components is the continual review which involves monitoring and review of current information to ensure there is benefit realisation of actions that have been implemented and adaptation to suit the changing scenarios around climate, growth, policy or community values.
4.1 Long Term planning

The first component of the adaptive management framework represents the long-term planning phase that determines the future water needs, sources of water and the level of infrastructure required to provide adequate supply. Western Water’s approach to the long-term planning process is outlined below:

- The development of a 50 year Urban Water Strategy every five years (the most recent document was released on 31 March 2017)
- Collaboration with Melbourne Water over the development of a Melbourne System Strategy (released on 31 March 2017)
- Collaboration with the Melbourne Water retailers (City West Water, South East Water and Yarra Valley Water) in the development of their Urban Water Strategies and the implementation of collaborative actions
- Setting a water supply objective -level of service standard
- Collaborate and contribute to the review the Central Region Sustainable Water Strategy and Long-Term Water Resource Assessment that will be led by DELWP, Grid Oversight function and South Central Water Market Trial
- Ongoing engagement with key stakeholder to drought proof community assets
- Participating in water trading
- Commitment to continue water efficiency measures.

4.2 Implementation and operation

The second process in the adaptive management framework relates primarily to implementation of the long term strategy from an operational, project and decision making perspective. The key steps Western Water will adopt in this phase include:

- Preparation of a Water Resources Annual Operating Plan
- Undertaking investigations that were identified in the Urban Water Strategy
- Delivering specific infrastructure upgrades identified in the Urban Water Strategy or subsequent investigations
- Development of Annual Water Outlooks and disseminating this information internally as well as to DELWP and the community
- Ongoing planning and operational activities including water accounting and reporting, monitoring, analysis, system modelling and optimisation
- Application of Permanent Water Saving Rules and supporting key government initiatives.

4.3 Emergency Response Planning

The final component of the adaptive management framework relates to the development of short term management actions that are available to Western Water to manage through periods of extreme water shortages. This short-term planning is the focus of this DPP.
5. **Drought Response Options**

5.1 **Introduction**
Options for responding to drought can be classified into two broad categories:

- Demand reduction – reducing the volume of water consumed
- Supply enhancement – increasing the volume of water available for consumption.

For the purposes of a DRP, reducing demand and enhancing supply are only related to changes achievable in the short term. For example, installation or reinstatement/higher use of existing groundwater bores or the introduction of water restrictions are short term options that are feasible within the timeframe of a drought. The use of some bores, Bore 2 and Romsey emergency bore, is not part of normal supply due to quality or impacts to other users. These options may be re-examined during water shortages. The use of water restrictions as a means of long-term supply reduction, would likely severely impact the economic and social aspects of a region.

The raising of storages or systemic changes in consumer patterns of consumption would not be feasible within a limited time frame due to longer lead time and is therefore more appropriately considered as part of Western Water’s *Urban Water Strategy*. These options may still be enacted during a drought but are unlikely to resolve immediate issues.

5.2 **Demand Reduction during Drought**

5.2.1 **Community Awareness Campaigns**

It is important that the community is made aware of the need to conserve water, particularly during periods of drought. Recent education campaigns by Western Water, together with the promotion of Permanent Water Savings Rules, have substantially increased the level of water literacy among Western Water customers. Customers are increasingly likely to implement water efficiency measures voluntarily, if they are made aware of the possibility of drought, before the need for restrictions.

Western Water will endeavour to increase awareness in the community through:

- Publication of storage volumes and/or recent rainfall data indicating water availability on the Western Water website, in local newspapers, council newsletters, radio or television programs and social media
- Delivering information on water efficiency methods via leaflets in water accounts, directly to letterboxes or in prominent locations and attendance at public events
- Use of slogans and mascots
- School campaigns and competitions.

Western Water has an ongoing communications strategy, which is approved by the Board and reported against regularly. An integral part of the communications strategy is Western Water’s education campaign, which has been designed to:

- Promote water efficiency messages
- Change community attitudes to water usage habits
- Raise awareness that we live in a drought continent
- Increase appreciation that water is a precious resource
- Increase customers’ confidence that Western Water is a responsible manager of their water supplies.

Western Water in collaboration with the Melbourne metropolitan water retailers and Melbourne Water is completing a package of work investigating potential behaviour changes mechanisms. The outcome of this work will inform future water efficiency campaigns.

### 5.2.2 Empowering customers

Customers have informed Western Water that they are willing to reduce water usage to achieve water savings. However, the drivers and tools may not be immediately clear or available. Western Water will consider:

- Incremental deployment of digital meters to provide customers with immediate access to information on their water usage. This will allow customers to set goals and make decisions on when and how much water they are willing to use
- Increasing customer water literacy.

### 5.2.3 Water Restrictions

The use of restrictions is an accepted and effective option for reducing demand during drought. The main purpose of a restriction policy is to ensure the community does not run out of water and to conserve dwindling supplies during drought periods until storages are restored following rainfall. Restriction policies should be based on achieving a balance between the need to reduce water consumption to protect available supplies during drought and community expectations of acceptable maximum restrictions, the frequency at which they occur and the amount the community is prepared to pay to avoid them.

Water restrictions are designed to reduce non-essential water use and minimise the impact on the use of water for commercial services, public health and essential residential use.

Demand comprises of two components, a component that can be restricted and a component that cannot be restricted.

Western Water may, through its By-Law No. 11/11 under the Water Act 1989, declare water restrictions where it is deemed necessary to reduce the consumption of water within its supply systems to protect available supplies during periods of drought. This By-Law, which outlines a four-stage restriction policy, with each successive stage specifying more severe water restrictions, can be found in Appendix D. This restriction policy is consistent with that applied to all regional Victorian and metropolitan supply systems.

An assessment of the use of restrictions to manage demand was completed as part of the collaborative demand working group across Melbourne Water, the Melbourne retailers and Western Water. This group was established to ensure consistent demand forecasting during the development of the Urban Water Strategies. This assessment included a review of the ‘bounce-back research’ conducted for the pricing review, first principles review of restrictions targets of each water restriction stage, and application of consumption observations to VicWater (2011) “Outcome of the Review of Victoria’s Approach to Water
Restrictions and Permanent Water Saving Rules”. The following table provides a summary of the estimated water consumption savings as a result of applying restrictions.

**Table 2 - Water Restriction Demand Reduction Estimate**

<table>
<thead>
<tr>
<th>Restriction Stage</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Water Savings*</td>
<td>2-3%</td>
<td>5-7%</td>
<td>8-12%</td>
<td>14-16%</td>
</tr>
</tbody>
</table>

When restrictions are in place, Western Water will aim to communicate to all customers their responsibilities during restrictions. A detailed restrictions communications strategy will be developed and may include:

- Direct contact via our online panel, e-bills and hardcopy bill inserts
- Regular media updates and functional advertising on what restrictions allow to promote water efficiency message and keep customers informed of current water levels, storage volumes
- A series of customer Q&A information sheets to specifically address the different restriction issues of individual townships as part of a suite of information materials for customers
- Engage with trade waste and key account customers to ensure water efficiency is optimised
- Undertake a social media campaigned, telephone messaging on our contact centre ‘on hold, bill inserts and updated roadside signage throughout the service area
- Expand the ‘Speakers Forum’ to present water-wise messages to local community groups
- Promote the children’s water-wise club to promote water efficiency to our younger customers
- Work with Councils and Schools to assist them to reduce their water usage and or exempt priority open space areas
- Frequent update of the Western Water website with latest restriction information
- Promotion of restrictions during community events, mobile information kiosks
- Engagement with staff to ensure strong levels of awareness and understanding of the rules and their requirements

Table 1 summarises the expected impacts of implementing each of the four stages of water restrictions outlined in the By-Law.

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- Regular media updates and functional advertising on what restrictions allow to promote water efficiency message and keep customers informed of current water levels, storage volumes
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- Engage with trade waste and key account customers to ensure water efficiency is optimised
- Undertake a social media campaigned, telephone messaging on our contact centre ‘on hold, bill inserts and updated roadside signage throughout the service area
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- Frequent update of the Western Water website with latest restriction information
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- Engagement with staff to ensure strong levels of awareness and understanding of the rules and their requirements

5.3 Supply Augmentation During Drought

In general, there is a range of options open to augment supply during drought. The feasibility of each option depends to a large extent on the size of the population, the physical characteristics of the local supply and, ultimately, on the severity and duration of the drought. Table 3 indicates a range of augmentation options and the potential of each for the Western Water systems.

Although potentially important in the context of overall medium to long term water resource planning, options such as rainwater collection tanks, reducing network losses, water cartage and wastewater or stormwater use have all been considered as impractical short-term drought response measures for most Western Water systems. A detailed discussion of the options is presented below per system.

Table 3 - Options for Augmenting Supply during Drought

<table>
<thead>
<tr>
<th>Augmentation Option</th>
<th>Rosslynne System</th>
<th>Romsey-Lancefield System</th>
<th>Woodend System</th>
<th>Merrimu System</th>
<th>Myrniong System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer storage and recovery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class A recycled water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class B recycled water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class C recycled water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss reduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rainwater tanks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplementary surface water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Augmentation Option</td>
<td>Rosslynne System</td>
<td>Romsey-Lancefield System</td>
<td>Woodend System</td>
<td>Merrimu system</td>
<td>Myrniong System</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------</td>
<td>---------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Stormwater</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Transfer of water right / water trading</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Water cartage</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
5.3.1 Merrimu system

Table 4 documents short-term water augmentations that may be available. Longer terms options are discussed in the 2017 Urban Water Strategy and subsequent investigations.

Table 4 – Merrimu system options for augmenting supply during drought

<table>
<thead>
<tr>
<th>Augmentation Option</th>
<th>Option comment</th>
<th>Likely to be effective</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer storage and recovery</td>
<td>Investigations have commenced for a recycled water ASR scheme at Melton RWP. Option does not generate any new water, only provides additional storage space for Western Water.</td>
<td>No</td>
<td>2-3 years from project inception</td>
</tr>
<tr>
<td>Class A recycled water</td>
<td>Available to some parts of new growth areas and some industrial areas of Melton.</td>
<td>Yes</td>
<td>Active</td>
</tr>
<tr>
<td>Class B recycled water</td>
<td>Class B available to some areas of Melton for irrigating public open space.</td>
<td>Yes to a limited area</td>
<td>Active</td>
</tr>
<tr>
<td>Class C recycled water</td>
<td>Available for agricultural uses at Melton RWP.</td>
<td>Currently not substituting potable use</td>
<td>Active</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Currently not available. Small volumes in comparison to system demand available south of Bacchus Marsh but would require purchase of private licences, new treatment plant and connecting infrastructure</td>
<td>No</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Loss reduction</td>
<td>8-11% water losses are deemed as already quite low.</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>Rainwater tanks</td>
<td>As non-essential uses such as outdoor watering likely to be restricted, benefit to the corporation may be realised if tanks are plumbed into toilets. Large scale retrofitting is likely to be expensive. Benefits to householders relate to maintaining gardens</td>
<td>No</td>
<td>?</td>
</tr>
<tr>
<td>Supplementary surface water</td>
<td>Supplying additional water from the Melbourne system is a readily available option. Balancing this with local supply is a priority as both sources are needed during peak summer. This may mean off peak transfers from Melbourne to local storages and trading for additional allocations in Melbourne. Additional connections to other large systems are being investigated as an Urban Water Strategy action.</td>
<td>Yes</td>
<td>Immediate</td>
</tr>
<tr>
<td>Stormwater</td>
<td>Western Water is undertaking a pilot trial of feeding stormwater into Melton Reservoir from new subdivisions south of Melton. Stormwater fed into Melton Reservoir will be credited from the SRW Merrimu allocation to Western Water’s allocation into Merrimu. This process has not yet been finalised. However, it may be able to be turned around quickly in the drought conditions. Potential for use of stormwater to be fed directly into Merrimu Reservoir from new growth areas east of Bacchus Marsh</td>
<td>Toolern – yet to be proven</td>
<td>Immediate</td>
</tr>
</tbody>
</table>
Augmentation Option | Option comment | Likely to be effective | Timeframe
--- | --- | --- | ---
Transfer of water right / water trading | Trading options are available to gain temporary water allocations in both the Melbourne system and Merrimu Reservoir. There is also potential for purchasing water off irrigators. | Partially if enacted early | Immediate
Water cartage | Demand too large for option to be effective | No | -

### 5.3.2 Rosslynne System

Table 5 documents short term water augmentations that may be available. Longer terms options are discussed in the 2017 *Urban Water Strategy* and subsequent investigations.

**Table 5 – Rosslynne system options for augmenting supply during drought**

<table>
<thead>
<tr>
<th>Augmentation Option</th>
<th>Option comment</th>
<th>Likely to be effective</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer storage and recovery</td>
<td>Not available</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Class A recycled water</td>
<td>Currently not available. Some parts of new growth areas have a dual pipe reticulation but receive potable water. Would require Class A treatment plant to be constructed at Sunbury RWP</td>
<td>Partially</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Class B recycled water</td>
<td>Class B is provided to some areas of Sunbury and Gisborne for irrigating public open space, which is a direct potable substitution. Class B also used for supply to agricultural customers south of Gisborne and Sunbury</td>
<td>Yes to a limited area</td>
<td>Active</td>
</tr>
<tr>
<td>Class C recycled water</td>
<td>Class C is provided to some areas of Riddells Creek for irrigating public open space, which is a direct potable substitution. Small agricultural demand</td>
<td>Yes to a limited area</td>
<td>Active</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Currently not available and not expected to generate large volumes</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Loss reduction</td>
<td>8-11% water losses are already deemed as quite low.</td>
<td>No</td>
<td>1 year</td>
</tr>
<tr>
<td>Rainwater tanks</td>
<td>As non-essential uses such as outdoor watering likely to be restricted, benefit to the corporation may be realised if tanks are plumbed into toilets. Large scale retrofitting is likely to be expensive. Benefits for householders relate to maintaining gardens</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Supplementary surface water</td>
<td>Supplying additional water from the Melbourne system is a readily available option. Balancing this will local supply is a priority as supply from both sources is needed during peak summer. This may mean off peak transfers from Melbourne to local storages and trading for additional allocations in Melbourne. Additional connections to other</td>
<td>Yes</td>
<td>Immediate</td>
</tr>
</tbody>
</table>
### Augmentation Option

<table>
<thead>
<tr>
<th>Augmentation Option</th>
<th>Option comment</th>
<th>Likely to be effective</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater</td>
<td>Potential for use of treated stormwater to be fed directly into Rosslynne Reservoir from new growth areas north east of Sunbury</td>
<td>Yes however current policy barriers</td>
<td>10 years</td>
</tr>
<tr>
<td>Transfer of water right / water trading</td>
<td>Trading options are available to gain temporary water allocations in the Melbourne system. There is potential for purchasing water off irrigators – Keilor market gardens. Trading for water unlikely to be effective as users will likely hold on to what they have</td>
<td>Partially if enacted early</td>
<td>Immediate</td>
</tr>
<tr>
<td>Water cartage</td>
<td>Demand too large for option to be effective</td>
<td>No</td>
<td>-</td>
</tr>
</tbody>
</table>

There is potential to utilise small storages located on Mt Macedon to top up Rosslynne Reservoir however this is standard operation when water levels and entitlement conditions allow and is unlikely to be of any additional benefit under drought conditions.

In the Mt Macedon region, local storages can be directly fed into the network if there is a short-term emergency with potable supply to Mt Macedon from the Rosslynne system.

### 5.3.3 Romsey-Lancefield

Table 6 documents short term water augmentations that may be available. Longer terms options are discussed in the 2017 Urban Water Strategy and subsequent investigations.

**Table 6 – Romsey-Lancefield system options for augmenting supply during drought**

<table>
<thead>
<tr>
<th>Augmentation Option</th>
<th>Option comment</th>
<th>Likely to be effective</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer storage and recovery</td>
<td>Investigations to utilise existing groundwater infrastructure to store surplus surface water from Garden Hut Reservoir. Provides additional storage capacity and greater groundwater yields</td>
<td>TBA – still a rainfall dependent option</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Class A recycled water</td>
<td>Currently not available</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Class B recycled water</td>
<td>Currently not available</td>
<td>Utilise Class C</td>
<td>-</td>
</tr>
<tr>
<td>Class C recycled water</td>
<td>Class C is provided to some areas of Romsey for irrigating public open space, which is a direct potable substitution. Potential to expand to Lancefield public open space areas although demand likely to be limited.</td>
<td>Yes to a limited area</td>
<td>Active</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Currently available through existing bore. New bores are being investigated (2018) as part of an Urban Water Strategy</td>
<td>Yes</td>
<td>1-2 years</td>
</tr>
</tbody>
</table>
## Augmentation Option

<table>
<thead>
<tr>
<th>Augmentation Option</th>
<th>Option comment</th>
<th>Likely to be effective</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss reduction</td>
<td>8-11% water losses are already deemed as quite low</td>
<td>No</td>
<td>1 year</td>
</tr>
<tr>
<td>Rainwater tanks</td>
<td>As non-essential uses such as outdoor watering likely to be restricted, benefit to the corporation may be realised if tanks are plumbed into toilets. Large scale retrofitting is likely to be expensive. Benefits to householders relate to maintaining gardens</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Supplementary surface water</td>
<td>Supplying additional water from the Rosslynne system and the Melbourne system is a readily available option. Ensuring the transfers are enacted in time is a priority as transfer cannot meet peak or bulk demands over summer in isolation</td>
<td>Yes</td>
<td>Immediate</td>
</tr>
<tr>
<td>Stormwater</td>
<td>Currently not available</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Transfer of water right / water trading</td>
<td>Trading options are available to gain temporary water allocations in the Melbourne system. There is potential for purchasing private bores off irrigators. Trading for water unlikely to be effective as users will likely hold on to what they have</td>
<td>Partially if enacted early</td>
<td>Immediate</td>
</tr>
<tr>
<td>Water cartage</td>
<td>Carting water will only be able to support partial demands and will come at high operating costs</td>
<td>Partially</td>
<td>Immediate</td>
</tr>
</tbody>
</table>

### 5.3.4 Woodend

Table 7 documents short term water augmentations that may be available. Longer terms options are discussed in the 2017 Urban Water Strategy and subsequent investigations.

**Table 7 – Woodend system options for augmenting supply during drought**

<table>
<thead>
<tr>
<th>Augmentation Option</th>
<th>Option comment</th>
<th>Likely to be effective</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer storage and recovery</td>
<td>Currently not available</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Class A recycled water</td>
<td>Currently not available</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Class B recycled water</td>
<td>Currently not available</td>
<td>Utilise Class C</td>
<td>-</td>
</tr>
<tr>
<td>Class C recycled water</td>
<td>Class C is provided to some areas of Woodend for irrigating public open space, which is a direct potable substitution. Potential to expand to other public open space areas although demand likely to be limited.</td>
<td>Yes to a limited area</td>
<td>Active</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Licence to extract water from an existing bore however not connected to the supply network. Bore would require recommissioning and raw water pipeline to be partially connected</td>
<td>Partially</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Augmentation Option</td>
<td>Option comment</td>
<td>Likely to be effective</td>
<td>Timeframe</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------</td>
<td>------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Loss reduction</td>
<td>8-11% water losses are already deemed as quite low</td>
<td>No</td>
<td>1 year</td>
</tr>
<tr>
<td>Rainwater tanks</td>
<td>As non-essential uses such as outdoor watering likely to be restricted, benefit to the corporation may be realised if tanks are plumbed into toilets. Large scale retrofitting is likely to be expensive. Benefits to householders relate to maintaining gardens</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Supplementary surface water</td>
<td>Supplying additional water from the Rosslynne system and the Melbourne system is a readily available option. Ensuring the transfers are enacted in time is a priority as transfer cannot meet peak or bulk demands over summer in isolation</td>
<td>Yes</td>
<td>Immediate</td>
</tr>
<tr>
<td>Stormwater</td>
<td>Currently not available</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Transfer of water right / water trading</td>
<td>Trading options are available to gain temporary water allocations in the Melbourne system. There is potential for purchasing private bores off irrigators. Trading for water unlikely to be effective as users will likely hold on to what they have</td>
<td>Partially if enacted early</td>
<td>Immediate</td>
</tr>
<tr>
<td>Water cartage</td>
<td>Carting water will only be able to support partial demands and will come at high operating costs</td>
<td>Partially</td>
<td>Immediate</td>
</tr>
</tbody>
</table>

5.3.5 Options Regarded as Having Less Potential

**Rainwater Tanks**
Rainwater tanks may have some merit as a back-up supply in severe droughts. Although the installation of rainwater tanks as a drought response measure (as opposed to installation prior to the occurrence of drought) is likely to be of limited value in supplementing household supplies, tanks would give owners the option of purchasing and storing carted water during very dry periods.

**Water Loss Reduction**
Metered water consumption across the whole water supply system accounts for around 90% of the total treated water entering the system. The 10% non-revenue demand comprises unmetered consumption, meter error, routine flushing of mains, bursts, firefighting, illegal connections and leakage.

The individual percentages of the unmetered components cannot accurately be determined. Overall, it is expected that leakage from the system would be minor and perhaps constitute only 2% to 3% of total water consumption. The potential for loss reduction is therefore unlikely to be easily realised as a cost-effective short-term drought response action, but rather is a long term strategy.

**Water Cartage**
The viability of water cartage as a supply option is dependent upon the size of the town and the severity of the drought. Costs have previously been estimated at around $10-
$25/KL. Clearly, on a purely financial basis, this type of action is an emergency measure only.

Water cartage was used to supply parts of Woodend during the 1982-1983 drought. Records show that a total of 9,255KL were carted during February and March of 1983. Water was carted to Myrniong during the Millennium Drought (1997-2010) due to water quality problems in Pykes Creek Reservoir. Water was also carted to Romsey following technical problems at the water treatment plant. Water has also been carted to Lancefield, however this is problematic due to the difficulties encountered with access to the tanker filling positions at the Lancefield tank. A trial of water cartage to Lancefield undertaken in 2013 found that it would cost $2,300 per day to meet 30% of demand (190 KL/day).

The use of water cartage to supplement water supply to even a portion of townships the size of Melton, Sunbury and Bacchus Marsh is not feasible.

In addition to the requirements regarding water cartage set out in the By-Law (refer Section 0, Appendix B), the following provisions will also apply:

- Mobile tankers shall not be filled in any supply zone, for the purpose of supplying water to customers in another supply zone where less stringent water restrictions are applicable
- For filling of tankers in supply zones subject to stages 3 and 4 restrictions, prior written approval for all tanker filling is required from Western Water who may prescribe the water source.
6. Drought Response Plan

The previous sections of the DPP have outlined past responses - customer and Western Water - during a drought, how Western Water is preparing for water shortages and short-term options available to respond to a drought. This section of the DPP outlines actions that Western Water will take to monitor and respond to water shortages – the Drought Response Plan (DRP).

Water restrictions in the Western Water region may be required to be implemented in townships for the following reasons:

1. Water restrictions in metropolitan Melbourne - due to limited supply availability. Western Water’s current and growing reliance on the Melbourne system to supply our customers, compels our district to adhere to restrictions in Melbourne

2. Event based - may require temporary local restrictions. Examples of events that may require restrictions are (but not limited to):
   - High demand on reticulation system during bushfire events
   - Water supply Infrastructure failure or constraint
   - A water quality incident rendering a storage/s unusable
   - Algae blooms in water storages
   - Extreme weather and continual peak demands (extreme heat wave scenario)
   - Bushfire event

3. Limited local water resources

4. Ineffective adaptive long-term planning to cater for drought events.

As per its Urban Water Strategy, Western Water has opted to align its water restrictions with those for metropolitan Melbourne as our supply system is closely interconnected with and heavily reliant on the Melbourne system for supply security. Additionally, our customers will have significant exposure to Melbourne-based media regarding water shortage, drought and restrictions. However, there may be times of severe water shortage when Western Water is required to impose higher level restrictions on some systems. It is therefore important that Western Water continues to monitor climatic and water supply indicators to detect the onset of drought and once this has occurred, the severity of the drought event.

This drought response action plan is divided into the following operating modes:

- Normal Operation
- Drought Response (Stage 1 – 4 Drought Response Actions)

6.1 Activation of the Drought Response Plan

The DRP details two modes of operation, Normal Operation and Drought Response. Normal operation consists of business as usual operation of the water supply network. At this stage, the DRP is not considered to be activated.

Drought Response mode is the next level of response needed when it has become apparent that drought conditions have prevailed. The Drought Response Plan should be activated
when the likelihood rating of restrictions is considered **Likely**. Likelihood ratings of restrictions are shown in Table 8.

**Table 8 - Risk Assessment of Likelihood of Restrictions**

<table>
<thead>
<tr>
<th>Likelihood Rating</th>
<th>%</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very rare</td>
<td>&lt;1</td>
<td>Event may occur only in extraordinary circumstances</td>
</tr>
<tr>
<td>Rare</td>
<td>1-4</td>
<td>Event may occur only in exceptional circumstances</td>
</tr>
<tr>
<td>Unlikely</td>
<td>5-19</td>
<td>Event could occur at some time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>There is little opportunity, reason or means to occur</td>
</tr>
<tr>
<td>Possible</td>
<td>20-49</td>
<td>Event might occur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>These is some opportunity, reason or means occur</td>
</tr>
<tr>
<td>Likely</td>
<td>50-79</td>
<td>The event is likely to occur in most circumstances</td>
</tr>
<tr>
<td></td>
<td></td>
<td>These is considerable opportunity, reason or means for the event to occur</td>
</tr>
<tr>
<td>Almost certain</td>
<td>80-100</td>
<td>Event is expected to occur in most circumstances</td>
</tr>
<tr>
<td></td>
<td></td>
<td>There is great opportunity, reason or means to occur</td>
</tr>
</tbody>
</table>

Each year during the Annual Water Outlooks, the likelihood of implementing restrictions will be assessed. Following this, a statement will be included in the Annual Water Outlooks on whether the DRP is activated.

A likelihood assessment of entering restrictions can be completed at any time during the year if it has become apparent that drought conditions or the changes of restrictions are ‘Likely’. This may be through a Bureau of Meteorology statement or by operational data or other evidence that drought conditions have prevailed.

The DRP can be activated with approval from the Managing Director. At this point time, the DRP is considered to be activated.

**6.2 Normal Operation**

Normal operation occurs when a drought event is not anticipated in the short term that will threaten the security of the region’s water supply, which typically corresponds to periods under Permanent Water Savings Rules. Under normal operation, the focus of the action plan is on growth based system augmentations, climate and system monitoring, and water efficiency.

**6.2.1 Normal Operation Actions**

Table 9 below details the actions to be undertaken during periods of normal operation:

**Table 9 - Summary of actions to be taken during normal operations**

| Normal Operation Actions |
### Action A1: System Status Monitoring

Monitor the following aspects of system security monthly:

- Climate trends and seasonal outlooks published by the Bureau of Meteorology
- Storage levels
- System inflows
- Water consumption and trends in water consumption behaviour

Monitoring of the system will also occur on an annual basis using Western Water’s Annual Water Outlook (refer Appendix A). The Annual Water Outlook comprises a short-term forecast and monitoring of supply and demand measures to identify departures from longer term supply and demand forecasts included in the *Urban Water Strategy*. 

Rainfall is often used as a measure or warning of drought. A drought is assumed to occur when the total rainfall for a period of three months or more is in the first decile range (the lowest 10% of recorded rainfalls). The Bureau of Meteorology has used the following definitions for severe and serious droughts:

- a **severe** rainfall deficiency exists for the period in question when the rainfall is among the lowest five percent of the recorded rainfalls
- a **serious** rainfall deficiency exists when the rainfall lies above the lowest five percent of recorded rainfalls for the period in question but is less than the first decile value.

The Bureau of Meteorology provides information on its website which has the potential to assist in the preparation for drought. This includes the following monthly reporting:

- Drought Statement - highlights areas of the continent experiencing significant rainfall deficiencies during the current month and extended periods.
• Seasonal Rainfall Outlook - provides three month forecasts of likely rainfall conditions expected over Australia;
• Monthly Weather Review - provides a detailed review of Victorian weather patterns for each month including departures of temperature and rainfall from "normal"
• Seasonal Streamflow Forecast - provides three month forecasts of likely streamflow conditions for selected regions.

More detailed information on rainfall is also available from Climate Data Online, on the Bureau’s website (bom.gov.au/climate/data/).

Water supply information is monitored internally monthly via the Balance Scorecard and quarterly in a water security report.

**Action A2: Promote Voluntary Water Efficiency Measures**

The promotion of water efficiency is an ongoing activity for Western Water, which will assume greater significance if it is determined that a drought may be impending. If climate, streamflow and storage measures indicate unseasonably dry conditions, and the Melbourne system is still on Permanent Water Savings Rules, voluntary water efficiency measures should be considered. At this stage, Western Water could implement an advertising campaign requesting voluntary demand reduction.

**Action A3: Regular internal operational meetings during summer**

It is important that information obtained from monitoring or system forecasts is communicated to dam, water reticulation and water treatment plant operators. Expected changes in supply may require infrastructure preparation or maintenance and is important that these works are conducted early. Changes in supply also require advance notification to customers via local newspapers, posters, email, social media and or large scale mailouts.

The interconnected water supply network and relatively small storages in the northern regions mean supply changes are a regular occurrence during summer.

**Action A4: Pursue availability of supplementary water supplies and introduce according to Annual Operating Plan triggers**

Steps should be taken to pursue the availability of supplementary water supplies, determining the most likely sources and the barriers to their availability. Readily accessible supplementary supply sources should be considered at this stage. It would also be worth considering the economics of transferring water from the rural sector to the urban sector either on a temporary or permanent basis via trading. Western Water’s Water Resources Annual Operating Plan (AOP) details when relevant supplementary supply sources should be enacted in reference to seasonal storage levels.

**Action A5: Implementation of long term strategic actions as per Urban Water Strategy**
One of the most important aspects of drought preparedness is the implementation of long term system augmentation ahead of when they are needed. The *Urban Water Strategy* recommends a range of investigations and key system augmentation actions required to assure successful implementation. The following key actions have been identified that require short term attention:

- Continue to discuss with the Department of Environment, Land, Water and Planning for acquiring the unallocated volume in Merrimu Reservoir
- Explore water trading in the Yarra-Thomson system via the south-central Victoria water market
- Explore acquiring increased entitlements from the Melbourne system through the Central Region Sustainable Water Strategy review and Long-Term Water Resource Assessment
- Explore opportunities to purchase water shares in Pykes Creek Reservoir in increase entitlements in the system
- Explore optimising existing bulk entitlements through additional water storage
- Optimise existing groundwater licences by improving treatment capability and additional groundwater production bores
- Prepare a transfer infrastructure master plan for improving the resilience of the regional water grid and drought preparedness
- Further engagement with the community and Traditional owners regarding supply concepts and pricing submission.

**Action A6: Development scale Integrated Water Management planning**

Western Water is working with developers in new growth areas to ensure integrated water management (IWM) principles are implemented during the development of new estates. Developers are required to submit an IWM Plan which is endorsed by Western Water, Melbourne Water and relevant councils. This includes the use of alternative water for open space irrigation (passive and recreational), rainwater tanks and Class A recycled water where feasible.

**Action A7: Investigate and implement feasible Intelligent Water Network opportunities**

The Intelligent Water Network is an initiative of Victoria’s water corporations, working together to maximise water efficiency, reduce costs and form a self-sufficient future. The aim is to make better use of water supply, rainwater, stormwater, recycled water, sewerage and drainage services in meeting customer needs. It is a collaborative program involving the Victorian Water Industry Association (VicWater), the Department of Environment, Land, Water and Planning and the Victorian water corporations. Western Water will continue to participate in this forum, conduct trials and implement feasible programs.

**Action A8: Collaborate on water efficiency and demand initiatives with the wider Victorian Water Industry**

Western Water is a member in the Water Resources Management Group which is enacting collaborative actions of the Melbourne urban water strategies. Water efficiency and behaviour change are one of these actions.
Western Water is also collaborating on the Victorian Water Efficiency Strategy, being led by DELWP.

6.3 Drought Response Actions

As drought becomes progressively worse, it is important to have measures to assess when different actions are required. To assist in this process, drought response triggers have been developed. The triggers depend to a large extent on the type of system, and triggers for surface water supply systems are typically based on the level of water in storage.

Restriction rules in Western Water system are complicated due to a mixture of supply sources – surface water, groundwater and a reliance on a regional water grid. Thus, the practice of applying restrictions purely on water storage levels may not be appropriate.

Western Water has opted to align its water restrictions with those for the Melbourne system, but recognises that in some instances, restrictions may need to be implemented at different times to the Metropolitan retailers.

Emphasis will be placed on monitoring systems on an on-going basis via monthly monitoring and the annual water outlook, to enable more timely response to potential supply shortfalls, particularly on those systems not directly connected to the Melbourne Headworks supply.

The following section describes each of the progressive drought response actions that may be applied as a drought worsens.

The DRP must be activated in accordance with Section 6.1 for the drought response actions described below to be undertaken. Once the DRP has been activated, water security monitoring will be increased as required.

Table 10 – Drought response actions

<table>
<thead>
<tr>
<th>Stage 1 and 2 Drought Response Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action DR1</strong></td>
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<tr>
<td><strong>Action DR2</strong></td>
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<tr>
<td><strong>Action DR3</strong></td>
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<tr>
<td><strong>Action DR4</strong></td>
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<tr>
<td><strong>Action DR5</strong></td>
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<tr>
<td><strong>Action DR6</strong></td>
</tr>
<tr>
<td><strong>Action DR7</strong></td>
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</tbody>
</table>
**Action B1: Establish Drought Response Taskforce to ensure key planning and actions are identified and resourced across the business**

The response to extreme drought involves many different aspects of a water business, not solely the water resources managers. Key skills in infrastructure planning, capital delivery, water operations, communications, executive management and stakeholder engagement are all required to successfully and efficiently manage the supply of water through a drought period.

To ensure commitment, planning and tasks are adequately resourced across the business, a multi-functional Taskforce should be established to oversee Western Water’s response to drought. A key task for this group is to refine the options available to manage through the drought and secure executive commitment to implement.

**Trigger point:** This action should occur when the Drought Response Plan is activated.

**Action B2: Determine immediately available water resources that may be traded/acquired**

Western Water has an established regional water grid and is either directly or indirectly connected to larger water systems. This means that there are options to trade for water in these larger adjacent water systems. Potential water trades that should be considered are discussed in Section 5.3.

Engagement with water holders is required to determine available water. Additionally, Department of Environment, Land, Water and Planning will need to be consulted to ensure a mechanism for the trade exists.

**Trigger point:** This action should occur when the Drought Response Plan is activated.

**Action B3: Bring forward key infrastructure augmentations**

As part of the development of the Urban Water Strategy, key infrastructure upgrades to boost water security are identified including timing for delivery. The activation of this drought response plan may require the delivery of the projects earlier than forecast.

Key infrastructure upgrades that were identified and included into the Capital Program should be assessed and where applicable, plan to deliver these projects early.

**Trigger point:** This action should occur when the Drought Response Plan is activated.

**Action B4: Increase communications regarding water resource outlooks, water efficiency and water restrictions**

A key to the successful implementation of water restrictions is the buy-in of water consumers. Traditionally, once water restrictions are implemented there is generally good community acceptance and ownership to use water conservatively.

Communications programs, educational support and frequent provision of the status of water supplied now and into the future should be increased. Activities that should be implemented during this drought response action are discussed in Section 5.3.
applicable, communication programs should be developed in collaboration with the wider water industry.

The level of communication intensity will vary depending on the severity of the water shortage and other actions being implemented.

**Trigger point:** This action should occur when the Drought Response Plan is activated.

**Action B5: Introduction of Stage 1 and 2 Urban Water Restrictions**

Implementation of restrictions for drought response Stages 1 to 2 should be in accordance with Melbourne system restrictions. While there is no statutory requirement for this to occur, it is logical to align restrictions in the Western Water region with Melbourne given its proximity and connections to the Melbourne system.

Throughout these stages of restrictions, consumers should be updated on drought status and kept aware of likely future scenarios. This can be achieved with regular articles in local newspapers, social media, reports on rates of water consumption, the state of the volume in storage and actions being undertaken by Western Water.

A summary sheet of what each restriction is and how consumers will be affected by each successive stage of restriction will be used to take some of the apprehension out of future restrictions for consumers. This information may be printed in local newspapers or distributed to customers via direct mail / email, and published on Western Water’s website. This information should be distributed after any stage of restriction is introduced.

**Trigger point:** This action should commence at least in conjunction with restrictions applied in the Melbourne system or earlier as deemed necessary by Western Water.

**Action B6: Introduction of Stage 3 Urban Restrictions**

Implementation of Stage 3 restrictions for drought response should be in accordance with Melbourne system restrictions.

A noticeable reduction in total demand is expected following the implementation of Stage 3 restrictions. The media campaign should continue as per Action B3 and B4. Forecasts should also be made available on the Western Water website and in the local newspapers, and consumers could be made aware of how the restrictions are reducing consumption.

At this stage of restriction, it is likely that there will be major inconvenience to consumers and Western Water should make a public statement on the seriousness of what may lie ahead.

**Trigger point:** This action should commence at least in conjunction with restrictions applied in the Melbourne system or earlier as deemed necessary by Western Water.

**Action B6: Introduction of Stage 4 Urban Restrictions in accordance with Melbourne system**
Implementation of Stage 4 restrictions for drought response should be in accordance Melbourne system restrictions.

At this stage of a drought, all water use should be restricted to essential functions only. Managing usage during such extreme conditions will require consideration of prosecution of those who breach restrictions and installation of restricting devices on their meters.

**Trigger point:** This action should commence at least in conjunction with restrictions applied in the Melbourne system or earlier as deemed necessary by Western Water.

### 6.3.1 Emergency Response Actions

The following action should be undertaken during emergency drought response:

**Table 11 –Emergency response actions**

<table>
<thead>
<tr>
<th>Emergency Response Actions</th>
<th>Action B7</th>
<th>Introduction of Emergency Measures</th>
</tr>
</thead>
</table>

**Action B7: Introduction of Emergency Measures**

In very extreme events, emergency measures may have to be implemented. In this instance, an extreme event is classified as an event that occurs quickly that requires a short-term response to maintain water supply. Examples of extreme events may be critical water supply infrastructure failure (large transfer main, treatment plant, water tank or water pumping station), algae bloom, water quality event which renders the reservoir unusable (e.g. chemical spill, E. coli outbreak) or bush fire in water supply catchment. For these types of events, emergency system restrictions may have to be implemented – depending on the expected duration of the event. For example, this may mean a minimum delivery of 60 L/p/d would be supplied to all residential consumers. The minimum level of delivery should comply with health standards.

It is unlikely a prolonged drought would be the sole cause for the introduction of emergency measures as demand management or augmentation options would be in place before this stage. It is more likely that emergency response actions will be needed due to:

- infrastructure failure
- bushfire
- water quality event
- natural disaster

Western Water’s emergency management framework will support extreme events including continuity plans and emergency response procedures.

**Trigger point:** This action should be implemented when it has become apparent that an event has occurred that will affect the immediate water supply to a widespread area for a prolonged period.
Table 12 – Summary of all actions contained in Drought Response Plan

<table>
<thead>
<tr>
<th>Normal Operations</th>
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<tbody>
<tr>
<td><strong>Action A1</strong></td>
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<td><strong>Action A2</strong></td>
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<td><strong>Action A3</strong></td>
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<td><strong>Action A4</strong></td>
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<td><strong>Action A5</strong></td>
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<td><strong>Action A6</strong></td>
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<td><strong>Action A7</strong></td>
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<tr>
<td><strong>Action A8</strong></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Drought response actions</th>
</tr>
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<tbody>
<tr>
<td><strong>Action DR1</strong></td>
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<tr>
<td><strong>Action DR2</strong></td>
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<td><strong>Action DR3</strong></td>
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<table>
<thead>
<tr>
<th>Emergency Response Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action B7</strong></td>
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</tbody>
</table>
6.4 Updating Actions During Drought

The current drought response actions are based on the best information available. However, it is possible that the impacts of the various response measures proposed will be different from expected. Western Water will therefore require an efficient and flexible drought management team to be able to decide on the appropriate action, implement it and assess its effectiveness. Additionally, whilst the DRP as written provides a framework for making decisions, it may need to be adjusted as a drought develops and more information becomes available.

As drought conditions develop, the effectiveness of drought actions needs to be closely monitored. As a minimum, the monitoring data summarised in Section 6.2 should be assessed.

Careful attention should be paid to the results of monitoring, particularly the impacts of the restrictions applied. The timing of the implementation of more severe restrictions will be based on the results of this monitoring. The Bureau of Meteorology's Seasonal Forecasts could also be considered in deciding on the nature and timing of the implementation of the various emergency measures for extreme drought conditions.

All information collected and all decisions made (and subsequent outcomes) should be well documented so that they will be of use in guiding future drought planning and drought response.

Monitoring of the timing and effectiveness of the restriction policy will allow an assessment of its ability to meet the Drought Response Plan objectives and therefore whether more drastic action will need to be taken.

6.5 Lifting of Restrictions and Restriction Levels

Western Water has opted to align its water restrictions with those for the Melbourne system. Restrictions may therefore be lifted in line with the lifting of Melbourne restrictions.

The exception to this is where other levels of restrictions have been imposed within the Western Water region due to local system water shortages or other issues highlighted in 6.3.1. Restrictions should only be lifted where Western Water can reasonably conclude that the same stage of restriction is not likely to be reimposed within the next 12 months.
7. Pre and Post Drought Evaluation

7.1 Preparing for Drought

This section discusses issues requiring attention during the intervening periods between droughts.

7.1.1 Availability of Supplementary Supply

The timing of the actions proposed in Section 5-6 is dependent on the availability of water resources. On this basis, Western Water should carefully evaluate the actions proposed and determine which will require early action, either as part of adaptive planning or to prevent the drought water security situation worsening.

7.1.2 Drought proofing community assets

To ensure our customers and stakeholders are prepared for periods of water shortage, Western Water will actively continue to work with passive and active open space managers, owners of significant gardens and related key stakeholders to:

- ensure there is a shared understanding of the reliability of the system
- ensure there is a shared understanding of where critical assets are and the need to safeguard their resilience
- collaboratively assess local solutions, including the use of drought-tolerant vegetation species and emergency water arrangements
- assess climate independent supply options for longer term resilience; and
- consider short-term management responses, including the preparation of approved water use plans and exemptions from restrictions, in periods of critical need.

Western Water has a good history of working with public open space managers to enable a supply of water during drought periods, and has worked with local councils to establish a list of critical sites for each municipality. This list can be found in Appendix C.

This initiative was included in Action 5.1 of Water for Victoria, which directed water corporations to:

- select priority parks, gardens, public open spaces and playing fields to look after during drought
- seek opportunities to promote urban cooling
- build a shared understanding of the costs of water restrictions to the community and community expectations about restrictions, and using this to inform water supply and demand management decisions.

Of the sites identified with Councils to date, multiple sites have access to an alternate water supply via recycled water or raw water. Western Water will continue to investigate the potential to add resilience to open spaces through:

- Integrated Water Management Opportunity Register
- Integrated Water Management Forums for the Werribee, Maribyrnong and Coliban catchments
• Engaging with developers through the Integrated Water Management Developer Guidelines

If critical public open spaces are not drought proofed prior to any implementation of water restrictions in the future, the responsible organisation may apply for particular exemptions under the Water Restriction By-Law. Western Water may grant the application in full or in part subject to conditions as Western Water considers appropriate.

7.1.3 Alternate Water Sources

Western Water has a range of alternate water schemes available within the region including recycled water and untreated water.

7.1.3.1 Recycled water

Western Water operates seven recycled water plants each treating sewage and producing recycled water to a Class A, Class B or Class C standard. Recycled water is supplied to customers via pipelines or standpipes, and managed through farm leases and recycled water supply contracts.

Each of Western Water's recycled water plants has a recycled water scheme attached to it. Class A recycled water is supplied to residential dwellings in Eynesbury and Toolern via a piped supply from the Melton Recycled Water Plant.

Farm leases exist at four of Western Water's Recycled Water Plants. Recycled water entitlements are included in these farm leases and the water is used for approved agricultural purposes.

Commercial, industrial, Council, agricultural and some residential customers may access recycled water via a piped supply or via carting from standpipes. A map of recycled water locations is shown in Figure 5.

7.1.3.2 Raw water

Western Water operates raw water transfer mains to take water from surface reservoirs to the drinking water treatment plant. These raw water pipes are often through rural areas not connected to reticulated potable water supply. Some rural properties adjacent to these transfer mains are connected to this untreated supply. While this is an alternate source of water, these properties are subject to water restrictions as per potable water districts.
Figure 5 – Recycled water type and locations in the Western Water region
7.1.3.3 Alternate water expansion

Western Water will continue to invest in recycled water supply in the region. The major current initiatives being looked at by Western Water include the Western Irrigation Network project, which is a feasibility study for establishing an agricultural irrigation district near Balliang to be supplied with recycled water.

Western Water currently has a pilot stormwater harvesting scheme south of Melton. This scheme will continue to run, outcomes of the trial will be considered before a decision is made on whether to expand the scheme. Investigation will continue into stormwater harvesting for Sunbury new growth areas.

7.1.4 Consumer Education and Promotional Material

The development of promotional material for both the media and consumers on issues such as voluntary demand reduction, Permanent Water Saving Rules, and restrictions, requires ongoing review.

7.1.5 Watching Brief

The long term operational objectives of ensuring that Western Water is kept informed of changes to total levels of service and patterns of demand and of consumer expectations in relation to desirable levels of service, need to be addressed. A watching brief therefore needs to be maintained in relation to population growth and acceptable standards of supply. An awareness of issues and requirements in relation to environmental flows should also be maintained.

7.1.6 Training and Education

It is important for Western Water to present an informed and consistent image to its customers. To this end, all staff should be aware of the current status of restrictions. Customer service staff would require more detailed training on the specifics of restrictions.

Training will also need to be given to selected Western Water personnel in relation to the responsibilities identified in the Drought Response Plan and to be able to interpret the drought warning signals that are available from the various Bureau of Meteorology information sources.

7.1.7 Proposed Funding Strategy

Completion of a Drought Response Plan requires identification of the budget and staffing resources necessary to maintain the program during all phases of its operation. Western Water will need to review capital programs and operational expenditure to ensure actions that require priority funding can be met. Ongoing drought response development and maintenance costs will need to be programmed into Western Water's corporate plan.
7.2 Post Drought Phase – Evaluation and Revision

Following a drought period, it is important to review the response of Western Water to ensure that areas of best practice and areas requiring attention are identified and documented for future reference.

7.2.1 Evaluation of Objectives

The first part of the review process will be to assess the suitability of the objectives. There are three components to the objectives (i.e. strategic, planning and operational) and each of these needs to be critically reviewed to determine if the objectives were appropriate and achievable. If they were not, some comment needs to be made as to why not and new objectives set for the next drought.

7.2.2 Evaluation of Water Supply Management Actions

There have been a range of actions identified for staged demand reduction and supply augmentation. In most droughts, only a few of the actions will need to be implemented. The timing and effectiveness of each action needs to be assessed and documented at the end of a drought period.

Comparisons between historic deliveries and drought deliveries will have been made as part of the monitoring process during the drought and can be used to assess the effectiveness of drought response options. It is important in the immediate post drought phase that as much available data on the system during the drought is collated and reported upon. As a minimum, the following should be collected:

- Demand for each township affected;
- Inflow to each major storage system;
- Transfers between storages (as relevant);
- Rainfall;
- Evaporation; and
- Storage level

Demand modelling procedures should also be used to further aid in the estimation of the effects of restrictions on demand. From this, an assessment of the effectiveness of a current stage of restriction, relative to current estimates, can be made and if necessary, adjustments made to defer or bring forward the next stage of restriction.

7.2.3 Impact of Restrictions on the Community

Community response to the imposition of restrictions will be sought through contact with representatives of the customer advisory and community reference groups. These groups can help identify additional actions that could have been taken to reduce consumption while minimising adverse community impacts. The following provides a guide to the type of information that should be sought in such a survey:

- Were there other things that could have been done to help reduce demand for water?
- Was there enough warning that restrictions were to be imposed?
7.2.4 Feedback from Western Water Staff

Staff from Western Water will also be interviewed to determine how they coped with the additional burden of drought. It is important to identify any issues that came up that were not identified prior to the drought and were not taken into account. The following issues should be addressed:

- Were the restrictions easy to enforce?
- Were the limited watering times causing problems for supervision?
- Did the staff feel alienated from the community?
- Was the additional workload reasonable?
- Do staff have any suggestions for improvements to response actions?

7.3 Updating of the Drought Preparedness Plan

Under Western Water’s Statement of Obligations, Western Water has a requirement to review and if necessary amend the Drought Preparedness Plans at an interval of no more than 5 years or within 12 months of lifting water restrictions or any major change to water supply arrangements. The plan will therefore be fully reviewed and updated again in 2022, at the latest.

7.4 Knowledge Gaps

As indicated above, a Drought Preparedness Plan should be a dynamic instrument for guiding drought management; new or additional information and knowledge will continually become available, and their implications for good drought management should be incorporated in the Drought Preparedness Plan through a process of ongoing review. It is particularly important to be aware of key gaps in the available knowledge base.
8. References

Annual Report 2017/18, Western Water, 2018


Melbourne Water System Strategy, Melbourne Water, 2017

Appendix A – Annual Water Outlook
Summary

Western Water’s vision is *Strong Communities, Growing Together*. Ensuring secure water supplies for our customers is central to achieving this.

Western Water’s Annual Water Outlook focusses on the next 12 months, while taking a longer-term view of water supply to customers over the next five years. This document is produced annually to provide water supply availability information to customers and stakeholders. This Annual Water Outlook covers the period of 1 December 2018 to 30 November 2023. **No water restrictions are forecast for 2018/19.**

The table below is a summary of the Outlook for all regions in the Western Water service area.

<table>
<thead>
<tr>
<th>Supply system</th>
<th>Towns supplied</th>
<th>Sources of supply</th>
<th>Likelihood of water restrictions in the next 12 months</th>
<th>Summary of the system operation and supply measure over the next 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romsey-Lancefield</td>
<td>Lancefield, Romsey</td>
<td>Kerrie, Forsters, Wrights, Garden Hut Reservoir, Groundwater, Rosslynne Reservoir, Melbourne system</td>
<td>Very unlikely</td>
<td>Supply from surface water reservoirs supplemented with supply from local groundwater sources. If required water may be supplied from the wider water grid, including the Melbourne system.</td>
</tr>
<tr>
<td>Myrniong</td>
<td>Myrniong</td>
<td>Pykes Creek Reservoir</td>
<td>Very unlikely</td>
<td>All supply from Pykes Creek Reservoir.</td>
</tr>
<tr>
<td>Rosslynne</td>
<td>Sunbury, Diggers Rest, Bulla, Gisborne, Macedon, Mt Macedon, Riddells Creek</td>
<td>Rosslynne Reservoir, Macedon &amp; Mt Macedon storages, Melbourne system</td>
<td>Very unlikely</td>
<td>Gisborne, Macedon, Mt Macedon and Riddells Creek supplied from Rosslynne Reservoir. Transfer from the Melbourne system anticipated over the outlook period to ensure water security to these towns. Sunbury and surrounding small towns are supplied directly from the Melbourne system.</td>
</tr>
<tr>
<td>Merrimu</td>
<td>Melton, Bacchus Marsh, Eynesbury, Rockbank, Toolern Vale, Long Forest</td>
<td>Merrimu Reservoir, Djerrwarr Reservoir, Melbourne system</td>
<td>Very unlikely</td>
<td>Melton and surrounding small towns supplied from the Melbourne system. Bacchus Marsh supplied from Merrimu Reservoir supplemented by Djerrwarr Reservoir.</td>
</tr>
<tr>
<td>Woodend</td>
<td>Woodend</td>
<td>Campaspe Reservoir, Reservoir C, Graham Brock Reservoir and Mt Macedon storages, Rosslynne Reservoir, Melbourne system</td>
<td>Very unlikely</td>
<td>Supply from local surface water reservoirs, supplemented with supply from Mt Macedon storages. Transfers from Rosslynne or the Melbourne System is forecast in the next 12 months if very dry conditions occur.</td>
</tr>
</tbody>
</table>

*Table 1: Summary of the Annual Water Outlook for Western Water’s service region*
1. Introduction

The region serviced by Western Water forms part of north-western metropolitan Melbourne and is bounded by Lancefield in the north, Eynesbury in the south, Bulla to the east and Myrniong to the west. Major towns serviced by Western Water include Melton, Sunbury and Bacchus Marsh. Population in the region is currently estimated at 160,339, an increase of 4.5% from 153,358 in June 2017.

Water supply for the region is provided through a mix of surface water from local water storages, groundwater, the Melbourne system and recycled water. Water security for the region is reliant on an interconnected transfer network, which allows water from the wider area to be transferred to where it is most needed - Western Water operates a local water grid.

Western Water’s water resources are defined through Bulk Entitlements, Take and Use Licences (groundwater), and water shares. The Western Water region presents some exceptional challenges and opportunities for water resourcing due to the fast rate of growth and urbanisation in the region, the impact of farm dams and climate change on local catchment yields.

1.1 2017/18 snapshot

1.1.1 Key achievements

In 2017/18, Western Water enhanced its water supply security through the following:

- Progressed the implementation of the Urban Water Strategy
- Commenced a feasibility study for expanding water grid connections to and within the Western Water region. This has commenced in collaboration and support of the Department of Environment, Land, Water and Planning
- Actively supported government led initiatives including the Central Region Sustainable Water Strategy, Long Term Water Resource Assessment, development of the Grid Oversight Partnership and Integrated Water Management Forums. Western Water is a member of the Grid Oversight Partnership Steering Committee
- Commissioned groundwater investigations to determine suitability of extracting more groundwater from the Romsey / Lancefield region
- Improved the redundancy of key transfer assets through Sunbury
- Completed a water trade to secure water shares for increasing water availability for Myrniong
- Progressed the feasibility studies of Sunbury Integrated Water Management Assessment and the Western Irrigation Network
- Provided 5,235 ML of recycled water to customers saving about 4,580 million litres of drinking water
- Produced and released Integrated Water Management Developer Guidelines. This has resulted in the first development-level Integrated Water Management plans for new residential estates driving innovation in efficient water management
1.1.2 Rainfall and streamflow

Rainfall in 2017/18 was marginally below the long-term average for the region. Whilst average rainfall was recorded, in most systems this did not result in average streamflow. This was due to the timing of rainfall – high rainfall events were recorded over summer when catchments were dry. Average or below-average streamflows were observed, resulting in the aggregate volume of storages that supply water to Western Water holding 7,000 million litres less than on 1 November 2017. Annual rainfall and inflows to key reservoirs are depicted in Figure 1 and Figure 2 below.

**Figure 1:** Annual rainfall in the Western Water region. The average rainfall is overall records which varies between sites

**Figure 2:** Inflows to major storages. Inflows presented for the Melbourne system are Western Water’s allocation only. Inflows presented from Merrimu and Rosslynne are all flows into the reservoirs. Western Water has a 70% and 86% share of these inflows respectively.
1.1.3 Water consumption

Water consumption in Western Water's service region increased by 11% to 15,284 million litres during 2017/18 compared to 13,775 million litres the previous financial year. A portion of the increased water consumption is likely due to the service area connections increasing from 62,234 to 64,981 during the financial year.

The per capita daily residential consumption increased from 189 in 2016/17 to 194 in 2017/18. This increase may be due to the prolonged periods of no rainfall during summer and autumn seasons or a behaviour change in customers or a combination of both. Western Water is committed to the Target 155 program aimed to reduce customer water usage.

Figure 3: Inflows into key small local systems. Kerrie Reservoir supplies Romsey, Campaspe and Orde Hill Reservoir supply Woodend while Garden Hut Reservoir supplies Lancefield.

Figure 4: Serviced water connections in the Western Water region
Figure 5: Annual consumption and residential consumption per capita. The region wide consumption is the height of the column, restriction stages are represented by the different colour of columns and the litre/person/day are the white round markers.

Figure 6: Annual water consumption over the past six years and the makeup of supply sources.

Of the 15,284 ML of water supplied in 2017/18, 74.4% was used by residential customers, 14.1% by non-residential customers and 11.4% was non-revenue water and network losses. Residential users make up 95% of Western Water’s connected water customers.
1.1.4 Risks

The Western Water region is reliant on transfer systems to support water supply security during extended dry conditions. Western Water has increased the reliability of the transfer system in recent years by investing in back up power supplies and stand-by pumps at key sites.

Additionally, a reserve volume of water is maintained in reservoirs so there is always a volume of water that can be locally treated and supplied if short term outages in the transfer network occur.

Algae or water quality issues present a continued risk for Western Water supply sources. Poor water quality in resources can require supplementary supply from other sources. Western Water is investing in monitoring and analysis programs to assist early detection of water quality issues. Early detection is key to driving appropriate response actions specially during peak demand periods.
2. Current water supply systems

Potable water supply for the region is a mix of surface water from local water storages, groundwater and water from the Melbourne system. Security is provided through interconnecting these supplies and having the ability to transfer water from secure supplies to areas of shortfall.

Western Water’s water supply network can be described as interconnected water supply systems, supported by a potable water connection to the Melbourne system. Recycled water is also available for supply to fit for purpose usage, reducing the demands on potable water.

2.1 Merrimu system

The Merrimu system supplies Melton, Rockbank, Bacchus Marsh, Longforest, Toolern Vale and Eynesbury. Local water is sourced from Merrimu and Djerriwarrh Reservoirs, north of Melton. There is also a connection to the Melbourne water supply system. Merrimu Reservoir is managed by Southern Rural Water. Western Water has a Bulk Entitlement to 60% of the capacity and 70% of inflows into Merrimu.

Water from Merrimu and Djerriwarrh Reservoir is treated at the Merrimu Water Filtration Plant. Water sourced from Melbourne is supplied via a pipeline with a capacity of 45 ML/day.

In addition, Class B and C recycled water is used for irrigation purposes in some areas of the system. Class A supply is available for residential and commercial use in Eynesbury and Toolern.

<table>
<thead>
<tr>
<th>Town(s)</th>
<th>Connections</th>
<th>Population</th>
<th>Major customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melton</td>
<td>22,681</td>
<td>56,527</td>
<td>5</td>
</tr>
<tr>
<td>Rockbank</td>
<td>1,030</td>
<td>2,650</td>
<td>-</td>
</tr>
<tr>
<td>Eynesbury</td>
<td>935</td>
<td>2,402</td>
<td>-</td>
</tr>
<tr>
<td>Toolern</td>
<td>1,420</td>
<td>3,671</td>
<td>-</td>
</tr>
<tr>
<td>Bacchus Marsh</td>
<td>8,806</td>
<td>21,606</td>
<td>3</td>
</tr>
</tbody>
</table>

*Table 2: Summary of towns supplied by the Merrimu system, as at 30 June 2018.*

2.2 Myrniong system

Myrniong is supplied from Pykes Creek Reservoir and is Western Water’s only isolated system – it is not connected to any other system. Water from Pykes Creek Reservoir is pumped to the Myrniong Water Filtration Plant before being supplied to customers.

Pykes Creek Reservoir is managed by Southern Rural Water. Western Water has a 58 ML annual bulk entitlement to the reservoir and 15ML of water shares to supply Myrniong.

<table>
<thead>
<tr>
<th>Town(s)</th>
<th>Connections</th>
<th>Population</th>
<th>Major customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myrniong</td>
<td>112</td>
<td>257</td>
<td>-</td>
</tr>
</tbody>
</table>

*Table 3: Summary of towns supplied by the Myrniong system, as at 30 June 2018.*
2.3 Romsey-Lancefield system

The Romsey and Lancefield water supplies are now considered one supply system after a pipeline was built to connect the two towns in 2013. There are separate potable water treatment plants for each town, the Romsey Water Filtration Plant and the Lancefield Water Filtration Plant.

The majority of water for Romsey comes from Kerrie Reservoir, with contributions from groundwater, the Riddells Creek reservoirs and water transferred from the Rosslynne system. Lancefield is primarily supplied from Garden Hut Reservoir with supplementary supply from groundwater and all water sources that are available to Romsey.

In addition, Class C recycled water is available for agricultural and municipal irrigation in some parts of the system.

<table>
<thead>
<tr>
<th>Town(s)</th>
<th>Connections</th>
<th>Population</th>
<th>Major customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romsey</td>
<td>1,931</td>
<td>4,703</td>
<td>-</td>
</tr>
<tr>
<td>Lancefield</td>
<td>868</td>
<td>2,106</td>
<td>-</td>
</tr>
</tbody>
</table>

*Table 4: Summary of towns supplied by the Romsey-Lancefield system, as at 30 June 2018.*

2.4 Rosslynne system

The Rosslynne system supplies Sunbury, Diggers Rest, Bulla, Gisborne, Mount Macedon, Macedon and Riddells Creek. Water is sourced from Rosslynne Reservoir, located north-west of Gisborne, and from a connection to the Melbourne supply system. Rosslynne Reservoir is managed by Southern Rural Water. Western Water has a Bulk Entitlement to 86% of capacity and inflows to Rosslynne.

Water from Rosslynne Reservoir is treated at the Rosslynne Water Filtration Plant. Water sourced from Melbourne is supplied via a pipeline with a capacity of 35 ML/day. This pipeline is connected to the Western Water transfer network via Sunbury. A series of pump stations is used to pump the water from Sunbury to connected systems.

In addition, Class B and C recycled water is available for agricultural, commercial and municipal irrigation in some parts of the supply system.

<table>
<thead>
<tr>
<th>Town(s)</th>
<th>Connections</th>
<th>Population</th>
<th>Major customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunbury (incl. Bulla)</td>
<td>15,623</td>
<td>38,355</td>
<td>2</td>
</tr>
<tr>
<td>Diggers Rest</td>
<td>1,736</td>
<td>4,350</td>
<td>-</td>
</tr>
<tr>
<td>Gisborne</td>
<td>4,382</td>
<td>10,392</td>
<td>-</td>
</tr>
<tr>
<td>Macedon &amp; Mt Macedon</td>
<td>1,228</td>
<td>3,011</td>
<td>-</td>
</tr>
<tr>
<td>Riddells Creek</td>
<td>1,429</td>
<td>3,523</td>
<td>-</td>
</tr>
</tbody>
</table>

*Table 5: Summary of towns supplied by the Rosslynne system as at 30 June 2018.*

2.5 Woodend system

The Woodend water supply system supplies Woodend. Water is sourced from the Campaspe Reservoir, west of Woodend, and water storages located on Mount Macedon.
Water from the Melbourne system and Rosslynne Reservoir can also be supplied to Woodend. Water supplied to Woodend from Campaspe Reservoir is treated at the Marriages Water Filtration Plant. Water supplied from the Mount Macedon storages is treated at the Reservoir C Water Filtration Plant. In addition, Class C recycled water is available for agricultural and municipal irrigation in some parts of the system.

<table>
<thead>
<tr>
<th>Town(s)</th>
<th>Connections</th>
<th>Population</th>
<th>Major customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodend</td>
<td>2,249</td>
<td>5,364</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 6: Summary of towns supplied by the Woodend system as at 30 June 2018.

Figure 7: Storage volumes as at 28 November 2018. Note – major storage volumes are Western Water entitlements only.

Figure 8: Comparison of entitlement usage in 2017/18 against annual cap
2.6 Forecast demands

The demand for water is a key component in water resource planning. Western Water forecasts water demands for each town. Figure 9 below shows the region-wide bulk water demand forecasts for 2018/19 and how demand is tracking against the forecast scenario. Year to date, water demand is slightly higher than forecast.

**Figure 9:** Forecast bulk water demands, possible range and previous two years of actual demand

<table>
<thead>
<tr>
<th>System</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merrimu System</td>
<td>14,895 ML</td>
</tr>
<tr>
<td>Myrniong system</td>
<td>14,895 ML</td>
</tr>
<tr>
<td>Romsey-Lancefield System</td>
<td>14,895 ML</td>
</tr>
<tr>
<td>Rosslynne System</td>
<td>14,895 ML</td>
</tr>
<tr>
<td>Woodend System</td>
<td>14,895 ML</td>
</tr>
</tbody>
</table>

**Table 7:** Forecast bulk water demand by system for 2018/19.
3. Climate outlook

Short term climate outlook

The climate drivers that affect rainfall for most of Australia are strongly leaning towards an El Niño cycle, however this typically has less influence during summer months. A positive Indian Ocean Dipole is currently underway and driving dry conditions in southeast Australia - this expected to decay in November. Countering this is a positive Southern Annual Mode likely for December which can drive a wetter pattern in some southern areas. With these three strong climate influences all being active - it means there is roughly an even chance of above or below average rainfall for the period of December 2018 to February 2019 in the Western Water region. Temperatures over this time are likely to be above average.

Streamflow forecasts for the Lerderderg River (primary source of inflow for Merrimu Reservoir) indicate the chances of low stream flows are at 79%, while high flows are very unlikely, a 1.7% chance. Melbourne’s four major storage reservoirs are likely to experience low to average inflows for the three-month summer period of November 2018 to January 2019.

Climate and streamflow forecasts are available from the Bureau of Meteorology.

![Figure 10: Bureau of Meteorology rainfall outlook, December 2018 – February 2019.](image-url)
Longer term climate trend

Victoria’s climate has shown a warming and drying trend over recent decades, and this trend is expected to continue. This will likely result in higher temperatures, rainfall reduction in winter months and less streamflow generated from the same amount of rain.

Although there will be a high degree of variability in Victoria’s climate, the chances of experiencing cooler conditions and higher than average streamflow is lower now than it was in previous decades. Conversely, the chances of experiencing warmer conditions and less streamflow is now higher than in past decades.
4. Water resources over the coming year

The major storages in the region and the transfer network are the key to water security in the Western Water region. As such, the 2018/19 Annual Water Outlook is focussed on how these major systems may perform over the outlook period. Western Water is currently holding a total of 47 GL in Merrimu, Rosslynne and in the Melbourne system.

![Total system storage projection](image)

**Figure 11:** Total system storage outlook July 2017 – July 2022. Total system storage (TSS) is the sum of Western Water’s Yarra-Thomson, Merrimu and Rosslynne allocations. The percentile scenarios of projected TSS above are based on rolling model runs using the climate period of 1997-2017 and two demand scenarios.

Storage projections over the next five years show the region entering restrictions under a 5th percentile scenario model run – see Figure 11. This means of the 40 model runs completed, only 2 scenarios are showing the chance of entering restrictions in the next five years. Western Water manages all water supply systems to maintain a balance between local water supply, storage buffers, consistency in water quality aesthetics and balancing transfers. With the current water volumes stored in major systems, expected demand for water and adherence to operating rules, the likelihood of entering restrictions in the Western Water region over the next twelve months is very unlikely.

However, restrictions may be applied due to specific events such as infrastructure failure, extreme demand or a water quality event. **No water restrictions are forecast for 2018/19.**
## 5. Short term action plan

While no restrictions are forecast within the next 12 months, it is recognised that Western Water faces significant future challenges in supplying water to a rapidly growing region. Western Water’s Urban Water Strategy identified multiple actions that are needed to ensure water security across the region. Key actions are listed below, consisting of strategic actions (short, medium and long term) and investment in infrastructure.

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
<th>Theme</th>
<th>Timing</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participate in the government led policy projects related to water resources detailed in Water for Victoria</td>
<td>Collaborate and contribute to the review of the Central Region Sustainable Water Strategy, Long Term Water Resource Assessment, Water Market reforms and Water Grid Partnership that will be led by DELWP. Seek the renegotiation of entitlements to match demand where growth is occurring around Melbourne</td>
<td>Safe and resilient water supply</td>
<td>Short term</td>
<td>Engagement has commenced and will continue during the life of these projects</td>
</tr>
<tr>
<td>Expand water resource portfolio via water trading</td>
<td>Continue to explore water trading to increase available water supplies. This includes temporary trades and permanent trades that may be presented opportunistically or via planned augmentations. Develop water trading principles and processes.</td>
<td>Safe and resilient water supply</td>
<td>Ongoing</td>
<td>Active trading occurred during the year. Continued development of trading principles and strategy is occurring</td>
</tr>
<tr>
<td>Investigate access to water systems outside of Melbourne</td>
<td>Develop concepts, cost estimates and stakeholder liaison for accessing water through the Victorian Water Grid</td>
<td>Safe and resilient water supply</td>
<td>Medium term</td>
<td>Commence feasibility project to expand water grid connections to Western Water – due Sep 2019</td>
</tr>
<tr>
<td>Develop and implement water efficiency strategy</td>
<td>Implement water efficiency program to move towards a Target of 155 litres or less of potable water per person day to achieve the demand forecasts outlined in this Strategy.</td>
<td>Water use efficiency</td>
<td>Short term</td>
<td>Program has commenced. Western Water in collaboration with Melbourne water companies are investigating water use behaviour change</td>
</tr>
<tr>
<td>Collaborate with stakeholders to establish Integrated Water Management Plans</td>
<td>Complete the next phase of the Sunbury and Melton Integrated Water Management Plans in collaboration with key stakeholders and actively participate in the Integrated Water Management Forums to be delivered by the Department of Environment, Land, Water and Planning.</td>
<td>Optimise alternate water use</td>
<td>Short term</td>
<td>IWM Developers Guidelines released. IWM plans for new developments are being developed</td>
</tr>
<tr>
<td>Complete feasibility study on Western Irrigation Network</td>
<td>Assess the feasibility of the Western Irrigation Network and develop a Business Case by December 2018.</td>
<td>Optimise alternate water use</td>
<td>Short term</td>
<td>Business Case on track to be developed by December</td>
</tr>
<tr>
<td>Continue to engage with our customers, community and stakeholders</td>
<td>Continue stakeholder and community engagement during the detailed planning and implementation phases of the Urban Water Strategy, Integrated Water Management Planning and Pricing Submission. This includes engaging with Traditional Owners.</td>
<td>Engagement</td>
<td>Ongoing</td>
<td>Reconciliation Action Plan being developed</td>
</tr>
<tr>
<td>Deliver climate change adaptation initiatives to reduce greenhouse emissions</td>
<td>Western Water will lead climate change adaptation across our water system by delivering initiatives to work towards a long-term reduction of greenhouse gas emissions and zero net greenhouse gas emissions.</td>
<td>Safe and resilient water supply</td>
<td>Long term</td>
<td>First projects under the Green House Gas Strategy have commenced</td>
</tr>
</tbody>
</table>

**Table 8: Summary of key actions to address water supply security**
Appendix B - Water Restriction By-Law 11/11
Water Restriction By-Law 11/11

Issued by the Minister for Water, as Minister administering the *Water Act 1989*
CONTENTS

PREAMBLE .............................................................................................................................................. 2

1. AUTHORISING PROVISIONS ............................................................................................................ 2

2. PURPOSES ...................................................................................................................................... 2

3. DEFINITIONS AND INTERPRETATION ............................................................................................... 2
   3.1 Definitions ..................................................................................................................................... 2
   3.2 Interpretation ............................................................................................................................... 2

4. STAGES OF RESTRICTIONS ............................................................................................................... 2
   4.1 Stages of Restrictions .................................................................................................................... 2
   4.2 Imposing stages of restrictions ..................................................................................................... 2
   4.3 Application of restrictions ............................................................................................................. 2
   4.4 Declining to impose a stage of restrictions ................................................................................... 2

5. GENERAL EXEMPTIONS ................................................................................................................... 2
   5.1 Health and Safety Exclusion .......................................................................................................... 2
   5.2 General Exemptions ...................................................................................................................... 2

6. PARTICULAR EXEMPTIONS .............................................................................................................. 2
   6.1 Guidelines regarding Particular Exemptions ................................................................................. 2
   6.2 Applications for Particular Exemptions ......................................................................................... 2
   6.3 Approval of Particular Exemptions ............................................................................................... 2
   6.4 Particular Exemptions for Public Garden Areas ............................................................................ 2
   6.5 Particular Exemptions for Certain Playing Surfaces ...................................................................... 2
   6.6 Particular Exemptions for Warm Season Grasses ......................................................................... 2

7. WATER USE PLANS .......................................................................................................................... 2
   7.1 Guidelines Regarding Water Use Plans ......................................................................................... 2
   7.2 Applications for Water Use Plans ................................................................................................. 2
   7.3 Approval of Water Use Plans ........................................................................................................ 2
7.4 Failure to Comply with a Water Use Plan ................................................................. 2

8. LIFTING A STAGE OF RESTRICTION .............................................................................. 2
   8.1 Lifting a stage .............................................................................................................. 2
   8.2 Declining to lift a stage of restrictions ................................................................. 2

9. EMERGENCY MEASURES ................................................................................................. 2

10. OFFENCES AND PENALTIES ......................................................................................... 2
   10.1 Contravention of the By-law is an offence ......................................................... 2
   10.2 Penalties ..................................................................................................................... 2
   10.3 Infringement notices ................................................................................................. 2
   10.4 Penalties ..................................................................................................................... 2

11. ISSUING PENALTY INFRINGEMENT NOTICES ............................................................... 2

12. REPEAL ............................................................................................................................ 2

13. AUTHORISATION BY Western Water ........................................................................... 2

SCHEDULE 1 ..................................................................................................................... 2

   SCHEDULE OF WATER RESTRICTIONS ................................................................. 2
   PART A – DEFINITIONS ................................................................................................. 2
   PART B – SCHEDULE OF RESTRICTIONS ................................................................. 2
   PART C – INDEX ............................................................................................................. 2
WATER RESTRICTION BY-LAW

PREAMBLE

The community understands there may be a need to change water-use behaviours in times of drought or other water shortage. This Water Restriction By-law sets out four stages of restrictions and prohibitions on the use of water that can be mandated by Western Water when it is considered necessary to conserve water.

The restrictions in this By-law apply to water that is supplied by the main water supply works of Western Water, regardless of how that water is delivered. The restrictions also apply to any water that is a mix of this “mains” water and other water, for example, if a tank of rain water is topped up with mains water, the restrictions apply to the use of all of the mixed water in the tank. The restrictions do not apply in relation to recycled or reclaimed water, greywater or stormwater whether or not that water is supplied by the works of Western Water.

Water is an essential resource for maintaining life. The restrictions in this By-law therefore do not restrict the use of water for indoor purposes such as drinking, washing, cleaning or sanitation. Also, despite any restrictions in this By-law, water can be used at any time:

- for human health requirements;
- for watering of stock and animals;
- for fire fighting;
- for the safety, but not the cleaning, of vehicles and equipment; and
- for cleaning required as a result of an accident, fire, health hazard, safety hazard or other emergency (in accordance with the permitted methods).

Where a restriction relates to a specific use of water, that restriction applies regardless of whether the use is indoors or outdoors. For example, indoor pools and fountains and undercover nurseries are covered by the same restrictions as equivalent outdoor facilities. However, water cannot be used outdoors for any purpose except in accordance with the restrictions in this By-law or with the written permission of Western Water. This means that unless the restrictions in this By-law specify rules about the way in which water can be used outdoors for a particular purpose, then water cannot be used for that purpose.

Wherever possible, the restrictions in this By-law are designed to be simple, easy to understand and straightforward to follow. For example, outdoor watering is restricted to "alternate days", which means odd numbered properties can be watered on odd numbered dates and even numbered (or no numbered) properties can be watered on even numbered dates. Everyone gets to water on the 31st of any month and the 29th of February.

The restrictions in this By-law are also designed to build upon the common sense rules set out in the Permanent Water Saving Plan of Western Water, which encourage the efficient use of water on an ongoing basis. For example, wherever restrictions in this By-law allow for water to be used from a hand-held hose for any purpose, that hose must be leak-free and used with a trigger nozzle, consistent with the permanent water saving rules.
Contravention of this By-law is an offence under the Water Act 1989, and so penalties may apply.

Exemptions from the restrictions in this By-law may be granted in certain circumstances. This By-law sets out the principles that Western Water will take into account when considering applications for exemptions from particular restrictions.

This By-law also provides for water to be used in accordance with a Water Use Plan approved by Western Water, despite the restrictions under the prevailing stage of restrictions. Water Use Plans will only be approved where the use of a Plan is expressly permitted for the particular use of water under the relevant stage of restrictions, or where it is required as part of an application for an exemption.
Western Water makes the following By-law:

1. AUTHORISING PROVISIONS

   This By-law is made under sections 160, 171(1)(a), (ba), (bb), (bc), (e) and (j) and 287ZC of the Act.

2. PURPOSES

   The purposes of this By-law are to:

   (a) promote the efficient use and conservation of water; and

   (b) set out four stages of restrictions on the use of water; and

   (c) specify things which must not be done while each stage of restriction persists; and

   (d) specify principles for considering applications for exemptions from particular restrictions; and

   (e) prescribe offences and penalties for the contravention of this By-law, including for which an infringement notice may be served; and

   (f) prescribe classes of persons for the purpose of issuing infringement notices.

3. DEFINITIONS AND INTERPRETATION

   3.1 Definitions

   The definitions set out in Part A of Schedule 1, apply in this By-law, unless the contrary intention appears.

   3.2 Interpretation

   (a) A reference to:

      (i) legislation (including subordinate legislation) is to that legislation as amended, re-enacted or replaced, and includes any subordinate legislation issued under it;

      (ii) a document or agreement, or provision of a document or agreement, is to that document, agreement or provision as amended, supplemented, replaced or novated;

      (iii) a party to any document or agreement includes a permitted substitute or permitted assign of that party;

      (iv) a person includes any type of entity or body of persons, whether or not it is incorporated or has a separate legal identity and any executor, administrator or successor in law of the person; and

      (v) anything (including a right, obligation or concept) includes each part of it.
(b) A singular word includes the plural and vice versa.

(c) If a word is defined, another part of speech has a corresponding meaning.

(d) If an example is given of anything (including a right, obligation or concept) such as by saying it includes something else, the example does not limit the scope of that thing.

(e) An interpretation that would promote the efficient use of water must be preferred to an interpretation that would not promote such use.

4. STAGES OF RESTRICTIONS

4.1 Stages of Restrictions

Western Water may impose:

Stage 1 Restrictions (Alert); or
Stage 2 Restrictions (Save); or
Stage 3 Restrictions (Just Enough); or
Stage 4 Restrictions (Critical),

as the case requires, in any district, by publishing a notice to that effect in a newspaper circulating generally in the relevant district and on the website of Western Water.

4.2 Imposing stages of restrictions

Western Water may impose a stage of restriction in a district:

(a) in accordance with the process specified in its drought response plan; or

(b) if it reasonably concludes that:

(i) because of the failure or limitation of a major pipeline, pumping station, treatment plant or other key water supply work, Western Water will temporarily be unable to meet the demands of its customers; or

(ii) because of a major water quality issue arising from the failure of a key water supply work referred to in sub-paragraph (i), or from a bushfire or other emergency, Western Water will temporarily be unable to meet the demands of its customers; or

(iii) the prevailing stage of restriction has failed to provide the reductions in demand required by Western Water for that stage, in accordance with its drought response plan.

4.3 Application of restrictions

When a stage of restriction is imposed in a district under sub-clause 4.2, the relevant restrictions on water use designated for that stage in Schedule 1 apply in that district.
4.4 **Declining to impose a stage of restrictions**

Without limiting sub-clause 4.2, *Western Water* may decline to impose a stage of restriction in a district if it reasonably concludes that the circumstances indicating the need for that stage are likely to be so temporary that the public inconvenience caused by imposing that stage of restriction would outweigh the water conservation benefits to be gained from imposing that stage.

5. **GENERAL EXEMPTIONS**

5.1 **Health and Safety Exclusion**

Despite any provision of this By-law, including the restrictions set out in Schedule 1, Water can be used at any time for:

(a) human health requirements;
(b) stock and animal health requirements;
(c) fire fighting; and
(d) the safety, but not the cleaning, of vehicles or equipment.

5.2 **General Exemptions**

(a) *Western Water* may, in relation to a specified district or districts:

(i) prepare, adopt and publish; and

(ii) amend or revoke at any time,

general exemptions which specify generally applicable exemptions (from a particular use or for particular users of Water) from any restrictions in Schedule 1.

(b) In deciding whether or not to grant a general exemption under this sub-clause, *Western Water* will have regard to:

(i) the security of available Water supplies in the district; and

(ii) recent climate patterns and prevailing seasonal forecasts; and

(iii) any anticipated change in demand attributable to the prevailing stage of restriction; and

(iv) any other relevant matter which *Western Water* thinks fit to have regard to.

(c) Without limiting paragraph 5.2(a), the general exemptions may set out:

(i) permissible uses of Water which are exempted from a restriction set out in Schedule 1, without an application being made under clause 6; and

(ii) the conditions upon which any such exemption is granted.
(d) Exemptions adopted under paragraph (a) must be published on Western Water’s website and notice of any adoption, amendment or revocation of exemptions must be published in a newspaper circulating generally in the relevant district and on the website of Western Water.

(e) An exemption, or an amendment to an exemption under this clause will apply from the date on which a notice of the exemption is published in a newspaper circulating generally in the relevant district and will cease to apply in accordance with the terms of the exemption or when notice of the revocation is published in a newspaper circulating generally in the relevant district.

(f) Western Water may prepare and publish general exemptions in co-operation with other water corporations.

6. PARTICULAR EXEMPTIONS

6.1 Guidelines regarding Particular Exemptions

(a) Western Water may:

(i) prepare, adopt and publish; and
(ii) amend or revoke at any time,
guidelines about applying for exemptions under this clause.

(b) Guidelines adopted under paragraph (a) must be published on Western Water’s website and notice of any adoption, amendment or revocation of guidelines must be published in a newspaper circulating generally in each district and on the website of Western Water.

6.2 Applications for Particular Exemptions

(a) A person may apply to Western Water for an exemption from a stage of restriction which has been, or which may in future be, imposed under clause 4.

(b) An application for exemption must be in a form approved by Western Water.

(c) Western Water:

(i) must consider an application for exemption within a reasonable period; and
(ii) must have regard to any adopted guidelines referred to in sub-clause 6.1; and
(iii) subject to this clause:

(A) may grant the application in full or in part and subject to such conditions as Western Water considers appropriate; or

(B) may refuse the application.

(d) Western Water may revoke any exemption at any time, by giving written notice to the applicant.

(e) An exemption ends at any time specified in the exemption, or when:
(i) the stage of restriction to which the exemption relates is lifted; or
(ii) a more severe stage of restriction is imposed.

6.3 Approval of Particular Exemptions

Subject to this clause, Western Water must not grant an application for exemption in relation to a particular stage of restriction, unless Western Water is reasonably satisfied that the proposed exemption:

(a) is necessary to avoid an inequitable and disproportionately adverse impact upon the livelihood of the applicant which would be caused by the level of restriction; OR

(b) would result in less Water being used by the applicant than the lesser amount of the Water that the applicant would otherwise:

(i) have been allowed by Western Water to use; or

(ii) based on prior consumption, is likely to have used for the same purpose under that stage of restriction; OR

(c) is necessary because of the special needs of the applicant; OR

(d) would avoid or minimise appreciable physical damage to a building or other structure owned or occupied by the applicant during that stage of restriction; OR

(e) is necessary to avoid any adverse effect on public health or safety;

AND

(f) would not, in combination with the use of Water in accordance with other exemptions granted or reasonably anticipated by Western Water to be granted for similar uses of Water, have a significant impact on the total daily demand for Water by Western Water’s customers or the security of available Water supplies in the district where the use will occur;

AND

(g) would, in the opinion of Western Water, be generally supported by other Western Water customers who are affected by that stage of restriction.

6.4 Particular Exemptions for Public Garden Areas

Despite sub-clause 6.3, Western Water may grant an application for exemption to Water a public garden area during a period of stage 4 restrictions if:

(a) the application is accompanied by an approved Water Use Plan for the public garden area; and

(b) Western Water is reasonably satisfied that, if the garden is Watered in accordance with the Water Use Plan, the exemption would not, in combination with the use of Water in accordance with other exemptions granted, or reasonably anticipated by Western Water to be granted, under this clause, have a significant impact on the total daily demand for
Water by Western Water’s customers or the security of available Water supplies in the district where the use will occur.

6.5 Particular Exemptions for Certain Playing Surfaces

(a) Despite sub-clause 6.3, Western Water may grant an application for exemption to Water any playing surface during a period of any stage of restriction if:

(i) the application is accompanied by an approved Water Use Plan; and

(ii) the application relates to a playing surface which is to be used for an inter-State, national or international professional sporting competition, or in support of such a competition; and

(iii) the exemption is granted for a finite period, which includes the dates during which the competition is to be held, determined after consulting the applicant; and

(iv) Western Water is reasonably satisfied that, if the playing surface is Watered in accordance with the Water Use Plan during the relevant stage of restrictions, the exemption would not, in combination with the use of Water in accordance with other exemptions granted, or reasonably anticipated by Western Water to be granted, under this clause, have a significant impact on the total daily demand for Water by Western Water’s customers or the security of available Water supplies in the district where the use will occur.

(b) Despite sub-clause 6.3 and paragraph 6.5(a), Western Water may grant an application for exemption to Water a particular playing surface during a period of stage 4 restrictions if:

(i) the application is accompanied by an approved Water Use Plan for the particular playing surface that has been prepared for the purpose of stage 4 restrictions; and

(ii) Western Water is reasonably satisfied that, if the playing surface is Watered in accordance with the Water Use Plan during the relevant stage of restrictions, the exemption would not, in combination with the use of Water in accordance with other exemptions granted, or reasonably anticipated by Western Water to be granted, under this clause, have a significant impact on the total daily demand for Water by Western Water’s customers or the security of available Water supplies in the district where the use will occur.

6.6 Particular Exemptions for Warm Season Grasses

Despite paragraph 6.2(c) and sub-clause 6.3:

(a) if a person makes an application to Western Water for an exemption to establish a warm season grass area at a specified property during a period of stage 1 or 2 restrictions; and

(b) an exemption under this sub-clause for the property to which the application relates has not been made in the past 12 months,

the person will, unless and until notified otherwise, be deemed to have been granted the exemption from the date the application is posted or sent by electronic mail to the correct address of Western Water, subject to the following conditions:
9. the exemption allows Watering solely for the establishment of warm season grass; and
(d) the exemption expires 28 days after the exemption is deemed to have been granted.

7. WATER USE PLANS

7.1 Guidelines Regarding Water Use Plans

(a) Western Water may:
   (i) prepare, adopt and publish; and
   (ii) amend or revoke at any time,
   guidelines about approval of Water Use Plans under this clause.

(b) Guidelines adopted under paragraph (a) must be published on Western Water’s website and notice of any adoption, amendment or revocation of guidelines must be published in a newspaper circulating generally in each district and on the website of Western Water.

7.2 Applications for Water Use Plans

(a) A person may make an application under this clause where:
   (i) a restriction on the use of Water contained in Schedule 1 permits Water use in accordance with an approved Water Use Plan; or
   (ii) where an application for an exemption under clause 6 must be accompanied by an approved Water Use Plan.

(b) An application for approval of a Water Use Plan must be in a form approved by Western Water.

(c) Western Water:
   (i) must consider an application for approval of a Water Use Plan within a reasonable period;
   (ii) must have regard to any adopted guidelines referred to in sub-clause 7.1; and
   (iii) subject to this clause:
      (A) may grant the application for approval, subject to such conditions as Western Water considers appropriate; or
      (B) refuse the application for approval.

7.3 Approval of Water Use Plans

Western Water must not approve a Water Use Plan unless:
(a) the Water Use Plan sets out:

(i) the person(s) and property (where applicable) to which the Water Use Plan applies;

(ii) the use(s) to which the Water Use Plan applies;

(iii) the stage(s) of restrictions during which the Water Use Plan applies; and

(iv) when the Water Use Plan expires or ceases to apply; and

(b) in the case of an application under clause 7.2(a)(i), Western Water is reasonably satisfied that the use of Water in accordance with the Water Use Plan:

(i) would result in Water savings commensurable to the Water savings that would result from Water use in accordance with the restrictions (other than a Water Use Plan) for that use of Water under the prevailing stage of restrictions; OR

(ii) would not, in combination with the use of Water in accordance with Water Use Plans approved or reasonably anticipated by Western Water to be approved for similar uses of Water, have a significant impact on the total daily demand for Water by Western Water’s customers or the security of available Water supplies in the district where the use will occur; OR

(iii) would, in the opinion of Western Water, be generally supported by other Western Water customers who are affected by the relevant stage of restriction; OR

(iv) would, in the opinion of Western Water, be considered to demonstrate a best practice or highly efficient use of Water for that purpose; OR

(v) would provide a broader public benefit.

7.4 Failure to Comply with a Water Use Plan

For the avoidance of doubt, if an approved Water Use Plan is in place in relation to a use of Water, but the use of Water is not carried out in accordance with the approved Water Use Plan that use of Water is subject to the restrictions for that use contained in Schedule 1.

8. LIFTING A STAGE OF RESTRICTION

8.1 Lifting a stage

Subject to sub-clause 8.2, Western Water may:

(a) lift a prevailing stage of restriction and substitute a lesser stage of restriction; or

(b) lift a prevailing stage of restriction,

whenever Western Water reasonably concludes, in accordance with the considerations specified in its drought response plan, that the relevant circumstances which led Western Water to impose the prevailing stage of restriction in a district no longer exist, or are about to change, by publishing a notice to that effect in a newspaper circulating generally in the relevant district and on the website of Western Water.
8.2 **Declining to lift a stage of restrictions**

Despite sub-clause 8.1, *Western Water* may decline to lift a prevailing stage of restriction if it reasonably concludes that either:

(a) continuing that stage of restriction is necessary or desirable to increase or conserve available Water supplies; or

(b) the change in circumstances which would otherwise justify *Western Water* in lifting the stage of restriction is likely to be so temporary that the public inconvenience caused by lifting and subsequently re-imposing a stage of restriction would outweigh the benefits to *Western Water*’s customers of temporarily lifting the prevailing stage of restriction.

9. **EMERGENCY MEASURES**

If it is considered by *Western Water* that stage 4 restrictions are insufficient to reduce consumption to a level adequate to meet future demands at that level of restriction, *Western Water* may declare emergency measures to further restrict water consumption in the specified area.

10. **OFFENCES AND PENALTIES**

10.1 **Contravention of the By-law is an offence**

A person who receives a supply of Water from *Western Water* must not contravene any restriction or prohibition on the use of that Water imposed by or under this By-law.

10.2 **Penalties**

The penalty for any offence referred to in sub-clause 10.1 during a stage of restriction set out in a column of the Table is:

(a) for a first offence, the relevant number of penalty units or the period of imprisonment set out in that column for a first offence;

(b) for a subsequent offence, the relevant number of penalty units or the period of imprisonment set out in that column for a subsequent offence; and

(c) for a continuing offence, an additional penalty of 5 penalty units for each day on which the offence continues (up to a maximum of 20 additional penalty units):

(i) after service of a notice of contravention on the person, under section 151 of the Act; or

(ii) if no notice of contravention is served, after conviction of the person for the offence.

<table>
<thead>
<tr>
<th></th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First offence</strong></td>
<td>15</td>
<td>20</td>
<td>30</td>
<td>40 or 3 months' imprisonment</td>
</tr>
</tbody>
</table>
10.3 **Infringement notices**

An infringement notice may be served on any person who receives a supply of Water from Western Water and contravenes any restriction or prohibition on the use of that water imposed by or under this By-law (other than an offence against an emergency measure imposed under sub-clause 9.1).

10.4 **Penalties**

The infringement penalty for any offence referred to in sub-clause 10.3 during a stage of restriction set out in Column 1 of the Table is the relevant penalty set out in Column 2 in respect of that Stage of restriction.

<table>
<thead>
<tr>
<th>COLUMN 1</th>
<th>COLUMN 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE OF RESTRICTION</td>
<td>PENALTY UNITS</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
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<tr>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Notes:

1. *In this By-law “penalty unit” has the same meaning as in section 110 of the Sentencing Act 1991. The value of a penalty increases each year under the Monetary Units Act 2004. The current value of each penalty for contravening a restriction or prohibition is set out on Western Water’s website - [www.westernwater.com.au](http://www.westernwater.com.au)*

2. *The Act also makes it an offence to waste, misuse or excessively consume water and imposes substantial penalties which include one or more of fines, imprisonment and daily penalties.*

3. *Western Water has further power to reduce, restrict or discontinue the supply of water to a person who contravenes the Act, regulations or a by-law in relation to misuse or taking of water. Western Water can also disconnect the supply of water to a property in relation to which a notice of contravention has been issued and not complied with.*

11. **ISSUING PENALTY INFRINGEMENT NOTICES**

An authorised water officer appointed under section 291A of the Act by Western Water may serve an infringement notice on another person in respect of an offence against sub-clause 10.3 if the authorised water officer reasonably believes that the person has committed the offence.

12. **REPEAL**

Western Water By Law 08/01 is repealed.
13. **AUTHORISATION BY Western Water**

This By-law is made by Western Water on 5 December 2011.

The Common Seal of
Western Region Water Corporation
was hereto affixed
in the presence of:

______________________________ Chairman

______________________________ Director

______________________________ Managing Director
SCHEDULE 1

SCHEDULE OF WATER RESTRICTIONS

PART A – DEFINITIONS


"alternate day" means:

(a) in the case of a property with an odd street number, each odd-numbered day of any month;
(b) in the case of a property:
   (i) with an even street number; or
   (ii) without a street number,

   each even-numbered day of any month; and
(c) in the case of any property, the 31st day of any month or the 29th day of February.

"animal husbandry" includes keeping, raising or breeding any animals or birds either:

(a) for commercial purposes; or
(b) on such a scale, or in such a manner, as could reasonably be considered to be comparable to a commercial undertaking.

"approved Water Use Plan" means a Water Use Plan approved by Western Water

"Automatic Water Top Up Device" means any automatic top up device with appropriate backflow protection that maintains a water level at the minimum level required for the safe and efficient operation of, and to maintain the integrity of, the equipment which the device is servicing.

"building façade or window" means any external surface of, or attached to, a building, including any roof, wall, window or blind of that building.

"commercial car wash" means any commercial facility for washing vehicles.

"commercial market garden" means an area (indoors or outdoors) used wholly or primarily to propagate, cultivate or harvest fruit, vegetables, vines or other edible plants for sale (retail or wholesale) or distribution for profit.

"commercial or Council plant nursery" means an area (indoors or outdoors) used wholly or primarily to propagate, cultivate or harvest plants (including seed stock, turf and flowers):

(a) for sale (retail or wholesale) or distribution for profit; or
(b) for any Council use.

"construction or renovation" means construction or renovation works on any building or structure including:
(a) erecting, altering (including painting or other protection works), repairing, demolishing or removing any building or structure;

(b) civil engineering;

(c) any preparatory works for the purposes of construction or renovation; and

(d) any directly associated on-site or off-site activity.

"Council" means a council under the Local Government Act 1989.

"dam or tank" does not include any pond or lake.

"district" means one of the following districts serviced by Western Water or part of any such district as specified by Western Water:

- Bacchus Marsh Water District
- Gisborne Water District
- Lancefield Water District
- Macedon Water District
- Melton Water District
- Myrniong Water District
- Riddells Creek Water District
- Romsey Water District
- Sunbury Water District
- Woodend Water District

"dripper watering system" means:

(a) a watering system (automatic or manual) which drips water on the root zone of plants, by drippers at a fixed rate of flow, not exceeding 9 litres per hour for every linear metre of the watering system; or

(b) a “non-dripper” watering system (automatic or manual) which to the satisfaction of Western Water is of equal efficiency to or greater efficiency than a dripper water system described in paragraph (a).

"drought response plan" means a plan developed by Western Water for the purpose of responding to drought or other water shortage, as required under its Statement of Obligation issued under section 4I of the Water Industry Act 1994.

"edible plants" includes plants that can eaten, imbibed or used to flavour food or drinks.

"existing " means in existence at the time when the prevailing stage of restriction was declared.

"fill" means adding water to the current volume, if the relevant receptacle is less than 75% full.

"fountain or water feature" means any (indoor or outdoor) ornamental fountain or water feature of any capacity that projects, circulates or moves water, or otherwise causes water to flow, for an aesthetic or decorative purpose.
"garden area" means any land upon which vegetation of any kind, including trees, other than lawn, grows or is cultivated, for other than commercial purposes. (See "Lawn area").

"general playing surface" means any playing surface that is not a particular playing surface.

"general or particular playing surface" means a general playing surface or a particular playing surface.

"greywater" means waste water from bath tubs, showers, laundry troughs and clothes washing machines, but excludes water from kitchens, dishwashing machines and toilets.

"hand-held hose" means a leak free hose that is held by hand, when it is used, which:

(a) in the case of commercial and construction activities, has an internal diameter of no more than 50mm; or

(b) in the case of any other activities, has an internal diameter of no more than 25mm,

and which is fitted and used with a trigger nozzle.

"hard surface" includes any courtyard, decking, footpath, driveway or other external area, with a concrete, asphalt, brick, tile, bitumen, timber or similar impervious surface.

"high pressure water cleaning device" means a machine which has a pump to increase the pressure of water delivered from a trigger nozzle, at a rate of no greater than 9 litres per minute, forming part of the device, but does not include a hand-held hose.

"hose-connected water toy" means any toy that is operated by running water, supplied through a hose.

"lawn area" means any land, grassed or sown with grass seed but excludes any playing surface. See "garden area".

"mobile spa" means any spa that is capable of being moved for use in different locations.

"mobile water tanker permit" means a valid permit issued by Western Water for the filling or topping up of a water tanker with Water from hydrants and fireplugs in accordance with the conditions of the permit.

"motor vehicle dealer, repairer or detailer" means a commercial operator that either sells, trades or repairs motor vehicles and/or is required to clean motor vehicles as part of its operation but excludes a commercial car wash.

"new" means not existing (as defined).

"Other Use" means any use or purpose for which water may be used outside a building, which is not a use or purpose expressly referred to in this document.

"particular playing surface" means:

(a) a turf wicket for competition cricket;

(b) a turf practice wicket for cricket but only if an alternative practice wicket that does not require watering (such as a synthetic wicket) is not available;

(c) a lawn or other type of running track (whether for use by humans or animals);
(d) a lawn, en tous cas, or other type of tennis court other than a concrete, bitumen or asphalt tennis court;

(e) a baseball or softball diamond, including the infield and any en tout cas running area;

(f) a hockey or lacrosse pitch;

(g) a green for lawn bowls or croquet or similar sport; or

(h) the penalty areas of a soccer pitch; or

(i) a golfing tee or green (but not fairways or approaches),

at a sporting or recreational facility that is:

   (i) for public, commercial or general community use; or

   (ii) associated with a university, school or other educational institution, and

   (j) a soft-fall area at a child-care facility or public playground,

but does not include any part of a sporting or recreational facility associated with a private club or similar private organisation.

"permanent water saving rule" means a restriction or prohibition on the use of Water contained in Western Water's Permanent Water Saving Plan (available at www.westernwater.com.au) or from Western Water.

"playing surface" means any outdoor area used or capable of being used for any organised sport or recreation.

"pond or lake" includes any collection of water (indoors or outdoors) for ornamental or urban drainage retention purposes, but does not include a fountain or water feature or a tank that is used to house fish or other aquatic life.

"public authority" means any body:

   a) constituted by or under an Act; or

   b) exercising powers under an Act,

for a public purpose and includes a Council.

"public garden area" means any:

   (a) garden area at any park, reserve or other outdoor area, used or available for public recreation or amenity;

   (b) garden area at any cemetery, crematorium, central road area or roundabout under the management or control of a public authority; or

   (c) trees located in a nature strip,

but does not include any:
(d) residential or commercial garden area; or
(e) playing surface; or
(f) nature strip.

"public lawn area" means any lawn area:

(a) at any park, reserve or other outdoor area, used or available for public recreation or amenity; or
(b) at any cemetery, crematorium, central road area or roundabout under the management or control of a public authority,

but does not include:

(c) any residential or commercial lawn area;
(d) any playing surface; or
(e) any nature strip.

"public garden or lawn area" means any public garden area or any public lawn area.

"public pool or spa" means a swimming pool or spa (indoors or outdoors):

(a) for public use, which is operated by, or on behalf of, a public authority;
(b) for limited public use, which is operated by, or on behalf of, a school or educational facility; or
(c) for limited public use for the purposes of physical rehabilitation, which may be operated by, or on behalf of, a public authority or a private enterprise.

"reclaimed water" means water supplied by Western Water that is neither potable water nor recycled water, but is recovered from sources such as stormwater.

"recycled water" means treated sewage or trade waste, supplied by Western Water.

"residential or commercial garden area" means any garden area associated with any residential, commercial or industrial premises and includes any garden area associated with any:

(a) dwelling;
(b) commercial or industrial building;
(c) hospital or nursing home;
(d) sporting club;
(e) religious facility; or
(f) day-care centre, kindergarten, school, university or other educational facility or research institute,
and also includes any garden area on an adjacent nature strip in a road adjoining the premises, but does not include:

(g) any commercial market garden; or

(h) any commercial or Council plant nursery.

"residential or commercial garden or lawn area" means any residential or commercial garden area or any residential or commercial lawn area.

"residential or commercial lawn area" means any lawn area associated with any residential, commercial or industrial premises and includes any lawn area associated with any:

(a) dwelling;

(b) commercial or industrial building;

(c) hospital or nursing home;

(d) sporting club;

(e) religious facility; or

(f) day-care centre, kindergarten, school, university or other educational facility or research institute,

and also includes any lawn area on an adjacent nature strip in a road adjoining the premises, but does not include any lawn area associated with:

(g) any commercial market garden; or

(h) any commercial or Council plant nursery.

"residential or commercial pool or spa" means a swimming pool or spa (indoors or outdoors), operated for private use or commercial purposes, or in conjunction with any commercial premises (including any hotel), other than a public pool or spa.

"restriction" includes prohibition.

"season" means summer, autumn, winter or spring.

"stock and animal health requirements" means the provision of a reasonable quantity of water for drinking by, or cleaning of, domestic or commercial stock or animals, to maintain their health and wellbeing.

"stormwater" means water sourced from the stormwater drainage network of Western Water or any other water corporation or a Council.

"top up" means adding any water to the current volume, if the relevant receptacle is at least 75% full.

"trigger nozzle" means a nozzle controlled by:

(a) a trigger which must be depressed continuously, or locked in the "on" position, by hand for water to flow; or
(b) a discreet switch which can be turned on and off by hand, with a single movement.

"vehicle" includes a car, van, truck, boat, tram or train, aircraft and any other vehicle whatsoever, however it is propelled or moved.

"vehicle for mass transportation" means a bus, tram, train, aircraft, ferry or other vehicle however it is propelled or moved, that transports people en masse, but does not include:

(a) taxis (whether cars or vans);
(b) cars;
(c) buses or vans used for private purposes.

"warm season grass" means Buffalo, Couch or Kikuyu grass varieties that are appropriate for use in a lawn area.

"Water" means:

(a) water supplied by the works of Western Water or any other water corporation (including reticulated systems, stand pipes, hydrants, fireplugs and aqueducts) whether or not that water is delivered directly to the location of its use via those works or is delivered by alternative means including a water tanker; and

(b) a mix of:

(i) the water described in paragraph (a); and

(ii) any other water, including the water described in paragraphs (c)-(f),

but does not include:

(c) recycled or reclaimed water;
(d) greywater;
(e) stormwater; or
(f) rainwater collected by an occupier of land in a rainwater tank from the roof of a building on that land, provided that rainwater within in the tank is not supplemented in any way by Water (defined in paragraphs (a) and (b) above).

"water corporation" means a water corporation as defined in the Act or a licensee as defined in the Water Industry Act 1994.

"Water Use Plan" means a document, in writing or by plans, prepared to the satisfaction of Western Water which governs the use of Water for specified purposes, and for the specified stage of restrictions.

"watering system" means a watering system that is:

(a) an automatic watering system that is set to turn on and off automatically, at pre-determined times, without human intervention and, in the case of use for a public lawn or garden or playing surface, is also fitted with a rain or soil moisture sensor;
(b) an automatic watering system, operated manually, rather than automatically; or
(c) a manual watering system.

"water tanker" means any vehicle, including a trailer, configured to transport a volume of water at least one cubic metre or greater.

"Western Water" means Western Region Water Corporation.
## PART B – SCHEDULE OF RESTRICTIONS

<table>
<thead>
<tr>
<th>Stage 1 (Alert)</th>
<th>Stage 2 (Save)</th>
<th>Stage 3 (Just Enough)</th>
<th>Stage 4 (Critical)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Watering Gardens, Lawns and Playing Surfaces</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) A:</td>
<td>(a) A:</td>
<td>(a) A:</td>
<td>(a) A:</td>
</tr>
<tr>
<td>• residential or commercial garden or lawn area; or</td>
<td>• residential or commercial lawn area; or</td>
<td>• residential or commercial lawn area; or</td>
<td>• residential or commercial garden or lawn area; or</td>
</tr>
<tr>
<td>• public garden or lawn area; or</td>
<td>• public lawn area; or</td>
<td>• public lawn area; or</td>
<td>• public garden or lawn area; or</td>
</tr>
<tr>
<td>• general or particular playing surface, cannot be Watered except as required and then only:</td>
<td>• general playing surface, cannot be Watered at any time.</td>
<td>• general playing surface, cannot be Watered at any time.</td>
<td>• general or particular playing surface, cannot be Watered at any time.</td>
</tr>
<tr>
<td>• with a hand-held hose, bucket or watering can at any time; or</td>
<td></td>
<td></td>
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<tr>
<td>• by means of a watering system but only on alternate days between the hours of 6am and 10am and 6pm and 10pm.</td>
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</tr>
<tr>
<td>(b) Not used.</td>
<td>(b) A:</td>
<td>(b) A:</td>
<td>(b) A:</td>
</tr>
<tr>
<td></td>
<td>• residential or commercial garden area; or</td>
<td>• residential or commercial garden area; or</td>
<td>• residential or commercial garden area; or</td>
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<td></td>
<td>• public garden area; or</td>
<td>• public garden area; or</td>
<td>• public garden area; or</td>
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<tr>
<td></td>
<td>• a particular playing surface, cannot be Watered except as required and then only:</td>
<td>• a particular playing surface, cannot be Watered except as required and then only:</td>
<td>• a particular playing surface, cannot be Watered except as required and then only:</td>
</tr>
<tr>
<td></td>
<td>• with a hand-held hose, bucket or watering can any time; or</td>
<td>• with a hand-held hose, bucket or watering can any time; or</td>
<td>• with a hand-held hose, bucket or watering can any time; or</td>
</tr>
<tr>
<td></td>
<td>• using a watering system but only on alternate days between the hours of 6am and 8am and 6pm and 8pm.</td>
<td>• using a watering system but only on alternate days between the hours of 6am and 8am and 6pm and 8pm.</td>
<td>• using a drip irrigation system.</td>
</tr>
<tr>
<td>(c) Notwithstanding paragraph (a):</td>
<td>(c) Notwithstanding paragraphs (a) and (b):</td>
<td>(c) Notwithstanding paragraphs (a) and (b):</td>
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<tr>
<td>• a public garden or lawn area; or</td>
<td>• a public garden or lawn area; or</td>
<td>• a public garden or lawn area; or</td>
<td></td>
</tr>
<tr>
<td>• a general or particular playing surface, can be Watered as required but only in accordance with an approved Water Use Plan.</td>
<td>• a general or particular playing surface, can be Watered as required but only in accordance with an approved Water Use Plan.</td>
<td>• a general or particular playing surface, can be Watered as required but only in accordance with an approved Water Use Plan.</td>
<td></td>
</tr>
</tbody>
</table>

| 2. Using Water for Aesthetic Purposes | | | |
| (a) Water cannot be used to fill or top up a fountain or water feature unless the fountain or water feature recirculates the Water and then only by means of: | (a) Water cannot be used to fill or top up a fountain or water feature at any time. | (a) Water cannot be used to fill or top up a fountain or water feature at any time. | (a) Water cannot be used to fill or top up a fountain or water feature at any time. |
| • a hand-held hose, bucket or watering can; or | | | |
| • an Automatic Water Top Up Device. | | | |

(a) Water cannot be used to fill or top up a fountain or water feature at any time.
<table>
<thead>
<tr>
<th>Stage 1 (Alert)</th>
<th>Stage 2 (Save)</th>
<th>Stage 3 (Just Enough)</th>
<th>Stage 4 (Critical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Water cannot be used to fill or top up a new or existing pond or lake with a capacity of 2,000 litres or less except by means of a hand-held hose, watering can or bucket.</td>
<td>(b) Water cannot be used to fill or top up a new pond or lake, regardless of capacity, at any time.</td>
<td>(b) Water cannot be used to fill or top up a new pond or lake, regardless of capacity, at any time.</td>
<td>(b) Water cannot be used to fill or top up a new pond or lake, regardless of capacity, at any time.</td>
</tr>
<tr>
<td>(c) Water cannot be used to fill or top up a new or existing pond or lake with a capacity of greater than 2,000 litres except in accordance with an approved Water Use Plan.</td>
<td>(c) Water cannot be used to fill or top up an existing pond or lake, regardless of capacity, unless the relevant pond or lake sustains aquatic fauna or bird life, and then only in accordance with an approved Water Use Plan.</td>
<td>(c) Water cannot be used to fill or top up an existing pond or lake, regardless of capacity, unless the relevant pond or lake sustains aquatic fauna or bird life, and then only in accordance with an approved Water Use Plan.</td>
<td>(c) Water cannot be used to fill or top up an existing pond or lake, regardless of capacity, unless the relevant pond or lake sustains aquatic fauna or bird life, and then only in accordance with an approved Water Use Plan.</td>
</tr>
</tbody>
</table>

3. Using Water in Swimming Pools and Toys

(a) Water cannot be used to fill a new or existing:
- residential or commercial pool or spa; or
- public pool or spa, with a capacity of **2,000 litres or less**, except by means of:
  - a hand-held hose, bucket or watering can; or
  - an Automatic Water Top Up Device.

(b) Water cannot be used to fill a new or existing:
- residential or commercial pool or spa; or
- public pool or spa, with a capacity of **greater than 2,000 litres**, except in accordance with an approved Water Use Plan.

(c) Water cannot be used to top up a new or existing:
- residential or commercial pool or spa; or
- public pool or spa, of any capacity, except by means of:
  - a hand-held hose, bucket or watering can; or
  - an Automatic Water Top Up Device.

(a) Water cannot be used to fill a new or existing residential or commercial pool or spa of any capacity.

(b) Water cannot be used to fill a new or existing residential or commercial pool or spa; or
- public pool or spa, of any capacity, except in accordance with an approved Water Use Plan.

(c) Water cannot be used to top up:
- an existing residential or commercial pool or spa; or
- a new or existing public pool or spa, of any capacity, except:
  - between the hours of 6am and 8am and 6pm and 8pm on alternate days by means of a hand-held hose, bucket or watering can; or
  - by use of an Automatic Water Top Up Device at any time; or
  - in accordance with an approved Water Use Plan.
<table>
<thead>
<tr>
<th>Stage 1 (Alert)</th>
<th>Stage 2 (Save)</th>
<th>Stage 3 (Just Enough)</th>
<th>Stage 4 (Critical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(d) Water cannot be used to fill or top up a mobile spa except in accordance with an approved Water Use Plan that is obtained by the owner of the mobile spa.</td>
<td>(d) Water cannot be used to fill or top up a mobile spa except in accordance with an approved Water Use Plan that is obtained by the owner of the mobile spa.</td>
<td>(d) Water cannot be used to fill or top up a mobile spa at any time.</td>
<td>(d) Water cannot be used to fill or top up a mobile spa at any time.</td>
</tr>
<tr>
<td>(e) Water cannot be used in or for the use of a hose-connected water toy at any time.</td>
<td>(e) Water cannot be used in or for the use of a hose-connected water toy at any time.</td>
<td>(e) Water cannot be used in or for the use of a hose-connected water toy at any time.</td>
<td>(e) Water cannot be used in or for the use of a hose-connected water toy at any time.</td>
</tr>
</tbody>
</table>

4. Storing or Transporting Water

<table>
<thead>
<tr>
<th>(a) Water cannot be used to fill or top up a dam or tank except:</th>
<th>(a) Water cannot be used to fill or top up a dam or tank except:</th>
<th>(a) Water cannot be used to fill or top up a dam or tank except:</th>
<th>(a) Water cannot be used to fill or top up a dam or tank except:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- where the Water in the dam or tank is to be used:</td>
<td>- where the Water in the dam or tank is to be used:</td>
<td>- where the Water in the dam or tank is to be used:</td>
<td>- where the Water in the dam or tank is to be used:</td>
</tr>
<tr>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
</tr>
<tr>
<td>- for domestic purposes inside a dwelling; or</td>
<td>- for domestic purposes inside a dwelling; or</td>
<td>- for domestic purposes inside a dwelling; or</td>
<td>- for domestic purposes inside a dwelling; or</td>
</tr>
<tr>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 1 restrictions; or</td>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 2 restrictions; or</td>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 3 restrictions; or</td>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 4 restrictions; or</td>
</tr>
<tr>
<td>- in accordance with an approved Water Use Plan.</td>
<td>- in accordance with an approved Water Use Plan.</td>
<td>- in accordance with an approved Water Use Plan.</td>
<td>- in accordance with an approved Water Use Plan.</td>
</tr>
</tbody>
</table>

(b) Water cannot be used to fill or top up a water tanker unless:

- Western Water has granted a mobile water tanker permit to the operator of that tanker; and
- the tanker is supplying the Water to be used for:
  - for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or
  - for domestic purposes inside a dwelling; or
  - for any other use of Water permitted by means of a hand-held hose under stage 1 restrictions.

5. Cleaning Vehicles with

<table>
<thead>
<tr>
<th>(a) Water cannot be used to clean a vehicle, except:</th>
<th>(a) Water cannot be used to clean a vehicle, except:</th>
<th>(a) Water cannot be used to clean a vehicle, except:</th>
<th>(a) Water cannot be used to clean a vehicle, except:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Water cannot be used to fill or top up a water tanker unless:</td>
<td>(b) Water cannot be used to fill or top up a water tanker unless:</td>
<td>(b) Water cannot be used to fill or top up a water tanker unless:</td>
<td>(b) Water cannot be used to fill or top up a water tanker unless:</td>
</tr>
<tr>
<td>- Western Water has granted a mobile water tanker permit to the operator of that tanker; and</td>
<td>- Western Water has granted a mobile water tanker permit to the operator of that tanker; and</td>
<td>- Western Water has granted a mobile water tanker permit to the operator of that tanker; and</td>
<td>- Western Water has granted a mobile water tanker permit to the operator of that tanker; and</td>
</tr>
<tr>
<td>the tanker is supplying the Water to be used for:</td>
<td>the tanker is supplying the Water to be used for:</td>
<td>the tanker is supplying the Water to be used for:</td>
<td>the tanker is supplying the Water to be used for:</td>
</tr>
<tr>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
<td>- for fire fighting, stock watering or other public health purposes but then only to the extent which it is reasonably necessary for those purposes; or</td>
</tr>
<tr>
<td>- for domestic purposes inside a dwelling; or</td>
<td>- for domestic purposes inside a dwelling; or</td>
<td>- for domestic purposes inside a dwelling; or</td>
<td>- for domestic purposes inside a dwelling; or</td>
</tr>
<tr>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 2 restrictions.</td>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 3 restrictions.</td>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 3 restrictions.</td>
<td>- for any other use of Water permitted by means of a hand-held hose under stage 4 restrictions.</td>
</tr>
<tr>
<td>Water</td>
<td>Stage 1 (Alert)</td>
<td>Stage 2 (Save)</td>
<td>Stage 3 (Just Enough)</td>
</tr>
<tr>
<td>-------</td>
<td>----------------</td>
<td>---------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>• in the case of a vehicle being cleaned at the premises of or by a motor vehicle dealer, repairer or detailer, only in accordance with paragraph (c); or</td>
<td>• in the case of a vehicle being cleaned at the premises of or by a motor vehicle dealer, repairer or detailer, only in accordance with paragraph (c); or</td>
<td>• in the case of a vehicle being cleaned at the premises of or by a motor vehicle dealer, repairer or detailer, only in accordance with paragraph (c); or</td>
<td>• by means of a bucket or watering can and even then only to the extent it is necessary for:</td>
</tr>
<tr>
<td>• in any other case by means of:</td>
<td>• in any other case by means of:</td>
<td>• in any other case by means of:</td>
<td>- health and safety reasons; or</td>
</tr>
<tr>
<td>- a high pressure water cleaning device; or</td>
<td>- a high pressure water cleaning device; or</td>
<td>- cleaning vehicle windows, mirrors, lights and registration plates; or</td>
<td></td>
</tr>
<tr>
<td>- if such a device is not available, a hand-held hose, bucket or watering can; or</td>
<td>- if such a device is not available, a hand-held hose, bucket or watering can; or</td>
<td>- spot-removing corrosive substances; or</td>
<td></td>
</tr>
<tr>
<td>• at a commercial car wash in accordance with paragraph (d); or</td>
<td>• at a commercial car wash in accordance with paragraph (d); or</td>
<td>• at a commercial car wash in accordance with paragraph (d); or</td>
<td>• at a commercial car wash in accordance with paragraph (d); or</td>
</tr>
<tr>
<td>• in the case of a vehicle for mass transportation, in accordance with an approved Water Use Plan.</td>
<td>• in the case of a vehicle for mass transportation, in accordance with an approved Water Use Plan.</td>
<td>• in the case of a vehicle that is used for mass transportation, in accordance with an approved Water Use Plan.</td>
<td>• in the case of a vehicle for mass transportation, in accordance with an approved Water Use Plan.</td>
</tr>
</tbody>
</table>

(b) Notwithstanding paragraph (a), Water can be used to clean inside a food transport vehicle if it is necessary, either to avoid contamination of the vehicle’s contents or to ensure public health or safety, but only by means of a:

- a high pressure water cleaning device;
- a hand-held hose, bucket or watering can.

(c) Water cannot be used at the premises of or by a motor vehicle dealer, repairer or detailer to clean a vehicle except:

- by means of:
  - a high pressure water cleaning device;
  - a commercial car wash in accordance with paragraph (d); or
  - a bucket or watering can; or
- in accordance with an approved Water Use Plan.

(d) Water cannot be used to wash vehicles at a commercial car wash unless:

- by means of:
  - a high pressure water cleaning device;
  - a commercial car wash in accordance with paragraph (d); or
  - a bucket or watering can; or
- in accordance with an approved Water Use Plan.
<table>
<thead>
<tr>
<th>Stage 1 (Alert)</th>
<th>Stage 2 (Save)</th>
<th>Stage 3 (Just Enough)</th>
<th>Stage 4 (Critical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• for those car washes built prior to 1 July 2012, no more than 100 litres of water is used for each vehicle washed; and</td>
<td>• for those car washes built prior to 1 July 2012, no more than 100 litres of water is used for each vehicle washed; and</td>
<td>• the car wash uses no more than 70 litres of water, for each vehicle washed; or</td>
<td>bucket or watering can and even then only to the extent it is necessary for:</td>
</tr>
<tr>
<td>• for those car washes built on or after 1 July 2012, no more than 70 litres of water is used for each vehicle washed; or</td>
<td>• the use is in accordance with an approved Water Use Plan.</td>
<td>• the use is in accordance with an approved Water Use Plan.</td>
<td>- health and safety reasons; or</td>
</tr>
<tr>
<td>• the use is in accordance with an approved Water Use Plan.</td>
<td></td>
<td></td>
<td>- cleaning vehicle windows, mirrors, lights and registration plates; or</td>
</tr>
<tr>
<td></td>
<td>(e) Water cannot be used to flush the inboard or outboard motor of a boat or other vessel unless:</td>
<td>(e) Water cannot be used to flush the inboard or outboard motor of a boat or other vessel unless:</td>
<td>- spot-removing corrosive substances</td>
</tr>
<tr>
<td></td>
<td>• a suitable receptacle filled by a hand-held hose is used; or</td>
<td>• a suitable receptacle filled by a hand-held hose is used; or</td>
<td>- a suitable receptacle filled by a hand-held hose is used; or</td>
</tr>
<tr>
<td></td>
<td>• a flushing device, connected to a hose is used, and the tap is turned off immediately after flushing is complete.</td>
<td>• a flushing device, connected to a hose is used, and the tap is turned off immediately after flushing is complete.</td>
<td>• a flushing device, connected to a hose is used, and the tap is turned off immediately after flushing is complete.</td>
</tr>
<tr>
<td>6. Using Water for Other Cleaning or Maintenance Purposes</td>
<td>6. Using Water for Other Cleaning or Maintenance Purposes</td>
<td>6. Using Water for Other Cleaning or Maintenance Purposes</td>
<td>6. Using Water for Other Cleaning or Maintenance Purposes</td>
</tr>
<tr>
<td>(a) Water cannot be used on hard surfaces or building facades (including windows), except:</td>
<td>(a) Water cannot be used on hard surfaces or building facades (including windows), except:</td>
<td>(a) Water cannot be used on hard surfaces or building facades (including windows), except:</td>
<td>(a) Water cannot be used on hard surfaces or building facades (including windows), except:</td>
</tr>
<tr>
<td>• in the course of construction or renovation but only as permitted under paragraph (c); or</td>
<td>• in the course of construction or renovation but only as permitted under paragraph (c); or</td>
<td>• in the course of construction or renovation but only as permitted under paragraph (c); or</td>
<td>• in the course of construction or renovation but only as permitted under paragraph (c); or</td>
</tr>
<tr>
<td>• for cleaning required as a result of an accident, fire, health hazard, safety hazard or other emergency and then only by means of:</td>
<td>• for cleaning required as a result of an accident, fire, health hazard, safety hazard or other emergency and then only by means of:</td>
<td>• for cleaning required as a result of an accident, fire, health hazard, safety hazard or other emergency and then only by means of:</td>
<td>• for cleaning required as a result of an accident, fire, health hazard, safety hazard or other emergency and then only by means of:</td>
</tr>
<tr>
<td>- a high pressure water cleaning device; or</td>
<td>- a high pressure water cleaning device; or</td>
<td>- a high pressure water cleaning device; or</td>
<td>- a high pressure water cleaning device; or</td>
</tr>
<tr>
<td>- if such a device is not available, a hand-held hose, bucket or watering can, or</td>
<td>- if such a device is not available, a hand-held hose, bucket or watering can, or</td>
<td>- if such a device is not available, a hand-held hose, bucket or watering can, or</td>
<td>- if such a device is not available, a hand-held hose, bucket or watering can, or</td>
</tr>
<tr>
<td>• in the case of building facades (including windows), for any other type of cleaning (not referred to above) and then only by means of a bucket or watering can.</td>
<td>• in the case of building facades (including windows), for any other type of cleaning and then only by means of a bucket or watering can.</td>
<td>• in the case of building facades (including windows), for any other type of cleaning and then only by means of a bucket or watering can.</td>
<td>• in the case of building facades (including windows), for any other type of cleaning and then only by means of a bucket or watering can.</td>
</tr>
<tr>
<td>(b) Water cannot be used to suppress dust unless the dust is causing or is likely to cause a health or environmental hazard, and then only:</td>
<td>(b) Water cannot be used to suppress dust unless the dust is causing or is likely to cause a health or environmental hazard, and then only:</td>
<td>(b) Water cannot be used to suppress dust unless the dust is causing or is likely to cause a health or environmental hazard, and then only:</td>
<td>(b) Water cannot be used to suppress dust unless:</td>
</tr>
<tr>
<td>• by means of a hand-held hose, bucket or</td>
<td>• by means of a hand-held hose, bucket or</td>
<td>• by means of a hand-held hose, bucket or</td>
<td>• there is no suitable alternative source of water available for use; and</td>
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</tr>
<tr>
<td>(Alert)</td>
<td>(Save)</td>
<td>(Just Enough)</td>
<td>(Critical)</td>
</tr>
<tr>
<td>watering can; or</td>
<td>watering can; or</td>
<td>by means of a hand-held hose, bucket or watering can; or</td>
<td>the dust is causing or is likely to cause a health or environmental hazard, and then only:</td>
</tr>
<tr>
<td>• with Water from a water tanker filled or topped up in accordance with restriction 4(b); or</td>
<td>• with Water from a water tanker filled or topped up in accordance with restriction 4(b); or</td>
<td>• with Water from a water tanker filled or topped up in accordance with restriction 4(b); or</td>
<td>• by means of a hand-held hose, bucket or watering can; or</td>
</tr>
<tr>
<td>• in accordance with an approved Water Use Plan.</td>
<td>• in accordance with an approved Water Use Plan.</td>
<td>• in accordance with an approved Water Use Plan.</td>
<td>• with Water from a water tanker filled or topped up in accordance with restriction 4(b); or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• in accordance with an approved Water Use Plan.</td>
</tr>
<tr>
<td>(c) Water cannot be used in the course of construction or renovation except:</td>
<td>(c) Water cannot be used in the course of construction or renovation except:</td>
<td>(c) Water cannot be used in the course of construction or renovation except:</td>
<td>(c) Water cannot be used, in the course of construction or renovation except:</td>
</tr>
<tr>
<td>• by means of a high pressure cleaning device, hand-held hose, bucket or watering can; or</td>
<td>• by means of a high pressure cleaning device, hand-held hose, bucket or watering can; or</td>
<td>• by means of a high pressure cleaning device, hand-held hose, bucket or watering can; or</td>
<td>• by means of a high pressure cleaning device, hand-held hose, bucket or watering can; or</td>
</tr>
<tr>
<td>• for the suppression of dust in accordance with paragraph (b); or</td>
<td>• for the suppression of dust in accordance with paragraph (b); or</td>
<td>• for the suppression of dust in accordance with paragraph (b); or</td>
<td>• for the suppression of dust in accordance with paragraph (b); or</td>
</tr>
<tr>
<td>• for construction equipment which requires a water supply for its safe and efficient operation; or</td>
<td>• for construction equipment which requires a water supply for its safe and efficient operation; or</td>
<td>• for construction equipment which requires a water supply for its safe and efficient operation; or</td>
<td>• for construction equipment which requires a water supply for its safe and efficient operation; or</td>
</tr>
<tr>
<td>• if required in the normal course of initial testing or flushing of: pipes; or other works.</td>
<td>• if required in the normal course of initial testing or flushing of: pipes; or other works.</td>
<td>• if required in the normal course of initial testing or flushing of: pipes; or other works.</td>
<td>• if required in the normal course of initial testing or flushing of: pipes; or other works.</td>
</tr>
<tr>
<td>(a) Water cannot be used at:</td>
<td>(a) Water cannot be used at:</td>
<td>(a) Water cannot be used at a commercial or Council plant nursery, except as required and then only:</td>
<td>(a) Water cannot be used at a commercial or Council plant nursery, except as required and then only:</td>
</tr>
<tr>
<td>• a commercial or Council plant nursery; or</td>
<td>• a commercial or Council plant nursery; or</td>
<td>• by means of a hand-held hose, bucket or watering can at any time; or</td>
<td>• by means of a hand-held hose, bucket or watering can at any time; or</td>
</tr>
<tr>
<td>• a commercial market garden, except as required and then only by means of:</td>
<td>• a commercial market garden, except as required and then only by means of:</td>
<td>• in accordance with an approved Water Use Plan.</td>
<td>• in accordance with an approved Water Use Plan.</td>
</tr>
<tr>
<td>• a hand-held hose, bucket or watering can at any time; or</td>
<td>• a hand-held hose, bucket or watering can at any time; or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• a watering system at any time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Not used.</td>
<td>(b) Not used.</td>
<td>(b) Water cannot be used at a commercial market garden except as required and then only in accordance with an approved Water Use Plan.</td>
<td>(b) Water cannot be used at a commercial market garden except as required and then only in accordance with an approved Water Use Plan.</td>
</tr>
<tr>
<td>(c) Water cannot be used for animal husbandry except for:</td>
<td>(c) Water cannot be used for animal husbandry except for:</td>
<td>(c) Water cannot be used for animal husbandry except for:</td>
<td>(c) Water cannot be used for animal husbandry except for:</td>
</tr>
<tr>
<td>• drinking by animals or birds; or</td>
<td>• drinking by animals or birds; or</td>
<td>• drinking by animals or birds; or</td>
<td>• drinking by animals or birds; or</td>
</tr>
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<td>Stage 1</td>
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<td>Stage 4</td>
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</tr>
<tr>
<td>(Alert)</td>
<td>(Save)</td>
<td>(Just Enough)</td>
<td>(Critical)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• cleaning animals or birds; or</td>
<td>• cleaning animals or birds; or</td>
<td>• cleaning animals or birds; or</td>
<td>• cleaning animals or birds; or</td>
</tr>
<tr>
<td></td>
<td>• cleaning pens, yards and cages, and then only if cleaning is done by means of a hand-held hose or bucket.</td>
<td>• cleaning pens, yards and cages, and then only if cleaning is done by means of a hand-held hose or bucket.</td>
<td>• cleaning pens, yards and cages, and then only if cleaning is done by means of a hand-held hose or bucket.</td>
</tr>
<tr>
<td>(d) Water cannot be used for cooling a shed on a commercial poultry farm except by means of:</td>
<td>(d) Water cannot be used for cooling a shed on a commercial poultry farm except by means of:</td>
<td>(d) Water cannot be used for cooling a shed on a commercial poultry farm except by means of:</td>
<td>(d) Water cannot be used for cooling a shed on a commercial poultry farm except by means of:</td>
</tr>
<tr>
<td>• sprinklers used only for cooling and then only between the hours of 6am and 9pm when the inside temperature of the shed is 30°C or higher; and</td>
<td>• sprinklers used only for cooling and then only between the hours of 6am and 9pm when the inside temperature of the shed is 30°C or higher; and</td>
<td>• sprinklers used only for cooling and then only between the hours of 6am and 9pm when the inside temperature of the shed is 30°C or higher; and</td>
<td>• sprinklers used only for cooling and then only between the hours of 6am and 9pm when the inside temperature of the shed is 30°C or higher; and</td>
</tr>
<tr>
<td>• fogging systems and cooling pads, which may be used at any time.</td>
<td>• fogging systems and cooling pads, which may be used at any time.</td>
<td>• fogging systems and cooling pads, which may be used at any time.</td>
<td>• fogging systems and cooling pads, which may be used at any time.</td>
</tr>
</tbody>
</table>

8. Other Uses
Water must not be used for any Other Use without the prior written permission of Western Water.
## PART C – INDEX

<table>
<thead>
<tr>
<th>Term</th>
<th>Item</th>
<th>Item number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft</td>
<td>Cleaning Vehicles with Water</td>
<td>5</td>
</tr>
<tr>
<td>Animal</td>
<td>Using Water for Commercial Production of Plants and / or Animals</td>
<td>7</td>
</tr>
<tr>
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<td>Using Water for Commercial Production of Plants and / or Animals</td>
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Appendix C – Priority public open place planning
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*Western Water is working with Moorabool Shire Council to confirm the source of irrigation water*
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