

Drought Preparedness Plan



Greater Western
Water



Warrabee River, border of Bunurong Country and Wadawurrung Country

Contents

1. Drought Preparedness	04
2. Melbourne's Water Security Framework	05
3. Drought Response Plan	15
4. Collaborative Working Relationships	16
5. Variations and review of this plan	18



1. Drought Preparedness

Greater Western Water Corporation, South East Water Corporation and Yarra Valley Water Corporation (the Metropolitan Corporations) are established under the *Water Act 1989* to provide water and sewerage services throughout metropolitan Melbourne.

Under their *Statement of Obligations*, each Metropolitan Corporation must prepare a Drought Response Plan. It must be developed in accordance with the requirements in the *Statement of Obligations* and the Urban Water Strategy guidelines issued by the Minister, and must form part of a Drought Preparedness Plan.

The broad purpose of a Drought Preparedness Plan is to ensure that the Metropolitan Corporations and Melbourne Water jointly develop their preparedness strategies to meet the Agreed Level of Service and Minimum Level of Service.

Across metropolitan Melbourne, a water security framework guides this preparedness. This framework comprises a number of interrelated long and short-term processes including drought response, to ensure reliability of supply. The framework ensures that Greater Western Water has a timely and effective short-term response to the occurrence of water shortage, with the aim of minimising the impacts (social, economic and environmental) of such shortages.

This Drought Preparedness Plan incorporates actions that Greater Western Water will undertake to ensure that communities are prepared for the eventuality of drought. The Drought Preparedness Plan describes how we will prepare for and manage systems during extreme events.

This Drought Preparedness Plan, incorporating the Drought Response Plan, is an important

mechanism which allows for the use of Greater Western Water's Water Restriction By-law. The by-law assists in the adaptive management of Melbourne's water resources in times of shortage and may include regulating the use of water via for water restrictions.

Melbourne's water corporations plan and take actions to build and maintain a buffer of water in storage to provide resilience to drought, including investing in climate independent sources such as the Victorian Desalination Project and encouraging efficient use of the water we have available.

However, Melbourne's water supplies are still heavily reliant on inflows into our catchments. These inflows can be highly variable in any given year and are a natural occurrence of climate dependant water supplies that service a city. Investments in climate resilient, manufactured water (such as desalinated water, stormwater or fit-for-purpose recycled water) go a long way to mitigate future dry scenarios. Variability of inflows as well as events impacting water supplies such as bushfires in the catchments means that shortages may still occur from time to time and the Metropolitan Corporations, Melbourne Water, customers and stakeholders need to be prepared.

This Drought Preparedness Plan is predicated on the following key components:

- the preparedness of Greater Western Water to optimise

and manage its water portfolio to mitigate future uncertainty

- the Metropolitan Corporations and Melbourne Water jointly managing to provide drought resilience by building and maintaining a buffer of water in storage
- the capacity and ability of Greater Western Water to promptly react to drought or water shortage events
- the preparedness of our customers, if such an event occurred, to manage their open spaces, gardens and other critical assets
- a shared commitment to ensuring critical community assets remain sustainable and viable.

In order to ensure our customers and stakeholders are prepared for periods of shortage, the Metropolitan Corporations will work with Melbourne Water, and will, collaboratively and individually, 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 ensure their resilience
- assess local solutions, including the use of drought tolerant species and emergency water arrangements
- assess climate independent supply options for longer-term resilience
- consider short-term management responses, including the preparation of approved water use plans and exemptions from restrictions, in periods of critical need.

2. Melbourne's Water Security Framework

Greater Western Water's approach to ensure its preparedness to meet the agreed and minimum levels of service across Melbourne is undertaken through a Water Security Framework comprising a number of interrelated long and short-term collaborative and individual processes.

The water security framework is shown below:



Figure 1: Water Security Framework

Through the Water Security Framework, the management of our shared water resources will focus on:

Short-term operational preparedness for the existing supply system:

The short-term planning component focuses on optimising our existing water supply system, including catchment sources and water from the Victorian Desalination Project (VDP). Existing processes and tools include the annual desalination water order advice, Annual Water Outlook, and drought and emergency preparedness actions.

Long-term strategic planning and preparedness:

This is based on the development of a 50-year Adaptive Plan, where there will be an increased focus on readiness to implement a diverse portfolio of water supply options including water efficiency, integrated water management (IWM) and using diverse water sources, and large-scale supply system augmentations.

Augmentation decision process:

The Adaptive Plan needs to include decisions at discrete points to inform required planning and implementation of large-scale supply system augmentations. A risk-based augmentation trigger will inform decision making through multiple stages of implementing an augmentation. Any supply augmentation/s that will need to be implemented to increase water supply in response to a severe and/or extended drought will be determined consistent with the Adaptive Plan and Water Security Framework.

Drought response and emergency events:

Melbourne's drought response draws together actions to be implemented in the event of a drought or other emergency event, such as a catchment bushfire with a prolonged water quality impact, based on the drought framework and water outlook zones. Operational and contingency management response options will:

- ensure continued supply to minimise impacts of resource shortages caused by droughts and other emergency events
- ensure the supply system meets critical demand needs at all times.

As part of managing the reliability of water supply through the Water Security Framework, the Metropolitan water retail Corporations and the wholesaler, Melbourne Water, work collaboratively on key processes including:

1. The development of a 50-year Urban Water Strategy and a Melbourne Water System Strategy every five years (joint Greater Melbourne Urban Water and System Strategy released in 2022).
2. A commitment, through our agreed Levels of Service, to supply water for critical human needs at all times.
3. The joint publication of an Annual Water Outlook by 1 December each year which will include action plans for managing the water portfolio for the forthcoming year and the next three years.
4. Optimising the use of the Victorian Desalination Project to build and maintain a buffer of water in storage to provide resilience to drought and climate variability.
5. The preparation of an Annual Operating Plan by Melbourne Water.
6. As required under the Statement of Obligations, delivery of a Drought Response Plan outlining the operating provisions for the Drought Response Plan. This further includes:
 - a. ongoing engagement with key stakeholders, to ensure preparedness and resilience for public open space managers and owners of other significant community assets to deal with uncertainty and extreme events.
7. The continued reinforcement of permanent water saving rules, and the commitment to deliver ongoing water efficiency programs. This further includes:
 - a. if required, implementation of a restrictions regime, as per a published water restrictions by-law
 - b. publishing general guidelines for exemptions from Permanent Water Rules and/or restrictions imposed under the water restrictions by-law.

Each of these processes is outlined in detail on the following pages.



1. Water for Life, Greater Melbourne Urban Water and System Strategy

Every five years, each of the Metropolitan Corporations [Greater Western Water, South East Water, and Yarra Valley Water] and the wholesaler, Melbourne Water, are required to develop an Urban Water Strategy and a Melbourne Water System Strategy, respectively. The purpose of each strategy is to identify the best measures to provide water services to our customers now and into the future.

In 2022, Greater Western Water, Melbourne Water, South East Water and Yarra Valley Water have produced a joint strategy, the Greater Melbourne Urban Water and System Strategy (GMUWSS) – also referred to as *Water for Life*.

The *Water for Life* strategy (GMUWSS) has a long-term outlook of 50 years, with the objectives to:

1. Ensure a secure and sustainable water supply

Be prepared for a future where Greater Melbourne's population is growing and the impacts of climate change and variability are uncertain. To do this, we will develop an Adaptive Plan that positions our water supply system to:

- make maximum use of the diverse range of available water sources
- use the water we already have efficiently
- transition to a more climate resilient supply of manufactured water.

2. Equitably and affordably meet diverse water needs

In planning to provide water to a growing population, ensure our essential services remain affordable to customers, while also supporting Traditional Owner access to water and equitable access for future generations.

3. Enhance the environment and urban amenity

Deliver integrated water management (IWM) initiatives to support community liveability, wellbeing and urban amenity across the Greater Melbourne region. This can be achieved by making better, more productive use of rainwater and stormwater runoff. To support community and Traditional Owner values, we will work together to protect waterway health and cultural values of our landscapes, as well as protecting our landscapes from extreme events and emergencies where possible.

4. Meaningful partnerships, engagement and education

To best address our future water challenges, develop a shared plan with community and Traditional Owners. In order to share the true value of water with communities, we need to deliver meaningful engagement and transparent decision making about the future and commit to listening and responding to community views and concerns. We also need to establish genuine partnerships with Traditional Owners by working together in water management and planning to deliver benefits to the whole community.

The *Water for Life* strategy (GMUWSS) defines clear, measurable actions to ensure the above objectives will be achieved.

2. Levels of Service

Our level of service is our commitment to our customers on how we deliver water services in the short and long term. Levels of service underpin the delivery of the Water Security Framework.

Levels of Service

Our commitment to how we deliver water services to our customers is set out in our levels of service, which is made up of two parts:

Agreed level of service: this is our commitment to the community to deliver water services under normal circumstances.

Minimum level of service: this is how we deliver water services in times of extreme dry conditions or emergencies.

Melbourne's Levels of Service

Our commitment to how we deliver water services to our customers:

Agreed level of service

- We aim to maintain water storage levels to provide resilience against drought.
- We will manage the water supply system to meet the demands for water while balancing cost to customers.

Minimum level of service

- We will always provide water to meet critical human needs.
- If we need to reduce demand, we will work with the community to prioritise voluntary demand reductions. We will implement mandatory Stage 3 or Stage 4 water restrictions only in the event of extreme dry conditions or emergency.

How we will deliver on our commitment

Our levels of security are managed through our water outlook zones, which are used to assess Greater Melbourne's water security position. The water outlook zones are aligned to the amount of water held in storage in the reservoirs of the Greater Melbourne water supply system at 30 November of any given year, and are as follows:

- **Be Responsible zone:** 75% and above of total system storage (TSS).
- **Be Proactive zone:** Less than 75% and equal to or greater than 60% of TSS.
- **Act Now zone:** Less than 60% and equal to or greater than 45% of TSS.
- **Critical Water Use Only zone:** Less than 45% and equal to or greater than 25% of TSS (minimum operating level).

The zones provide a clear signal to our community as to what we need to do to best manage our water. The water outlook zones are described in more detail in Figure 2.

To deliver on our levels of service, we will plan and manage the system to maintain a greater than 99 per cent chance of storages being above the Critical Water Use Only zone, over the next 5 years. Should we experience a more extreme drought, we will always provide water for critical human needs through voluntary demand reductions or restrictions including, if necessary, Stage 3 or 4 restrictions.

If storage levels descend into the Be Proactive, Act Now and Critical Water Use Only zones, we would work with our customers, stakeholders and the community to recover storages back into the Be Responsible zone through the actions outlined in Section 3 of this document, or by implementing actions to augment the system. This is part of why we are prioritising readiness activities for our next augmentations – to have these options 'ready' and thus reduce the time needed to act if we need to augment the system.

Community actions in this zone	Zones + Total Storage System (TSS)	Volume available for Greater Melbourne (GL)	Example water sector actions in this zone
<p>Continue using water efficiently: make every drop count and continue using water efficiently.</p>	<p>Be Responsible</p> <p>Equal to or greater than 75% TSS</p>	<p>Equal to or greater than 760 GL</p>	<ul style="list-style-type: none"> • Optimise existing water sources • Continue implementing water knowledge campaigns • Develop plans to prepare for the 'Be Proactive' zone
<p>Reduce your water usage: make every drop count to avoid restrictions.</p>	<p>Be Proactive</p> <p>Less than 75% and equal to or greater than 60% TSS</p>	<p>Less than 760 GL and equal to or greater than 530 GL</p>	<ul style="list-style-type: none"> • Increased use of desalination capacity • Water knowledge campaigns for awareness and action • Implement a voluntary demand reduction plan • Develop plans for demand reduction in the 'Act Now' zone
<p>Minimise your water usage: water restrictions are possible.</p>	<p>Act Now</p> <p>Less than 60% and equal to or greater than 45% TSS</p>	<p>Less than 530 GL and equal to or greater than 300 GL</p>	<ul style="list-style-type: none"> • Maximise use of desalination capacity • Water knowledge campaigns for action required • Implement demand reduction plan, including restrictions if necessary • Develop plan for 'Emergency' zone
<p>Extreme water shortage: water restrictions to be applied.</p>	<p>Critical Water Use Only</p> <p>Less than 45% and equal to or greater than 25% TSS (minimum operating level)</p>	<p>Less than 300 GL and equal to or greater than 0 GL</p>	<ul style="list-style-type: none"> • Maximise use of desalination capacity • Water knowledge campaigns for action required • Implement demand reduction plan, including restrictions • Implement emergency supply options to meet restricted demand on an ongoing basis • Use of Sugarloaf (North-South) Pipeline if storage at 30% or below on 1 November

Figure 2: Water outlook zones

There are four water outlook zones – (1) Be Responsible, (2) Be Proactive, (3) Act Now, and (4) Critical Water Use Only. Each has a range of actions to increase the readiness of the Metropolitan Corporations and Melbourne Water to respond to a changing water security position, as well as building and maintaining the volume of water in storage to improve resilience to drought.

As part of the development of the GMUWSS, the Metropolitan Corporations have reviewed the number of water outlook zones and their action points. The updated zones included in this Drought Preparedness Plan reflect the retention of the current levels of service in the context of increased water demands due to population growth, the continued investment in alternative water sources and efficiency, the latest water system

operations and water entitlements, and updated streamflow scenarios based on the latest Department of Environment, Land, Water and Planning (DELWP) guidelines on the impact of climate change on water availability.

Schedule 2 provides specific provisions and commitments in regard to the role, development and utilisation of the Annual Water Outlook.

3. Water Outlook and Action Plans

The purpose of the Annual Water Outlook is to assess Melbourne’s water security position and determine whether, and what, actions need to be taken to make sure the metropolitan water supply system can meet the needs of customers in the short term. The Annual Water Outlook will therefore confirm whether the prioritised list of actions for the next five years, as set out in the GMUWSS, are still appropriate or whether short and/or long-term actions should be brought forward or deferred.

Melbourne’s water corporations use water outlook zones, based on supply system storage, to inform actions to manage water supply from the existing system. The water outlook zones, together with the longer-term Adaptive Plan, will also inform the augmentation decision process, which will use a risk-based trigger to inform augmentation planning and implementation.

The four water outlook zones have been developed to recognise the need for an increased response to a declining level of water security, and to ensure the Metropolitan Corporations, including Greater Western Water, will meet the Agreed Level of Service and Minimum Level of Service as previously described.

The zones' structure ensures that Greater Western Water and other Metropolitan Corporations will meet their agreed and minimum levels of service where a hydrological assessment of the Water Supply System indicates that expected customer needs can be met for the forthcoming five-year period without Total System Storage entering the Critical Water Use Only zone.

A series of actions the Metropolitan Corporations and Melbourne Water will continue to take to manage water security across all water outlook zones, outlined below.

Ongoing actions across all zones	<p>Continue to engage in conversation with our customers about water knowledge and responsible water use.</p> <p>Continue investment in:</p> <ul style="list-style-type: none"> • Integrated Water Management • Community Rebates Program • Network efficiency. <p>Continue investment in monitoring networks, databases and planning models.</p> <p>Maintain a watching brief on best practices for maximising water security.</p> <p>Permanent water saving rules apply at all times.</p> <p>Manage the distribution of water between storages to optimise catchment and desalination harvest.</p>
---	---

Actions to be taken in each zone:

Zone	Description	Actions
<p>Be Responsible</p> <p>Total System Storage equal to or greater than 75%</p> <p>Water Available to Greater Melbourne equal to or greater than 760 GL</p>	<p>Make every drop count; continue using water efficiently to avoid restrictions.</p>	<ul style="list-style-type: none"> • Use current sources to optimise water available for Melbourne and build resilience against drought • Assess and progress options for trading water with other bulk entitlement holders • Water knowledge campaign focus: educate and set context • Develop plan for annual 5% demand reduction to be implemented in Be Proactive zone (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 1 and/or 2 restrictions) • Identify non-residential sectors for targeted water savings programs and design programs to be implemented in Be Proactive zone • Continue to engage in conversation about opportunities to improve resilience and water efficiency for priority community assets and open spaces, including through integrated water management forums • Develop and maintain cross-discipline and cross-agency processes and teams that will implement responses to drought and declining levels of water security • Assess sector readiness to implement severe water restrictions if required. <p>In line with the agreed augmentation trigger framework and government policy settings, advocate or undertake:</p> <ul style="list-style-type: none"> • Assessment of supply augmentation options and lead times • Implementation of actions to reduce lead times.
<p>Be Proactive</p> <p>Total System Storage is less than 75% and equal to or greater than 60%</p> <p>Water Available to Greater Melbourne is less than 760 GL and equal to or greater than 530 GL</p>	<p>Reduce your water usage; make every drop count to avoid restrictions.</p>	<ul style="list-style-type: none"> • Increased use of desalination to maintain storage buffer and optimise water available for Greater Melbourne* (subject to system and operating capabilities) • Activate cross-discipline and cross-agency processes and teams in response to declining levels of water security • Assess and progress options for trading water with other bulk entitlement holders • Water knowledge campaign focus: awareness and action • Implement plan for annual 5% reduction in demand in Be Proactive zone* (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 1 and/or 2 restrictions) • Monitor the effectiveness of actions by tracking demands relative to target 5% reduction in demand; adjust actions if required • Develop plan for annual 10% demand reduction to be implemented in Act Now zone* (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 3 and/or 4 restrictions)

Zone	Description	Actions
<p>Be Proactive</p> <p><i>Continued...</i></p>		<ul style="list-style-type: none"> • Implement Be Proactive non-residential water saving programs • Design Act Now non-residential water saving programs • Engagement about priority community assets and open spaces that may be at risk, including support to identify opportunities to improve resilience and water efficiency • Increase engagement with internal communications teams and external stakeholders • Assess emergency temporary supply options • Commence planning to implement severe water restrictions if required. <p>In line with the agreed augmentation trigger framework and government policy setting, advocate or undertake:</p> <ul style="list-style-type: none"> • Confirmation of preferred supply augmentation option(s) • Completion of detailed design of preferred supply augmentation option(s) • Implementation of planning for preferred supply augmentation(s).
<p>Act Now</p> <p>Total System Storage is less than 60% and equal to or greater than 45%</p> <p>Water Available to Greater Melbourne is less than 530 GL and equal to or greater than 300 GL</p>	<p>Minimise your water usage; water restrictions are likely.</p>	<ul style="list-style-type: none"> • Use desalination to capacity (subject to system and operating capabilities) • Assess and progress options for trading water with other bulk entitlement holders • Water knowledge campaign focus: action for next steps • Implement plan for annual 10% reduction in demand in Act Now zone (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency and stage 3 and/or 4 restrictions) • Monitor the effectiveness of actions by tracking demands relative to target 10% reduction in demand; adjust actions if required • Develop plan for demand reduction in Critical Water Use Only zone to essential needs (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 3 and/or 4 restrictions) • Implement Act Now non-residential water savings programs • Develop Critical Water Use Only non-residential water savings programs • Targeted engagement focusing on at risk priority community assets and open spaces • Strengthen cross-discipline and cross-agency processes and teams responding to drought, including assessing the need for a dedicated Industry Response Team • Develop plan to implement in Critical Water Use Only zone, including demand reduction and supply options; including governance processes • Confirm preferred emergency temporary supply options and complete detailed designs • Prepare for and implement stage 3 and/or 4 level water restrictions if required <p>In line with the agreed augmentation trigger framework and government policy setting, advocate or undertake:</p> <ul style="list-style-type: none"> • Continued planning and preparation of business case for implementation of preferred supply augmentation(s).

Zone	Description	Actions
<p>Critical water use only</p> <p>Total System Storage is less than 45% and equal to or greater than 25% (minimum operating level)</p> <p>Water Available to Greater Melbourne is less than 300 GL</p>	<p>Extreme water shortage; water restrictions are likely.</p>	<ul style="list-style-type: none"> • Use desalination plant to capacity • Progress options for trading water with other bulk entitlement holders • Use Sugarloaf (North-South) Pipeline (if conditions are met) • Water knowledge campaign focus: action for next steps • Implement plan for essential needs demand reduction in Critical Water Use Only zone (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 3 and/or 4 restrictions) • Implement Critical Water Use Only non-residential water savings programs • Targeted engagement taking a case-by-case approach to at risk priority community assets and open spaces • Implement sufficient emergency supply options to meet restricted demand on an ongoing basis <p>In line with the agreed augmentation trigger framework and government policy setting, advocate or undertake:</p> <ul style="list-style-type: none"> • Implementation of preferred supply augmentation(s).

***In the event of different zones being indicated by Total System Storage and Water Available for Greater Melbourne at 30 November, the lower zone shall apply.**

4. Optimising the use of the Victorian Desalination Project

The three metropolitan retailers hold bulk entitlements to the water produced by the Victorian Desalination Project (VDP). Following the release of an Annual Water Outlook each year, the Metropolitan Corporations and Melbourne Water prepare advice on the volume of desalinated water to be ordered in the following year. Extensive modelling and technical analysis is undertaken to support the development of the water order advice and includes careful consideration of current water storage conditions, projected water demands, possible future climate conditions and the balance between managing security of supply and minimising customer impacts. Melbourne Water consequently provides advice to the Minister for

Water in March each year on a binding order for the next financial year and non-binding order for the following two financial years. The Minister for Water places an order by 1 April each year by advising the operator of the VDP of these binding and non-binding orders.

5. Annual Operating Plan

In order to ensure optimisation of the supply system, Melbourne Water prepares an Annual Operating Plan – developed in consultation with the water corporations it supplies – which outlines where water will be sourced from and how the system is expected to be operated to meet customer demands. The Annual Operating Plan also includes a range of scenarios based on storage inflows and demand.

6. Drought Response Plan

As required under its *Statement of Obligations* and for the purpose of Greater Western Water's Water Restriction By-law, Section 3 of this Plan contains Greater Western Water's Drought Response Plan. Schedule 1 to this Plan also outlines the operating provisions for the Drought Response Plan.

7. Permanent Water Saving Rules

Greater Western Water's Permanent Water Saving Rules reflect the value the community places on water and describe a set of common sense principles to encourage the efficient use of 'mains' water from the water supply system and avoid wasting this resource. These rules can be found on Greater Western Water's

website at www.gww.com.au and are summarised below:

- When using a hand-held hose, a trigger nozzle must be fitted.
- Water your gardens and lawns with a hose anytime or watering system from 6pm to 10am.
- Public gardens, lawns and playing surfaces can be watered anytime by hose, watering system between 6pm and 10am or in accordance with an approved Water Use Plan.
- Fountains and water features cannot be used unless they recirculate water.
- Water can be used to clean hard surfaces for health and safety reasons, in the course of construction or once a season preferably with a high pressure cleaning device.

8. Exemptions

In developing the by-law and the restrictions across customer groups and usage purposes, the restrictions were mindful of the need to manage:

- any significant economic and public health impacts
- possible damage to public open space and the activities they support
- any irreversible damage to private gardens.

Consequently, exemptions from the restrictions in the by-law may be granted in certain circumstances. This Drought Response Plan sets out the principles (Schedule 1, clause 8) and criteria that Greater Western Water will take into account when considering applications for exemptions from particular restrictions. One key element of this exemption process will be strong partnerships with local government to ensure key community open space assets, including gardens and sporting ovals, remain available for ongoing liveability and wellbeing, even in times of shortage. The same

commitment will exist with other open space managers, gardens and agricultural enterprises and owners of significant assets.

This Drought Response Plan and Greater Western Water's by-law provides for water to be used in accordance with a water use plan approved by Greater Western Water, in accordance with the prevailing stage of restrictions. Water use plans will only be approved when expressly permitted for a particular water use under the relevant stage of restrictions, or where it is required as part of an application for an exemption.

Customers and stakeholders will be given notice of any adoption, amendment or revocation of a general exemption via publication in a newspaper circulating generally in Greater Western Water district and on Greater Western Water's website.

Specific requirements for the administration of restrictions, and approval of water use plans or exemptions, are outlined in Schedule 1.

9. Applications for particular exemptions

Applications for Particular Exemptions:

- a person may apply to Greater Western Water for an exemption from a stage of restrictions which has been, or which may in future be imposed under clause 6.2 of the Greater Western Water's Water Restrictions By-law. An application for exemption must be in a form approved by Greater Western Water. Further information on applications for particular exemptions can be found in clause 6.2 of Greater Western Water's Water Restrictions By-Law.
- Timeframes: Greater Western Water must

consider an application for exemption within a reasonable time period. Any exemption granted ends at the time specified in the exemption, or when the stage of restriction changes. Greater Western Water may revoke an exemption at any time, by giving written notice to the applicant. Refer to clause 6.2 of Greater Western Water's Water Restrictions By-law for more information.

- Particular Exemptions for Public Garden Areas: Greater Western Water may grant an application for exemption to use supplied drinking water to water a public garden during a period of stage 4 restrictions if it meets the criteria set out in clause 6.4 of Greater Western Water's Water Restrictions By-law. For instance, the application must include an approved Water Use Plan for the public garden area and not have a significant impact on supplied and available drinking water supplies.
- Particular Exemptions for certain Playing Surfaces: Greater Western Water may grant an application for exemption to use supplied drinking water to water any playing surface during a period of any stage of restrictions. Any application must include an approved Water Use Plan, and exemptions may be granted for a finite period when the sporting competition it to be held. Further criteria are set out in clause 6.5 of the Greater Western Water Water Restrictions By-law.
- Particular Exemptions for Warm Season Grasses: a person who applies to Greater Western Water for an exemption to establish a warm season grass area may be granted an exemption for a period of 28 days after the exemption is taken to have been granted. Further criteria are set out in clause 6.6 of the Greater Western Water Water Restrictions By-law.

3. Drought Response Plan

General

This Drought Response Plan (refer to schedule 1) is an important mechanism to assist in the management of Melbourne's water resources in times of shortage and is to be read in conjunction with Greater Western Water's *Water Statement of Obligations (General)* and *Water Restriction By-law*.

Water Restriction By-law

The purposes of the by-law are to:

- promote the efficient use and conservation of supplied drinking water
- set out four stages of restrictions on the use of supplied drinking water
- specify things that must not be done while each stage of restrictions
- specify principles in place for considering applications for exemptions from particular restrictions
- prescribe offences and penalties for the contravention of the by-law, including for which an infringement notice may be served
- prescribe classes of persons for the purpose of issuing infringement notices.

Restrictions

From time to time, water use restrictions for certain purposes may be required. If such an action is required, the restrictions in Greater Western Water's by-law apply to water that is supplied by mains water supply works, regardless of how that water is delivered. The restrictions also apply to any water that is a mix of mains water and other water; for example, if a tank of rainwater 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, provided these are not mixed with mains water.

Water is an essential resource for maintaining life. The restrictions in the 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 the by-law, water can be used at any time for:

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

Some towns in the north-west of the Greater Western Water area are supplied with multiple sources – surface water, groundwater and a reliance on a regional water grid. Ensuring these areas have the same level of service and water restrictions as the rest of Melbourne is a priority for system operators. In rare occasions these areas may need water restrictions implemented at different times to the Melbourne system as a whole, due to local operational constraints.

Emphasis will be placed on monitoring systems on an ongoing basis via regular monitoring and the Annual Water Outlook, to enable more timely response to potential supply shortfalls.

Priority Community Assets

During our community engagement in the development of the *Water for Life* strategy (GMUWSS) our customers and community told us they support and value the

health and wellbeing of our community, ensuring public parks and sports grounds are always green, even during dry periods and drought.

Strong partnerships with local government are essential to ensure key community open space assets, including gardens and sporting ovals, remain available for ongoing liveability and wellbeing benefits, even in times of shortage. The same commitment will exist with other open space managers, gardens and other agricultural enterprises, and owners of other significant assets.

Greater Western Water has a good history of working with public open space managers to enable a supply of water during drought periods, and will continue to work with local councils to maintain a list of critical sites for each municipality.

This includes ongoing engagement through Integrated Water Management Forums and building on existing partnerships.

Emergency Management Plans

This Drought Preparedness Plan will be complemented by the various emergency management plans outlining the strategies and procedures related to water shortages that have already been in place within the Metropolitan Corporations, Melbourne Water and other water entitlement holders.

The water restrictions by-law prohibiting certain uses may be invoked under such emergencies.

Collaboration and Review

For the purposes of clarity, any reference to collaboration and/ or review of the Drought Response Plan, will be in accordance with Sections 4 and 5 of the Drought Preparedness Plan.

4. Collaborative Working Relationships

The Metropolitan Corporations and Melbourne Water have agreed to take a collaborative and coordinated approach to understanding, planning, communicating and managing Melbourne's water security incorporating drought preparedness and drought response, including:

- joint development of Annual Water Outlooks
- joint development of Annual Action Plans and Medium-Term Action Plans
- Melbourne Water undertaking regular system monitoring and providing advice to the Metropolitan Corporations on climate impacts, inflow conditions, and storage volumes of reservoirs managed by Melbourne Water
- joint monitoring of past and forecast trends in water demand by the Metropolitan Corporations (and other water corporations) connected to Melbourne's water supply system
- coordinated implementation of actions and joint actions (e.g. if there is a likelihood of entering the Be Proactive, Act Now or Critical Water Use Only zones within the 12-month storage outlook)
- consistency in the imposition of stages of restrictions and exemptions; prompt and timely meetings with the other corporations and Melbourne Water whenever it is forecast that the Agreed Level of Service or Minimum Level of Service may not be satisfied during a current or forthcoming Water Outlook period
- collaboration with other water corporations as required
- preparation of joint advice on orders from the Victorian Desalination Project
- working closely with DELWP on development, approval and implementation of the above, as required.

5. Variations and review of this plan

Greater Western Water is committed to ensure that this Drought Preparedness Plan, including the Drought Response Plan, and its Water Security Framework remains current to meet the needs of customers and stakeholders. Therefore, it will consult with customers and stakeholders, and the other Metropolitan Corporations and Melbourne Water, on an ongoing basis before making any variation to this Plan.

In consultation and collaboration with the other Metropolitan Corporations and Melbourne Water (as outlined in section 3 of this Plan), Greater Western Water will:

1. Review this Plan, including the Drought Response Plan.
 - a. at intervals of no more than five years, and
 - b. within 12 months of either:
 - i. the lifting of any period of water restrictions imposed in accordance with the Drought Response Plan, or
 - ii. any major change occurring to works or arrangements for conserving water for, or supplying water to, any water supply system that is relied upon for the supply of water by the corporation
 - c. as part of preparing or reviewing an Urban Water Strategy and/or the Melbourne Water System Strategy, or
 - d. at such other times as agreed by the Metropolitan Corporations and Melbourne Water.
2. When the Drought Response Plan is reviewed, commission or undertake an evaluation of the effectiveness, appropriateness and consequences of the Plan including for customers.



Schedule 1: Operating Provisions – Drought Response Plan

This Drought Response Plan was made under clause 6.4 of the *Statement of Obligations (General)* and applies to the water district of Greater Western Water.

Purposes

The purposes of this Drought Response Plan are to:

- outline Greater Western Water's approach to managing its water portfolio to meet the service expectations of customers and stakeholders
- promote the efficient use and conservation of supplied drinking water
- outline how Greater Western Water will work with customers in order to ensure its preparedness for periods of supply shortage
- explain how Greater Western Water, in cooperation with the other Metropolitan Corporations and Melbourne Water, will respond in times of water scarcity;
- specify principles for considering applications for exemptions from particular restrictions.

Definitions and Interpretation

Definitions

The definitions set out below apply in this Plan, including section 3 – Drought Response Plan, unless the contrary intention appears.

Act means the *Water Act 1989*.

Act Now zone means the zone delineated by the range of Total System Storage levels and Water Available to Greater Melbourne (the combined retailers) in the corresponding Action Point in the table in sub-clause 4.3, as at 30 November and any additional dates agreed by the Metropolitan Corporations and Melbourne Water.

Action means an action aimed at reducing demand or increasing supply of water including, but not limited to, the imposition of restrictions.

Action Point means the volumes of Total System Storage and Water Available to Greater Melbourne delineating the Be Responsible, Be Proactive, Act Now and Critical Water Use Only zones as set out in sub-clause 4.3.

Agreed Level of Service means we aim to maintain high water storage levels to provide resilience against drought. We will manage the water supply system to balance reliability of supply and cost to customers.

Annual Action Plan means a list of actions to be implemented in the first 12 months of a Water Outlook period developed in accordance with clause 5.

Be Proactive zone means the zone delineated by the range of Total System Storage levels and Water Available to Greater Melbourne (the combined retailers) in the corresponding Action Point in the table in sub-clause 4.3, as at 30 November and any additional dates agreed by the Metropolitan Corporations and Melbourne Water.

Be Responsible zone means the zone delineated by the range of Total System Storage levels and Water Available to Greater Melbourne (the combined retailers) in the corresponding Action Point in the table in sub-clause 4.3, as at 30 November and any additional dates agreed by the Metropolitan Corporations and Melbourne Water.

By-law means Greater Western Water's Water Restrictions By-law 2/2022 or its successor.

City West Water means the former City West Water Corporation ABN 70 066 902 467.

Corporations means any water corporation supplied by Melbourne Water through the Water Supply System.

Critical community asset means an asset of a local government agency or similar open space manager that is critical to the liveability and values of a community.

Critical Water Use Only zone means the zone delineated by the range of Total System Storage levels and Water Available to Greater Melbourne (the combined retailers) in the corresponding Action Point in the table in sub-clause 4.3, as at 30 November and any additional dates agreed by the Metropolitan Corporations and Melbourne Water.

Demand means the volume of water delivered to customers (whether charged for or not) by a corporation.

Department means the Victorian Government department responsible for the administration of the *Water Industry Act 1994* and the *Water Act 1989*.

District means one of the following water supply districts serviced by Greater Western Water or part of any such district as specified by Greater Western Water: The water district of Greater Western Water.

Drought Preparedness Plan means a plan which includes Greater Western Water's Drought Response Plan, prepared in accordance with Ministerial Guidelines for the development of Urban Water Strategies 2021.

Drought Response Plan means a plan for the purpose of the Water Restriction By-law 2/2022 or its successor.

Greater Melbourne Urban Water and System Strategy (Water for Life) means the joint Urban Water Strategy and Melbourne System Strategy prepared by Greater Western Water, Melbourne

Water, South East Water and Yarra Valley Water.

Greater Western Water means Greater Western Water Corporation ABN 700 669 02 467.

Greywater means waste water from bathtubs, showers, laundry troughs and clothes washing machines, but excludes water from kitchens, dishwashing machines and toilets.

Medium-Term Action Plan means a list of actions that provides an indication of those that may be necessary beyond the first 12 months of the Water Outlook period.

Melbourne means the Melbourne metropolitan area in relation to which Greater Western Water, South East Water and Yarra Valley Water have a water supply district.

Melbourne Water means Melbourne Water Corporation ABN 81 945 386 953.

Melbourne Water System Strategy means a plan prepared by Melbourne Water in accordance with its *Statement of Obligations* (General) and that provides an overview of the security of the metropolitan Melbourne water supply system.

Metropolitan Corporations mean Greater Western Water, South East Water or Yarra Valley Water and corporations refers to the three corporations collectively unless the context requires otherwise.

Minimum Levels of Service means we will always provide water to meet basic human needs. We will only implement stage 3 or 4 water restrictions in the event of extreme dry conditions or emergency.

Minister means the Victorian Government Minister responsible for administration of the *Water Act 1989* (Vic) and *Water Industry Act 1994* (Vic).

Ministerial Guidelines means Ministerial guidelines for the development of Urban Water Strategies 2021.

Other emergency event means a serious and unexpected event that may cause water shortages outside of a drought such as, but not limited to, asset failure, bushfire, poor water quality event, major storms and power outages.

Plan means this plan, being Greater Western Water's Drought Preparedness Plan, incorporating its Drought Response Plan.

Reclaimed water means water that has been derived from sewerage systems or industrial processes and is treated to a standard that is appropriate for its end use.

Recycled water means water derived from wastewater that is treated to a standard appropriate for its intended use.

Restrictions means a restriction or prohibition on the use of water contained in Schedule 1 of the by-law.

South East Water means South East Water Corporation ABN 89 066 902 547.

Stage of restrictions means the four stages of restrictions on the use of water contained in by-law, or any one of those stages as the context requires.

Statement of Obligations means a Ministerial directive issued under section 41 of the *Water Industry Act 1994* that imposes obligations on a Metropolitan Corporation in relation to performance of its functions and exercise of its powers.

Storage capacity means the lesser of 1,812,175 ML or the sum of the capacity of the following reservoirs at full supply level - Thomson, Cardinia, Upper Yarra, Sugarloaf, Silvan, Tarago, Yan Yean, Greenvale, Maroondah and O'Shannassy.

Total System Storage means the combined volumes of the water held in storage and available from the Water Supply System to which each corporation has a legally enforceable right or entitlement at that point in time but excluding water to which the Metropolitan Corporations hold notional future rights (e.g. desalinated water subject to a forward order, the Northern Victoria Bulk Entitlement subject to critical human need) unless agreed otherwise by the Metropolitan Corporations and Melbourne Water.

Urban Water Strategy means a strategy prepared by each of the Metropolitan Corporations in accordance with their respective *Statements of Obligations* and in consultation with Melbourne Water.

Water means:

- water supplied by the works of Greater 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
- a mix of:
 - the water described in paragraph (a)
 - any other water, including the water described in paragraphs (c)-(f)
- but does not include:
 - recycled or reclaimed water
 - greywater
 - stormwater
 - 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 anyway by water (defined in paragraphs (a) and (b) above).

Water Available to Greater Melbourne means the volume of water that is held in the reservoirs of the Water Supply System and available to the Metropolitan Corporations.

Water corporation means a water corporation as defined in the *Water Act 1989*.

Water Outlook period means the forthcoming five-year period from 1 December each year, which corresponds to the commencement of the Water Outlook pursuant to clause 4.

Water Supply System means the reservoirs and the associated weirs, tunnels, transfer conduits, treatment plants and associated water supply works used to supply the Metropolitan Corporations.

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

Water Outlook means a Water Outlook for the relevant Water Outlook period, prepared in accordance with clause 4.

Yarra Valley Water means Yarra Valley Water Corporation ABN 93 066 902 501.

Interpretation

A reference to:

- legislation (including subordinate legislation) is to that legislation as amended, re-enacted or replaced, and includes any subordinate legislation issued under it
- a document or agreement, or provision of a document or agreement, is to that document, agreement or provision as amended, supplemented, replaced or novated
- a party to any document or agreement includes a permitted substitute or permitted assign of that party
- 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
- anything (including a right, obligation or concept) includes each part of it
- singular word includes the plural and vice versa
- if a word is defined, another part of speech has a corresponding meaning
- 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
- an interpretation that would promote the efficient use of water must be preferred to an interpretation that would not promote such use.

Water outlooks

Explanation

The Water Outlook is the mechanism used by the Metropolitan Corporations and Melbourne Water to monitor and analyse the Water Supply System, trends in demand and the system's ability to meet the Agreed Level of Service and Minimum Level of Service.

Where a Water Outlook indicates that the existing system cannot ensure the Agreed Level of Service and Minimum Level of Service can be met, actions may be implemented in accordance with an Annual Action Plan to improve water security.

System Monitoring

For the purpose of informing each Water Outlook, the Metropolitan Corporations will seek from Melbourne Water:

- relevant climate forecasts produced by the Bureau of Meteorology
- simulations of the likely range of inflows (based on streamflow scenarios as determined by Melbourne Water and DELWP in consultation with the Corporations)
- assessments of the projected storage volumes of reservoirs managed by Melbourne Water, taking into account the likely demands for water as forecast by the corporations
- for a period of up to five years or such other period agreed to by Melbourne Water and the Metropolitan Corporations.

Outlook Zones and Action Points

The Water Outlook will provide an overview of Total System Storage and the Water Available to Greater Melbourne at the commencement of the Water Outlook period with reference to Action Points. The Action Points delineate the four zones as set out in the following pages. The applicable zone for the first 12 months of the Water Outlook period is determined at 30 November for the period commencing on 1 December of that year.

The water security position may be reviewed with reference to the four water outlook zones at additional dates as considered necessary by the Metropolitan Corporations and Melbourne Water.

There are a series of actions the Metropolitan Corporations and Melbourne Water will continue to take to manage water security across all water outlook zones, outlined as follows:

Ongoing actions across all zones	<p>Continue to engage in conversation with our customers about water knowledge and responsible water use.</p> <p>Continue investment in:</p> <ul style="list-style-type: none"> • Integrated Water Management • Community Rebates Program • network efficiency. <p>Continue investment in monitoring networks, databases and planning models.</p> <p>Maintain a watching brief on best practices for maximising water security.</p> <p>Apply permanent water saving rules at all times.</p> <p>Manage the distribution of water between storages to optimise catchment and desalination harvest.</p>
---	---

Actions to be taken in each zone:

Zone	Description	Action Points at 30 November*
<p>Be Responsible</p> <p>Total System Storage equal to or greater than 75%</p> <p>Water Available to Greater Melbourne equal to or greater than 760 GL</p>	<p>Continue using water efficiently: Make every drop count; continue using water efficiently to avoid restrictions.</p>	<ul style="list-style-type: none"> • Use current sources as required to optimise water available for Melbourne, and build resilience against drought • Assess and progress options for trading water with other bulk entitlement holders • Water knowledge campaign focus: educate and set context • Develop plan for annual 5% demand reduction to be implemented in Be Proactive zone (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 1 and/or 2 restrictions) • Identify non-residential sectors for targeted water savings programs and design programs to be implemented in Be Proactive zone • Continue to engage in conversation about opportunities to improve resilience and water efficiency for priority community assets and open spaces, including through integrated water management forums • Develop and maintain cross-discipline and cross-agency processes and teams required to implement responses to drought and declining levels of water security • Assess sector readiness to implement severe water restrictions if required. <p>In line with the agreed augmentation trigger framework and government policy settings, advocate or undertake:</p> <ul style="list-style-type: none"> • Assessment of supply augmentation options and lead times • Implementation of actions to reduce lead times.

Zone	Description	Action Points at 30 November*
<p>Be Proactive</p> <p>Total System Storage is less than 75% and equal to or greater than 60%</p> <p>Water Available to Greater Melbourne is less than 760 GL and equal to or greater than 530 GL</p>	<p>Reduce your water usage; make every drop count to avoid restrictions.</p>	<ul style="list-style-type: none"> • Increased use of desalination to build storage buffer and optimise water available for Greater Melbourne* (subject to system and operating capabilities) • Assess and progress options for trading water with other bulk entitlement holders • Water knowledge campaign focus: awareness and action • Implement plan for annual 5% reduction in demand in Be Proactive zone* (may include communications and behavior change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 1 and/or 2 restrictions) • Monitor the effectiveness of actions by tracking demands relative to target 5% reduction in demand; adjust actions if required • Develop plan for annual 10% demand reduction to be implemented in Act Now zone* (may include communications campaigns, behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 3 and/or 4 restrictions) • Implement 'Be Proactive' non-residential water saving programs • Design 'Act Now' non-residential water saving programs • Engagement about priority community assets and open spaces that may be at risk, including support to identify opportunities to improve resilience and water efficiency • Increase engagement with internal communications teams and external stakeholders • Activate cross-discipline and cross-agency processes and teams in response to declining levels of water security • Assess emergency temporary supply options • Commence planning to implement severe water restrictions if required. <p>In line with the agreed augmentation trigger framework and government policy setting, advocate or undertake:</p> <ul style="list-style-type: none"> • Confirmation of preferred supply augmentation option(s) • Completion of detailed design of preferred supply augmentation option(s) • planning for preferred supply augmentation(s).

Zone	Description	Action Points at 30 November*
<p>Act Now</p> <p>Total System Storage is less than 60% and equal to or greater than 45%</p> <p>Water Available to Greater Melbourne is less than 530 GL and equal to or greater than 300 GL</p>	<p>Minimise your water usage; water restrictions are likely.</p>	<ul style="list-style-type: none"> • Use desalination to capacity (subject to system and operating capabilities) • Assess and progress options for trading water with other bulk entitlement holders • Water knowledge campaign focus: action for next steps • Implement plan for annual 10% reduction in demand in Act Now zone (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 3 and/or 4 restrictions) • Monitor the effectiveness of actions by tracking demands relative to target 10% reduction in demand; adjust actions if required • Develop plan for demand reduction in Critical Water Use Only zone to essential needs (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 3 and/or 4 restrictions) • Implement Act Now non-residential water savings programs • Develop Critical Water Use Only non-residential water savings programs • Targeted engagement focusing on at risk priority community assets and open spaces • Strengthen cross-discipline and cross-agency processes and teams responding to drought, including assessing the need for a dedicated Industry Response Team • Develop plan to implement in Critical Water Use Only zone, including demand reduction and supply options; including governance processes • Confirm preferred emergency temporary supply options, and complete detailed designs • Prepare for implementation of stage 3 and/or 4 level water restrictions if required. <p>In line with the agreed augmentation trigger framework and government policy setting, advocate or undertake:</p> <ul style="list-style-type: none"> • Continued planning and preparation of - preparation of business case for implementation of preferred supply augmentation(s).

Zone	Description	Action Points at 30 November*
<p>Critical water use only</p> <p>Total System Storage is less than 45% and equal to or greater than 25% (minimum operating level)</p> <p>Water Available to Greater Melbourne is less than 300 GL</p>	<p>Extreme water shortage; water restrictions are likely.</p>	<ul style="list-style-type: none"> • Use desalination plant to capacity • Progress options for trading water with other bulk entitlement holders • Use Sugarloaf (North-South) Pipeline (if conditions are met) • Water knowledge campaign focus: action for next steps • Implement plan for essential needs demand reduction in Critical Water Use Only zone (may include communications and behaviour change campaigns, voluntary demand reduction actions, water efficiency (residential and non-residential) and stage 3 and/or 4 restrictions) • Implement Critical Water Use Only non-residential water savings programs • Targeted engagement taking a case-by-case approach to at risk priority community assets and open spaces • Implement sufficient emergency supply options to meet restricted demand on an ongoing basis <p>In line with the agreed augmentation trigger framework and government policy setting, advocate or undertake:</p> <ul style="list-style-type: none"> • Implementation of preferred supply augmentation(s).

*In the event of different ones being indicated by Total System Storage and Water Available for Greater Melbourne at 30 November, the lower zone shall apply.

Action Points

The Action Points for each zone are as set out in sub-clause 4.3 or as otherwise agreed in accordance with paragraph (b).

The Metropolitan Corporations in consultation with Melbourne Water may seek to amend the Action Points of any or all zones after considering any changes to:

- the total number of serviced properties in the areas specified for the Metropolitan Corporations
- demand for water and savings from restrictions as projected by the Metropolitan Corporations
- operating procedures for conserving or delivering water
- the Water Supply System (either functionally or operationally)
- long-term climate change and streamflow data.

Amendment of Action Points

To avoid any doubt, an amendment to an Action Point constitutes a variation to this Plan and must be made in accordance with the requirements for varying a Drought Preparedness Plan.

Development of the Water Outlook

Each year, the Metropolitan Corporations will collaborate with each other and Melbourne Water and produce a Water Outlook that provides a forward view of the supply-demand balance for water in Melbourne, after considering a range of factors, including but not limited to:

- Total System Storage over the Water Outlook period
- Water Available to Greater Melbourne
- past and forecast weather and catchment conditions
- past and forecast inflows to the Water Supply System
- past and forecast trends in demand
- demand for water and savings from Actions, including restrictions, as projected by the Metropolitan Corporations
- investments and works that are to be undertaken in accordance with the prevailing Urban Water Strategy for each Metropolitan Corporation and the Melbourne Water System Strategy

- water from the Victorian Desalination Project
- statement of short-term water security and the likelihood of restrictions over the coming period
- actions, including restrictions that may be implemented in accordance with this Plan.

The development of the Water Outlook must incorporate the core processes outlined in Schedule 2.

The Water Outlook must be produced before, and commence on, 1 December each year.

Publication of a Water Outlook

By 1 December each year, Greater Western Water will publish on its website:

- the Water Outlook for the Water Outlook period commencing on that day
- the Annual Action Plan for the first 12 months of that period
- the Medium-Term Action Plan for the remainder of that period.

Action Plans

Annual Action Plan

Each Metropolitan Corporation and Melbourne Water must, as part of the Water Outlook, prepare an Annual Action Plan for the first 12 months of the Water Outlook period.

The Annual Action Plan will include actions to be implemented between 1 December in that year and 30 November in the following year and will identify when and how those actions will be implemented.

A Metropolitan Corporation's Action Plan may also include the identification of joint works and/or measures that would be undertaken by the Metropolitan Corporations and/or Melbourne Water.

The Annual Action Plan may stipulate criteria and conditions,

including, but not limited to, Total System Storage levels, Water Available to Greater Melbourne, water saving goals or other measures, pursuant to which an action may be implemented, varied or ceased during the relevant year.

Where the Annual Action Plan includes the imposition of a stage of restrictions, the procedures in section 3 – Drought Response Plan, and Schedule 1 in this document – Operating Provisions – Drought Response Plan, the by-law and the Act will be followed to implement and lift the stage of restrictions.

Medium-Term Action Plans

In addition to the Annual Action Plan, the Metropolitan Corporations and Melbourne Water must, as part of the Water Outlook development process, develop a Medium-Term Action Plan that provides an indication of actions that may be necessary beyond the first 12 months of the Water Outlook period.

The Medium-Term Action Plan will be reviewed each year and used as an input into the development of the Annual Action Plan for the relevant Water Outlook period.

Assessment of Actions for inclusion in the Action Plans

The development of an Annual Action Plan and a Medium-Term Action Plan will require the consideration of a range of factors including but not limited to:

- the current Urban Water Strategies
- the current Melbourne Water System Strategy
- current and forecast Total System Storage levels
- current and forecast Water Available to Greater Melbourne
- performance of the Water Supply System
- the projected volume of water to be saved or delivered by the

actions to be included in the relevant Action Plan

- the volume of water required to return Total System Storage and Water Available to Greater Melbourne to or keep Total System Storage and Water Available to Greater Melbourne within, the Be Responsible zone
- weather and catchment conditions
- trends in demand
- demand for water forecast by the Metropolitan Corporations and any other water corporation holding primary entitlements to the Melbourne supply system
- other actions that may be implemented in accordance with this Plan
- information gathered during the previous 12 months.

When Total System Storage and Water Available to Greater Melbourne is in the Critical Water Use Only zone (as at 30 November), the Annual Action Plan will consider including the imposition of a minimum of stage 3 restrictions from 1 December in that year.

Updating a Water Outlook and Annual Action List

The Metropolitan Corporations and Melbourne Water may amend a Water Outlook, Annual Action Plan or Medium-Term Action Plan, at any time where there is, or is likely to be, a material change to any of the factors included in items (i) – (xi) of sub-clause 5.3 (a).

Notice of amendments to a Water Outlook, Annual Plan or Medium-Term Action Plan must be published by Greater Western Water on its website within a reasonable period of the amendment made.

Administration of Restrictions

Cooperation Between The Metropolitan Corporations

Greater Western Water will work collaboratively with the Metropolitan Corporations to ensure consistency in the application of restrictions throughout Melbourne.

Greater Western Water must:

- consult all other Metropolitan Corporations about its policy for granting exemption(s) from any restriction and use its best endeavours to adopt policies consistent with each other Metropolitan Corporation
- use its best endeavours to ensure that its decisions in relation to applications for exemptions are consistent with both its own previous decisions and those of other Metropolitan Corporations
- ensure that its policies and decisions regarding exemptions are consistent with the agreed water saving objectives
- cooperate with other Metropolitan Corporations in devising and implementing a joint community information campaign to reinforce the restrictions in place at any given time and in sharing the costs of that campaign, wherever appropriate
- inform DELWP and other relevant stakeholders (regional water corporations, local ministers, councils, etc.) of decision to implement restrictions.

Greater Western Water will also work collaboratively with other corporations and State Government where necessary.

Consistent Enforcement Processes

The Metropolitan Corporations must agree on the form of enforcement processes to be undertaken in response to contraventions of restrictions imposed pursuant to the Plans (including notices as required under the Act).

Principles For Exemptions

In considering exemptions under this Drought Preparedness Plan, incorporating the Drought Response Plan, and consistent with the Greater Western Water by-law, Greater Western Water will be mindful of:

- significant economic impacts
- damage to public open space and the activities they support
- irreversible damage to private gardens

Greater Western Water will adopt the following general principles:

- manage exemption approvals to ensure security of supply in times of water restrictions
- assist in minimising the economic, health and structural impact of water restrictions on customers and the community
- implement policy and management processes/systems for exemptions
- ensure consistency of policy interpretation for the consideration of exemptions
- and will publish on its website any guidelines and forms to apply for general exemptions and particular exemptions.

Schedule 2: Core Process For Developing the Water Outlook

The development of the Water Outlook involves the following core processes including how the Water Outlook model is to be developed and issues that must be included. The Water Outlook's development will be undertaken in line with the requirements outlined in the Urban Water Strategy Guidelines 2021 (section 14.1; core requirement 14.1, see 'For noting') and the Annual Water Outlook guidelines, released annually by DELWP.

Overall Context

The Annual Water Outlook must provide information (for each water supply system) on:

- the current water resource position
- a forward outlook over the coming year at a minimum, and five years if possible, under range of plausible climate scenarios
- the likelihood of restrictions
- whether agreed levels of service will be able to be met under these scenarios
- action/s proposed to improve system performance if agreed levels of service are unable to be met.

Streamflow Scenarios

The streamflow scenarios (including the future climate scenarios) will be determined by Melbourne Water and DELWP in consultation with the Metropolitan Corporations. They will be derived with reference to streamflow inputs adopted for other water resource planning processes.

In most years, it is expected that at least four streamflow scenarios will be defined (wet, average, dry and extreme).

Modelling Scenarios

The type and number of modelling scenarios may include any combination of:

- streamflow scenarios
- demand projections, including restricted demand where appropriate
- environmental flow requirements
- operational constraints (e.g. infrastructure utilisation)
- planned actions (including augmentation and demand management actions).

Demand Projections

Unrestricted or restricted demands

Either unrestricted or restricted demands can be used as an input to the water resource models. It is expected that on most occasions, the unrestricted demands will be used as an input to the model. The Metropolitan Corporations will provide the necessary demand projections required for water outlook modelling.

Other water corporations

It will be necessary for other water corporations to provide demand projections (that is, the volume of water that they will require from the Melbourne Water Supply System in any year) for each of the defined streamflow scenarios (wet, average, dry and extreme dry). This may require them to undertake independent water resource modelling of their supply systems in order to determine their demand from the Melbourne system under these scenarios.

The annual allocation (maximum available volume) from the Melbourne water supply system to other corporations will be determined in accordance with the relevant bulk entitlement.

Environmental flow requirements

Environmental flow requirements must be accounted for in the model with priority over extractive uses. These flow requirements should include:

- scheduled environmental flow releases
- any estimated volume and timing of future environmental flow releases.

Planned actions

It is important to ensure that any planned actions that might be implemented during the Water Outlook period are understood so that they can be factored into system modelling.

The planned actions will be compared with those established by the modelled scenarios to understand where actions need to be brought forward.

Water Outlook – Action Points

Action Points to assist in the development of the Water Outlook will be established, in accordance with sub-clauses 4.5 and 4.5 of Schedule 1.

The Action Points will define Be Responsible, Be Proactive, Act Now and Critical Water Use Only zones in terms of Total System Storage and Water Available to Greater Melbourne.

For noting

Urban Water Strategy Core Requirement 14.1

Annual reviews of the progress of the Urban Water Strategy (UWS) implementation – must be undertaken in parallel with the preparation of the Annual Water Outlook and submitted to DELWP at the same time. This will ensure the UWS is a ‘live’ document and supports adaptive management as circumstances change.

The annual UWS review process must include:

1. Review of key forecasts

The supply/demand scenario forecasts made in the UWS are reviewed against the actual recorded information to depict the status of the current situation.

- Key forecasts included in the UWS are the number of customers, the demand for water (including recycled water) and sewerage inflows.
- Key variances are discussed and potential changes or amendments to these forecasts recommended.

2. Tracking Implementation of UWS actions

UWSs recommend several further investigations, key system augmentation and stakeholder engagement.

Specific points in the implementation review are:

- key achievements
- status of actions including commentary of actions being delivered such as trigger points being hit or actions at risk
- changes to the Action Plan – new actions, modifications to existing actions or actions that are no longer required
- updates to the UWS – key amendments to the UWS are discussed.

3. System summaries

Summary of system challenges (water and sewerage services), proposed resolution and items for further resolution/investigation

4. Communication

- The key outcomes of the review will be communicated to customers in the Annual Water Outlook.
- The outcomes of the review are provided to DELWP.

Note To The Drought Preparedness Plan and Response Plan: Greater Western Water Supply Augmentation Options

Greater Western Water has water supply sub-systems which are separate from the Greater Melbourne supply system. Therefore, it may have different options for managing droughts, which are detailed in this note to the Drought Preparedness Plan.

In general, there is a range of options open to augment supply. 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 1 indicates a range of augmentation options and the potential of each for the Greater 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 Greater Western Water systems. A detailed discussion of the options for each system is presented in tables 2, 3, 4 and 5.

Table 1: Options for augmenting supply

Augmentation Option	Rosslynne System	Romsey-Lancefield System	Woodend System	Merrimu system	Myrning System
Aquifer storage and recovery	✗	✓	✗	✓	✗
Class A recycled water	✗	✗	✗	✓	✗
Class B recycled water	✓	✗	✗	✓	✗
Class C recycled water	✗	✓	✓	✓	✗
Groundwater	✗	✓	✓	✗	✗
Loss reduction	✗	✗	✗	✗	✗
Rainwater tanks	✗	✗	✗	✗	✗
Supplementary surface water	✓	✓	✓	✓	✓
Stormwater	✗	✗	✗	✓	✗
Transfer of water right/ water trading	✓	✓	✓	✓	✓
Water cartage	✗	✓	✓	✗	✓

Merrimu system

Table 2 documents short-term water augmentations that may be available for the Merrimu system. Longer-term options are discussed in the *Water for Life* strategy (GMUWSS) and subsequent investigations.

Table 2: Merrimu system options for augmenting supply during drought

Augmentation Option	Option comment	Likely to be effective	Timeframe
Aquifer storage and recovery (ASR)	Investigations have commenced for a recycled water ASR scheme at Melton R WP. Option does not generate any new water, only provides additional storage space for Greater Western Water.	No	2-3 years from project inception
Class A recycled water	Available to some parts of new growth areas and some industrial areas of Melton.	Yes	Active
Class B recycled water	Class B available to some areas of Melton for irrigating public open space.	Yes to a limited area	Active
Class C recycled water	Available for agricultural uses at Melton RWP.	Currently not substituting use	Active
Groundwater	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.	No	1-2 years
Loss reduction	8-11% water losses are deemed as already quite low.	No	1
Rainwater tanks	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.	No	?
Supplementary surface water	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 <i>Urban Water Strategy</i> action.	Yes	Immediate
Stormwater	Greater Western Water is undertaking a pilot trial of feeding stormwater into Melton Reservoir from new subdivisions south of Melton. This stormwater will be credited from the SRW Merrimu allocation to Greater 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 stormwater to be fed directly into Merrimu Reservoir from new growth areas east of Bacchus Marsh.	Toolern – yet to be proven Policy barriers	Immediate 10-15 years
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 from irrigators.	Partially if enacted early	Immediate
Water cartage	Demand too large for option to be effective.	No	-

Rosslynne System

Table 3 documents short-term water augmentations that may be available for the Rosslynne system. Longer-term options are discussed in the *Water for Life* strategy (GMUWSS) and subsequent investigations.

Table 3: Rosslynne system options for augmenting supply during drought

Augmentation Option	Option comment	Likely to be effective	Timeframe
Aquifer storage and recovery	Not available	No	-
Class A recycled water	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.	Partially	1-2 years
Class B recycled water	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.	Yes to a limited area	Active
Class C recycled water	Class C is provided to some areas of Riddells Creek for irrigating public open space, which is a direct potable substitution. Small agricultural demand.	Yes to a limited area	Active
Groundwater	Currently not available and not expected to generate large volumes.	No	-
Loss reduction	8-11% water losses are already deemed as quite low.	No	1 year
Rainwater tanks	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.	?	?
Supplementary surface water	Supplying additional water from the Melbourne system is a readily available option. Balancing this with 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 large systems are being investigated as an <i>Urban Water Strategy</i> action.	Yes	Immediate
Stormwater	Potential for use of treated stormwater to be fed directly into Rosslynne Reservoir from new growth areas north-east of Sunbury.	Yes; however, current policy barriers	10 years
Transfer of water right/water trading	Trading options are available to gain temporary water allocations in the Melbourne system. There is potential for purchasing water from irrigators – Keilor market gardens. Trading for water unlikely to be effective as users will likely hold on to what they have.	Partially if enacted early	Immediate
Water cartage	Demand too large for option to be effective.	No	-

There is potential to utilise small storages located on Mount 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 Mount Macedon region, local storages can be directly fed into the network if there is a short-term emergency with potable supply to Mount Macedon from the Rosslynne system.

Romsey-Lancefield

Table 4 documents short-term water augmentations that may be available for the Romsey-Lancefield system. Longer-term options are discussed in the *Water for Life* strategy (GMUWSS) and subsequent investigations.

Table 4: Romsey-Lancefield system options for augmenting supply during drought

Augmentation Option	Option comment	Likely to be effective	Timeframe
Aquifer storage and recovery	Investigations to utilise existing groundwater infrastructure to store surplus surface water from Garden Hut Reservoir. Provides additional storage capacity and greater groundwater yields.	TBA – still a rainfall dependent option	1-2 years
Class A recycled water	Currently not available.	No	-
Class B recycled water	Currently not available.	Utilise Class C	-
Class C recycled water	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.	Yes to a limited area	Active
Groundwater	Currently available through existing bore. New bores are being investigated (2018) as part of an <i>Urban Water Strategy</i> .	Yes	1-2 years
Loss reduction	8-11% water losses are already deemed as quite low.	No	1 year
Rainwater tanks	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.	?	?
Supplementary surface water	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.	Yes	Immediate
Stormwater	Currently not available.	No	-
Transfer of water right/water trading	Trading options are available to gain temporary water allocations in the Melbourne system. There is potential for purchasing private bores from irrigators. Trading for water unlikely to be effective as users will likely hold on to what they have..	Partially if enacted early	Immediate
Water cartage	Carting water will only be able to support partial demands and will entail high operating costs.	Partially	Immediate

Woodend

Table 5 documents short-term water augmentations that may be available for the Woodend system. Longer-term options are discussed in the the *Water for Life* strategy (GMUWSS) and subsequent investigations.

Table 5: Woodend system options for augmenting supply during drought

Augmentation Option	Option comment	Likely to be effective	Timeframe
Aquifer storage and recovery	Currently not available.	No	-
Class A recycled water	Currently not available.	No	-
Class B recycled water	Currently not available.	Utilise Class C	-
Class C recycled water	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.	Yes to a limited area	Active
Groundwater	Licence to extract water from an existing bore, however it is not connected to the supply network. Bore would require recommissioning and raw water pipeline to be constructed. Previous drought experience noted that bore was dry as other users were also relying on groundwater. New extraction sites likely to be required.	Partially	1-2 years
Loss reduction	8-11% water losses are already deemed as quite low.	No	1 year
Rainwater tanks	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	?	?
Supplementary surface water	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	Yes	Immediate
Stormwater	Currently not available	No	-
Transfer of water right / water trading	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	Partially if enacted early	Immediate
Water cartage	Carting water will only be able to support partial demands and will come at high operating costs	Partially	Immediate

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 per cent of the total treated water entering the system. The 10 per cent 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 per cent to 3 per cent 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 per kilolitre (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 9,255 kL 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 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 per cent 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 (see Section 10, 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
- To fill tankers in supply zones subject to stages 3 and 4 restrictions, prior written approval is required from Greater Western Water which - which may prescribe the water source.





