

Victorian Annual Water Outlook

December 2019 to November 2020



Aboriginal Acknowledgement

The Victorian Government proudly acknowledges Victoria's Aboriginal community and their rich culture and pays respect to their Elders past and present.

We acknowledge Aboriginal people as Australia's first peoples, and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

Other Acknowledgements

DELWP kindly acknowledges the efforts of the urban water corporations and rural water corporations of Victoria.

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Ministerial foreword

2019 has been another dry year. A third year of drought in parts of Gippsland, and a second year of dry conditions in northern Victoria is hitting farmers and communities hard across those regions.

Storage levels across the state are generally lower compared to last year, and some regional towns in north-west and central parts of the State are already on low-level water restrictions. More towns could follow in the north-east and Gippsland if dry conditions continue. In Melbourne, water supplies are secure, with recent rainfall and inflows from the desalination plant bringing water storages slightly above this time last year.

In rural areas, restrictions on diversions from waterways are expected in unregulated systems, particularly in the north and east. Opening seasonal determinations for 2020-21 in regulated northern systems could be very low. Groundwater is secure, but declines are expected through the year.

Over recent decades Victoria has experienced warmer and drier seasons. This trend is expected to continue over the coming years and the Victorian Government is working with water corporations to ensure we have secure water supplies across the state to meet the challenges of climate change and population growth.

We recognise the need to plan for the short and long-term water needs of our communities. Water corporations have been regularly consulting and engaging with their communities about their needs and views on the best ways to use our water resources. As part of this, water corporations each provide an annual water outlook to keep the community informed about the status of water supplies, expected demand and projections for the year ahead. This Victorian Annual Water Outlook brings these together and presents what to expect in the next twelve months, including the impact of short-term climate trends on water sources.

Water corporations in collaboration with government have continued working to mitigate and reduce the effects of drier conditions while maintaining affordability. While water supplies are secure in Melbourne, our changing climate and population growth means we need to continue to invest in alternative sources of water, such as the desalination plant, recycled water and stormwater harvesting. Without the Victorian Desalination Plant, Melbourne's storages would be eight per cent lower and facing conditions not seen since the Millennium Drought.

In regional and rural Victoria, despite continued drier and warmer than average conditions, effective planning means we are better prepared, more resilient and have a wider range of response options to call upon in times of shortage. For example, in March 2019, the Melbourne-to-Geelong pipeline was activated and is securing water for Geelong and the 1065 km South West Loddon Pipeline will be completed in coming months, providing secure stock and domestic water access

to over 260 rural farming enterprises and 370 lifestyle properties surrounding Wedderburn.

As always, demand management has a big part to play. Victorians should be proud of their water conservation efforts to date and we will need to continue to conserve water. Permanent Water Saving Rules are in place across the State, and the Victorian Government is continuing to promote efficiency through Target 155 in Melbourne and Target Your Water Use in regional Victoria. As we move into what is expected to be another dry summer and for the year ahead, each of us can contribute to Victoria's water security by being smart about our household, business and on-farm water use. Smart water use helps secure our water supplies and allows more water to be used to create greener and more liveable communities now and for the future. If we each save a little, we all save a lot



Lisa Neville
Minister for Water



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*Mallee Catchment
Management Authority*

Introduction

The aim of the Victorian Annual Water Outlook (the Outlook) is to keep Victorians informed about the state's water supplies for the coming year. It also outlines the contingency plans being put in place to cope with any water shortages that may arise. The Outlook is a compilation of the annual water outlooks prepared by all 19 Victorian urban and rural water corporations for the 12-month period from December 2019 through to November 2020.

Due to the highly variable nature of Victoria's climate, 'average', 'dry' and 'worst on record' scenario climate modelling is used to identify potential water security risks and understand the vulnerabilities of each system. The individual water corporations' annual water outlooks present this information and report on the current condition of each water supply system, predict future water availability where possible and outline strategies to meet customer demand. Each water corporation makes its annual water outlook available on its website.

The Victorian Annual Water Outlook takes this information and provides a state-wide overview of the conditions that can be expected this year. It considers the seasonal conditions already experienced in 2019 and the short and long-range forecasts into 2020. The Outlook also summarises environmental water security across the state.

Note: Data provided within this report was correct as at 28 November 2019.

Snapshot for 2020



Rural



In regulated systems, water availability is highly variable across the state. Water share holders have 0 – 100% of their high-reliability water shares.



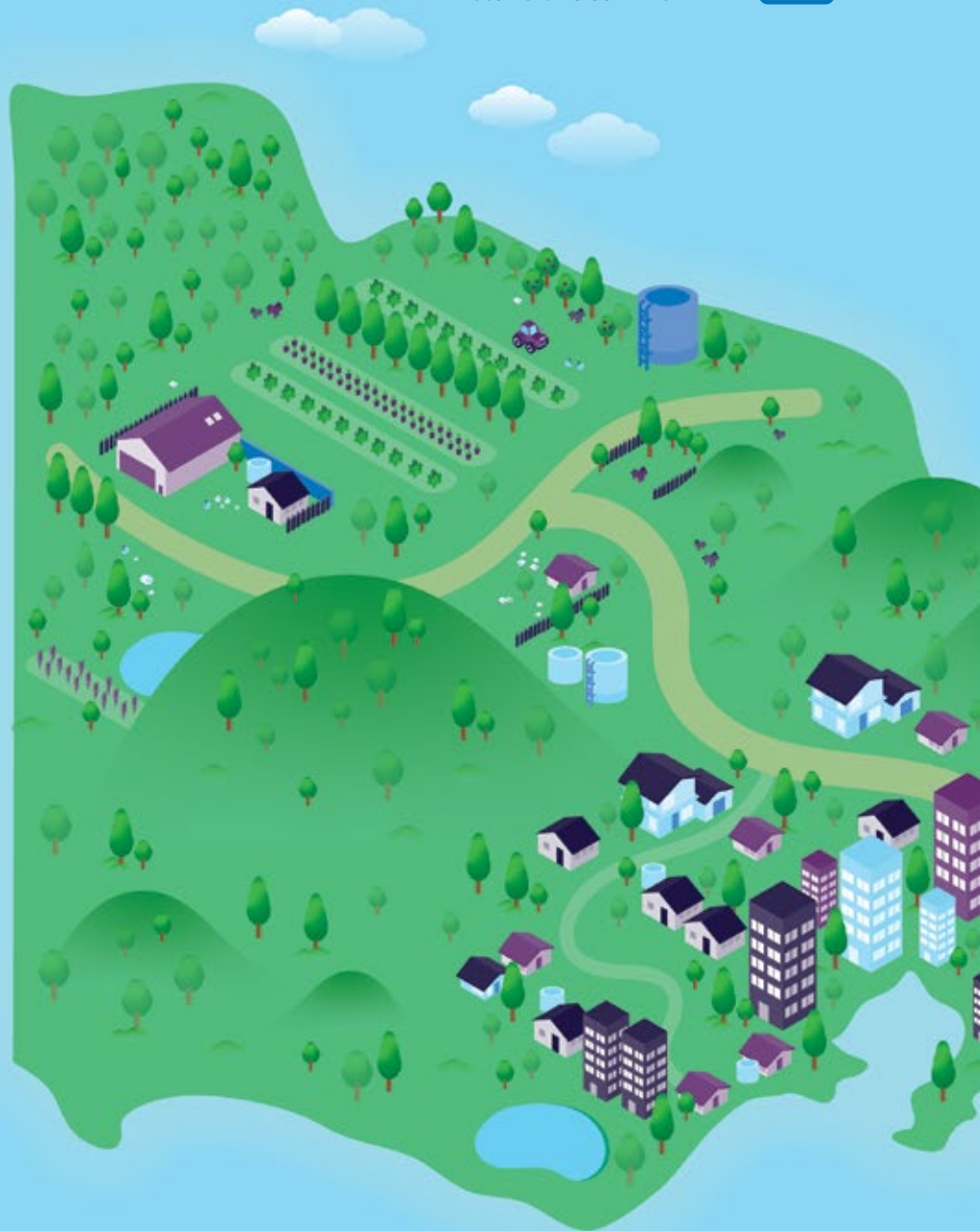
Licence holders in unregulated systems across the state may expect some level of restrictions, rosters or bans, especially over summer. Licence holders in a number of unregulated systems in the Goulburn-Murray, Wimmera-Mallee and greater Melbourne regions are already on restrictions.



Most groundwater licence holders will not be affected by restrictions this year. However continued declines may see more areas restricted in 2020-21

Climate Outlook

Warmer temperatures and below average rainfall are predicted for Victoria this summer.

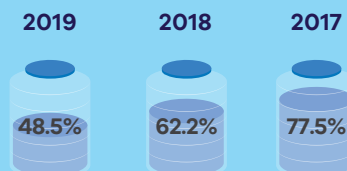


Regional Urban




Low-level (Stage 1 to Stage 2) water restrictions are currently in place across some regional towns in north-west and central Victoria. More could follow in other parts of the state (north-east and Gippsland) if dry conditions persist.


Total storage levels across regional Victoria's major water storages are 13.2% lower than at the same time for November last year. This is largely due to drier than average conditions, especially in the northern and eastern parts of the state.







Melbourne

 **Melbourne will not face water restrictions this summer** with recent rainfall and inflows from the desalination plant bringing water storages slightly above this time last year.

 While water supplies are secure, our changing climate and population growth means we need to continue to **closely manage supply and demand**.

 In collaboration with the water industry, **we have been working to ensure we have a range of water sources to boost supplies if needed over the longer term**, including recycled water and the desalination plant.

 Melbourne is working towards reaching a **Target of 155 litres** per person, per day.

 **Simple changes such as shaving a minute off our showers and running the washing machine only when full** all contributes to ensuring our water supplies remain secure now and into the future.




Drought


A third year of drought in parts of Gippsland, and significantly below average rainfall in 2018 and 2019 in the Millewa, is hitting dryland farmers and communities hard across those regions.



In northern Victoria, a second year of dry conditions and drought in New South Wales is impacting farmers and irrigators through reduced water availability and high cost of water and fodder.

Environmental Water

 **Low reserves of environmental water are possible** across many catchments in 2020, particularly in northern and western Victoria.

 If conditions remain dry, environmental watering in many systems will **focus on maintaining critical habitat for native plants and animals**.

Key messages

Metro and urban water

Barwon Water

Activation of standby sources, the Melbourne-to-Geelong pipeline and Anglesea Borefield, have helped to secure water supply systems for the next two years.

WORST ON RECORD

Apollo Bay: Stage 2 water restriction triggers could be reached by February 2020.

Central Highlands Water

No water restrictions are expected for the next 12 months.

Coliban Water

No water restrictions are expected for the next 12 months.

East Gippsland Water

Facing fourth year in drought and currently in a dry climate scenario.

DRY CLIMATE SCENARIO

Mitchell River system (inc. Bairnsdale, Paynesville, Lakes Entrance): Stage 2 water restrictions highly likely in mid-January, with likely increase to Stage 4 by March 2020.

Buchan and Swifts Creek: highly likely to reach water restriction trigger levels this summer. Water carting in addition to water restrictions proposed.

Gippsland Water

DRY CLIMATE SCENARIO

Briagalong: groundwater system with water restrictions possible this summer unless significant rainfall received. Water carting in addition to water restrictions proposed.

Note: only three or six-month outlooks has been provided for some systems.

Goulburn Valley Water

Stage 2 water restrictions currently in place for Euroa and Violet Town and expected to continue for the next 12 months

WORST ON RECORD

Kilmore, Broadford, Longwood, Mansfield, Merrijig, Sawmill Settlement: water restriction triggers may be reached in the next 6 – 12 months. Water carting and system transfers used where possible, and continued monitoring.






Grampians Wimmera Mallee Water

No urban water restrictions are expected for the next 12 months.

Lake Wartook (servicing Horsham, Natimuk) expected to experience high demand in 2019-20 with potential low storage levels by June 2020. System will be closely monitored.

Lower Murray Water

Stage 1 water restrictions currently in place across all towns.

-  No restrictions expected under average climate scenario
-  Restrictions possible under dry or worst on record climate scenario
-  Restrictions in place or highly likely this summer

Climate scenarios explained

A climate scenario is a plausible and possible representation of the future climate.

Average: based on average climate experienced since 1975.
Dry: based on the driest tenth percentile (10%) of climate experienced since 1975.

Worst on record: similar to the extremely dry conditions experienced during the peak of the Millennium Drought in 2006-07. Note according to water corporation modelling, a worst on record scenario is not expected for any system over the outlook period.



Melbourne

Melbourne Water, City West Water, Yarra Valley Water, South East Water

Water supplies are secure for the next 12 months.

Challenges such as increasing population and drying climate which have contributed to an average annual decline in Melbourne storages of 61 billion litres over the last five years.

Storage levels are approximately 8% higher as a result of water contributed by the desalination project.

North East Water

WORST ON RECORD
 Benalla, Harrietville, King, Wangaratta, Yackandandah, Myrtleford: Stage 1 or 2 water restrictions possible between February and May 2020. Water markets and groundwater proposed to supplement supply.

South Gippsland Water

WORST ON RECORD
 Fish Creek: Stage 1 water restrictions possible in February 2020.

Toora, Welshpool, Port Welshpool, Port Franklin, Barry Beach: Stage 2 possible in February 2020.

Leongatha, Koonwarra: Stage 1 possible in September 2020.

Note: only three or six-month outlooks has been provided for some systems.

Wannon Water

No water restrictions are expected for the next 12 months.

Western Water

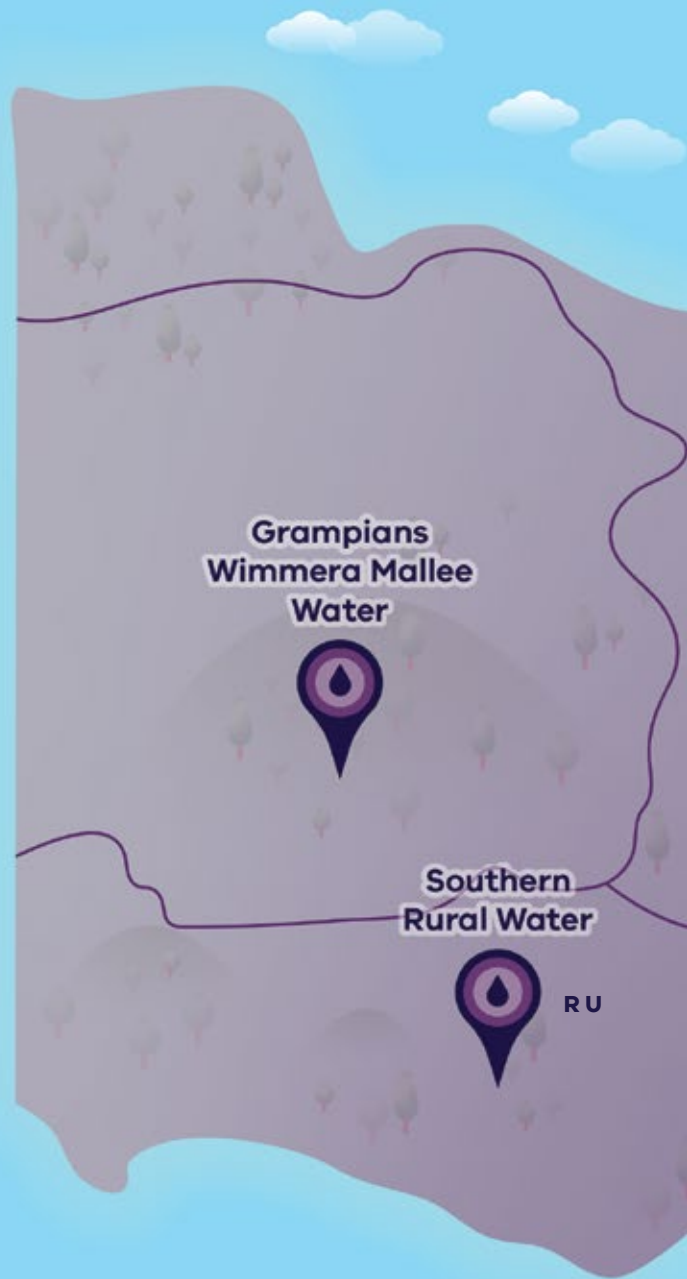
No water restrictions are expected for the next 12 months.

Westernport Water

No water restrictions are expected for the next 12 months.

Key messages

Rural water



Goulburn-Murray Water

Regulated Systems **R**

Murray: 48% HRWS¹ / 0% LRWS²

Campaspe: 60% HRWS / 0% LRWS

Goulburn and Loddon: 61% HRWS / 0% LRWS

Broken: 0% HRWS / 0% LRWS

Bullarook: 100% HRWS / 100% LRWS

If conditions remain dry, low flow contingency measures may be required for the 2020-21 season in the Murray, Goulburn, Campaspe and Broken systems. Opening seasonal determinations for the 2020-21 irrigation season could be very low. Reserves in these systems could be the lowest since the Millennium Drought.

Unregulated Systems **U**

Licence holders on unregulated waterways should anticipate some level of restriction over the summer and autumn period.

Groundwater **G**

Continued declines likely in 2019-20. Largest impacts likely in the western catchments, Shepparton Irrigation Region Groundwater Management Area and Katunga WSPA³.

Licence holder access is restricted to 75% in the Newlyn zone of the Loddon Highlands WSPA and the Barnadown zone of the Lower Campaspe WSPA. Access likely to be restricted to below 100% in 2020-21.

¹ HRWS: High Reliability Water Shares

² LRWS: Low Reliability Water Shares

³ WSPA: Water Supply Protection Area

- R** Regulated Systems
- U** Unregulated Systems
- G** Groundwater



**Grampians Wimmera
Mallee Water**

Rural pipeline customers remain secure for the next 12 months.

**Greater Melbourne Region
unregulated waterway diversions**

Licence holders in minor tributaries in the Maribyrnong and Yarra Basin are expected to be on bans from December 2019 to March 2020. Under dry conditions, bans could continue through to May 2020 and include all streams.

Restrictions are not expected for licence holders on the Yarra River under average conditions but may occur under dry conditions.

Southern Rural Water

Regulated Systems⁴ **R**

Werribee/Bacchus Marsh system:

- 100% HRW / 60% LRWS

Thomson-Macalister system:

- 100% HRWS / 0% LRWS
- Possible announcement for low reliability water shares on 15 December 2019 if Lake Glenmaggie does not spill.

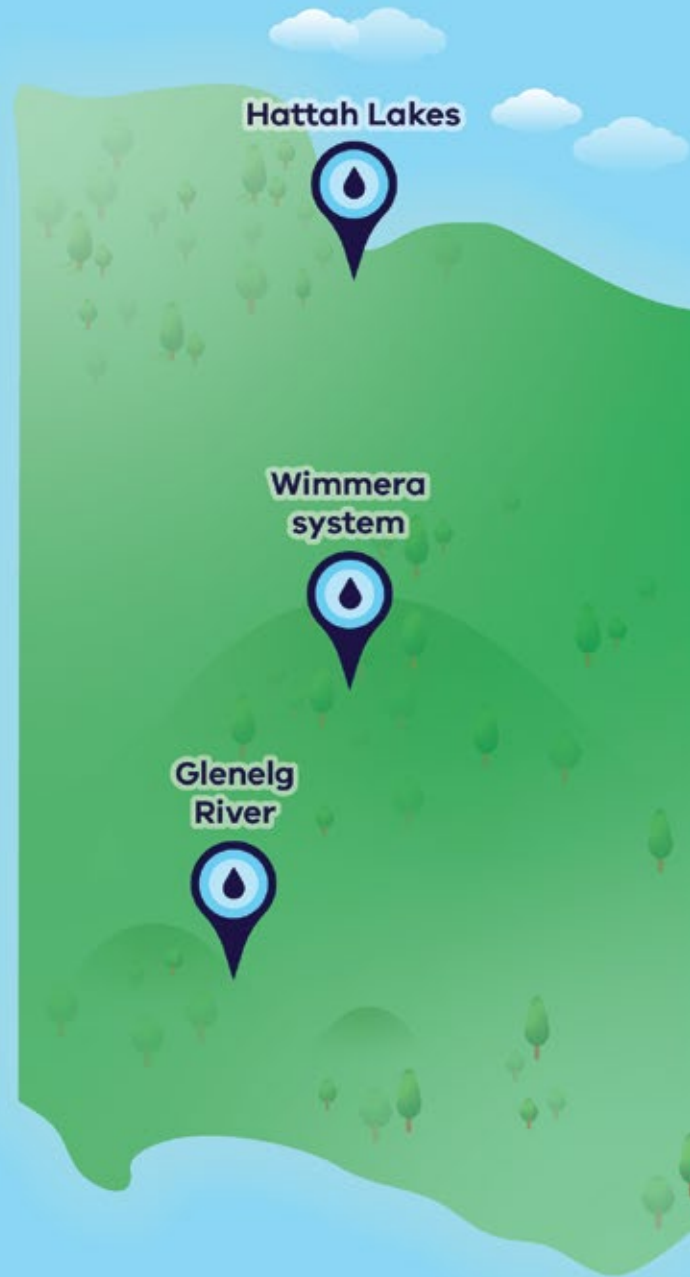
Unregulated Systems **U**

Bans or restrictions on unregulated waterway licence holders likely in central and east Gippsland, central Victoria including Maribyrnong and Dandenong Creek catchments and some western areas of the state from December 2019.

⁴ As of 19 November 2019

Key messages

Environmental water



Glenelg River

Flows will maintain connectivity for migratory fish, including estuary perch and tupong.

Hattah Lakes

Will be allowed to dry over summer to reduce the number of carp. A partial refill in 2020 will support regrowth of aquatic vegetation.

Lake Kramen at Hattah Lakes is being watered for the first time in five years to recover the condition of river red gum and black box trees.

Latrobe River

Delivery to internationally important wetlands: Sale Common, Dowd Morass and Heart Morass.

Moorabool system

Purchased water allocation will increase environmental flows to support native fish, eels and aquatic vegetation.

Murray and Goulburn rivers

Coordinated releases are being reused multiple times along the River Murray, including at Barmah Forest, Gunbower Forest and Hattah Lakes.

Ovens system

The first trial delivery to a wetland (Mullimur wetland near Wangaratta), will complement other management work to remove carp and revegetate the site.



Snowy River

Flows will increase opportunities for canoeing and kayaking on the Snowy River.

Thomson, Macalister

Delivery of environmental flows in autumn to prompt breeding of endangered species including the Australian grayling.

Thomson system: a trial watering of Heyfield wetlands will complement community efforts to rehabilitate the wetland and support educational programs.

Note: This map does not include all the possible environmental watering that may occur in 2019-20. For more information on other activities across Victoria, please visit www.vewh.vic.gov.au.

Wimmera system

Delivery to protect critical refuges for plants and animals, particularly in summer. Deliver to Ranch Billabong near Dimboola, for native plants and animals, in partnership with Traditional Owners. The Ranch is on land owned by the Barengi Gadjin Land Council Aboriginal Corporation.

Yarra system

Delivery for high-priority environmental flows and adjacent floodplain wetlands, Yering Backswamp and Banyule Billabong.

Melbourne Water and Victorian Environmental Water Holder will work with Wurundjeri Woi Wurrung Aboriginal Corporation to incorporate Traditional Owner cultural values into wetland watering.



Climatic conditions

Temperature and rainfall influence water use. We tend to use more water in summer when it is generally hotter and drier (for example for gardens and pools), than in winter when it is generally wetter and colder. Water corporations are continually monitoring storage conditions and use. They forecast demand using short-term seven-day forecasts and the Bureau of Meteorology (BoM)'s seasonal climate outlooks, updated weekly.

Recent conditions

Below-average rainfall and warmer than average temperatures across much of the state.

During the past 12 months, large parts of Victoria experienced warmer than average temperatures and below average rainfall. Over the same period, the north-west of Victoria and parts of Central and East Gippsland regions experienced very much below average rainfall. Some parts of Gippsland are now facing a fourth year of drought.

Last summer was Victoria's warmest summer on record. This was felt mostly in northern, central and eastern Victoria. Autumn saw the fifth consecutive season of drier than average conditions in Victoria, with mild temperatures lasting well into May. Spring continued to bring drier than average conditions, particularly across northern Victoria and in the north and west of Melbourne. Daytime temperatures were also above average.

December to February outlook:

The BoM Seasonal Outlook prepared for summer 2019-20 indicates that warmer than average days and nights are very likely for December to February, with a 60 to 80 per cent chance of exceeding average maximum temperatures over the next three months (Figure 1). The majority of Victoria is not expected to exceed average rainfall over summer (Figure 2).

Long-term trends

Victoria's climate has shown a warming and drying trend over recent decades, and this trend is expected to continue. Although there will still be a lot of variability in Victoria's climate, the chances of experiencing warmer conditions and less streamflow is now higher than in past decades. The BoM seasonal climate outlooks build in the influence of changes in climate that have already occurred.



2019 warmest summer on record. 2.54°C higher than long-term summer average



Autumn rainfall down by 21%.



October was Victoria's eighth driest on record.

Figure 1: Chance of exceeding median maximum temperature for December 2019 to February 2020

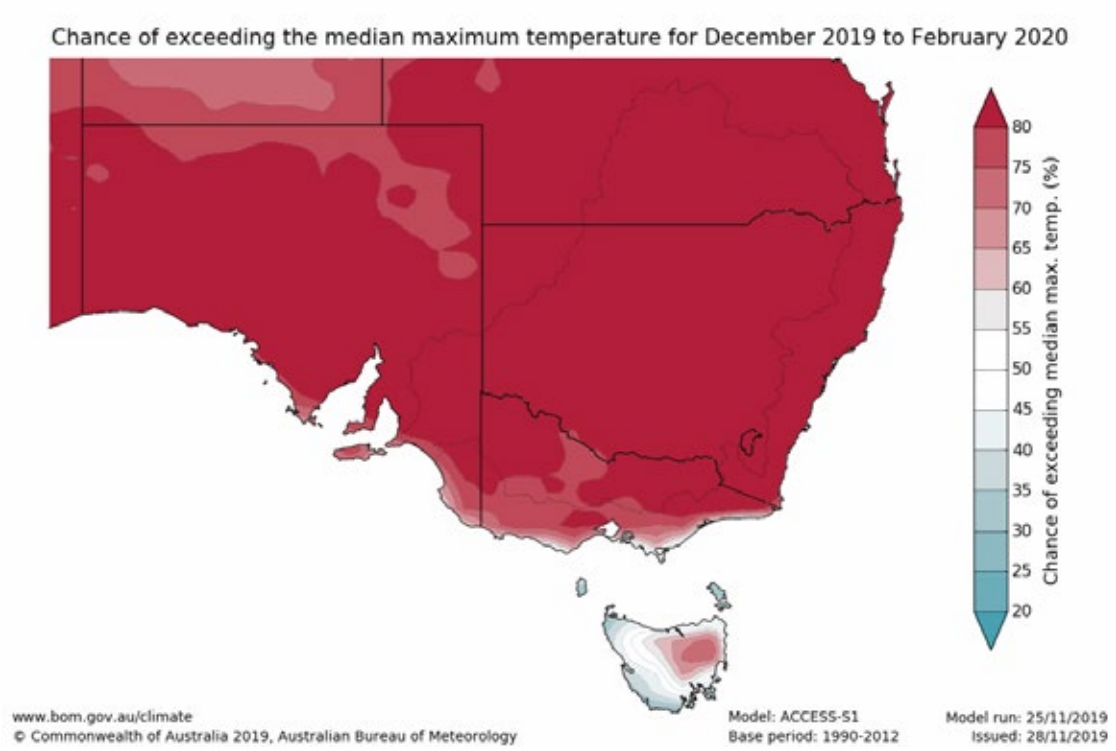
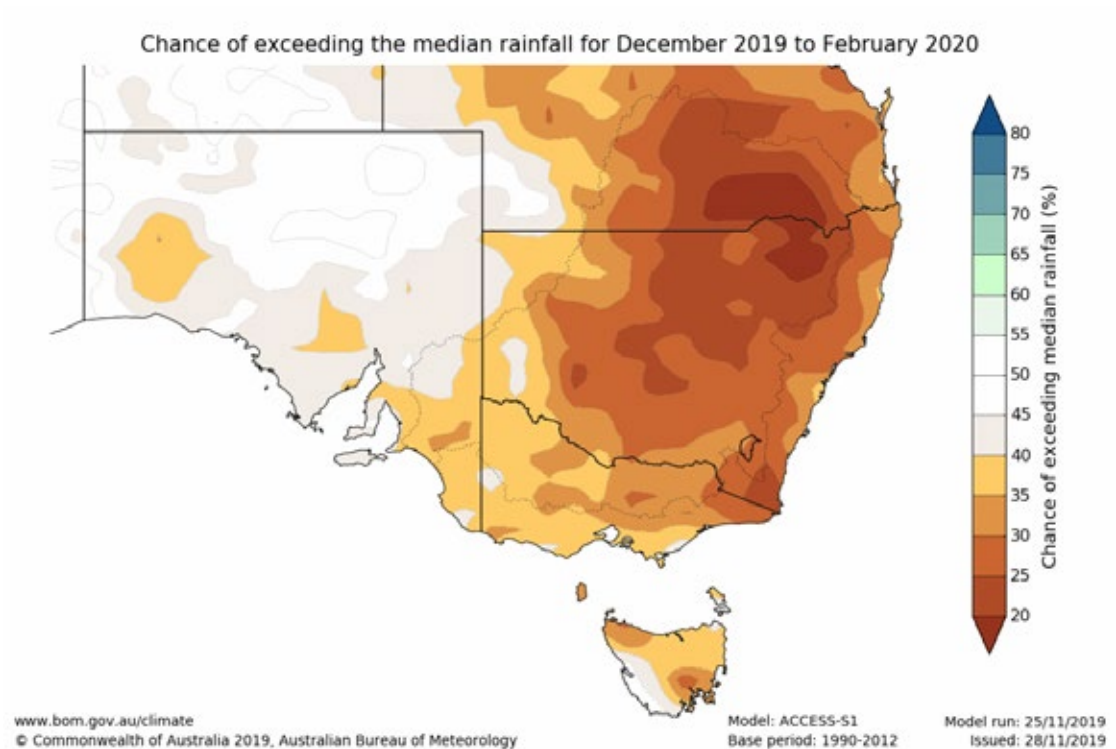


Figure 2: Chance of exceeding median rainfall for December 2019 to February 2020





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Current state of Victoria's water supplies

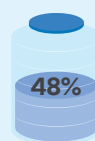


Drier than average conditions across most of the state have resulted in continued declines across most major storages. **Figure 3** shows the state of Victorian storages as at 28 November 2019 in comparison to the previous two years.

As of 28 November 2019, the total volume of water held in Victoria's major storages was 50.3 per cent of storage capacity, less than the 62 per cent at the same time last year.

Melbourne storages are slightly higher than at the time last year, ending the month at 63.9 per cent compared to 63 per cent.

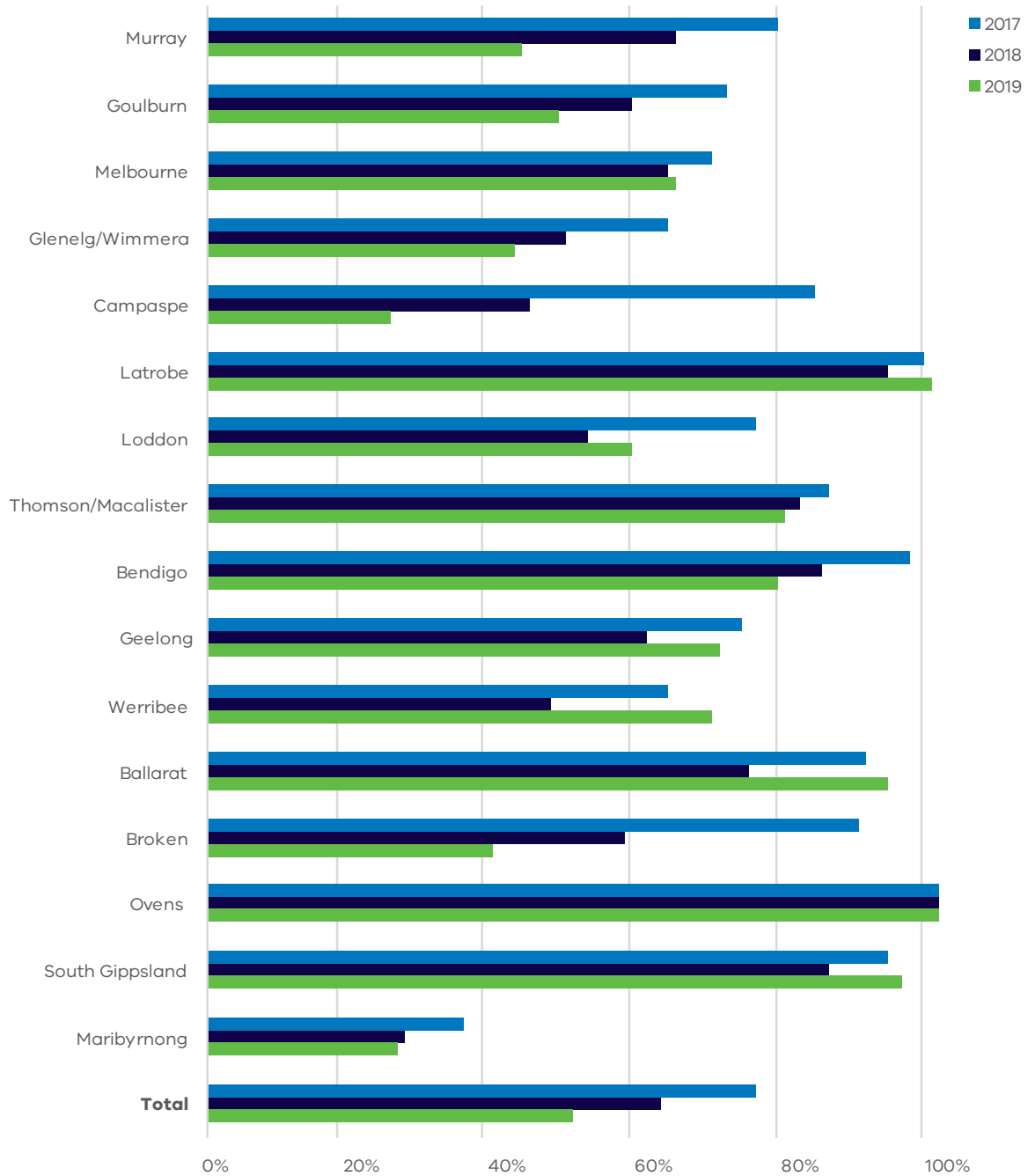
Victoria's regional storages are:



13.2% lower than the same time last year

with 48% compared to 61.2% in 2018

Figure 3: The state of Victorian storages as at 28 November 2019, 2018 and 2017.





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Metro and urban water supplies

Individual urban water corporations assess water supplies on a system by system basis to determine the best ways to manage supply and demand to ensure secure supply for cities and towns.

Water corporations are now better prepared to manage water shortages than before. Implementation of water restrictions is only one of a range of possible responses that water corporations may use to help cope with potential water shortages.

Specific to each system, other responses may include behaviour change campaigns, use of standby water sources, water carting and water trading.

Did you know

There are **100 systems** that supply urban reticulated water to Victorian towns.

There are currently:



14 towns on Stage 1 restrictions (North west Victoria)



Under a dry climate scenario¹

20 towns expected to reach Stage 1 or 2 water restriction levels



2 towns on Stage 2 restrictions (central Victoria)



Under a worst on record climate scenario²:

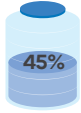



Water restrictions possible for up to 31 towns in the north and east.

¹ Based on the driest tenth percentile (ten per cent) of climate experienced since 1975

² A worst on record scenario would happen if conditions are similar to the extremely dry conditions that occurred during the peak of the millennium drought in 2006-07.

Table 1 contains details for these towns, current water system levels, their outlook for the summer and autumn and the short-term measures available to help affected communities and improve supply security.

Table 1: Victorian towns and potential water restrictions in outlook period

Current water restrictions in place					
Water Corporation	Water System	Towns Supplied	Storage levels	Water restriction level	Other mitigation measures
Goulburn Valley Water	Seven Creeks	Euroa, Violet Town	 45%	Stage 2 Since 11 April 2019	Increase Abbinga Reservoir to 700ML. Investigate bore water as supplement.
Lower Murray Water	Murray Regulated	Mildura, Irymple, Merbein, Red Cliffs, Robinvale, Piangil, Nyah, Nyah West, Woorinen, Swan Hill, Lake Boga, Murrabit, Koondrook, Kerang	 42%	Stage 1 Since 21 November 2019	Target Your Water Use campaign Manage carryover water Identify opportunities to utilise alternative water sources
Under a dry climate scenario					
Water Corporation	Water System	Towns Supplied	Storage levels	Current condition, outlook and risks	Mitigation actions
East Gippsland Water	Mitchell River	Bairnsdale (including Wy Yung and Lucknow), Lindenow, Paynesville, Raymond Island, Metung, Tambo Bluff, Lakes Entrance (including Lake Tyers, Lake Tyers Beach and Kalimna), Nowa Nowa, Nicholson, Johnsonville, Swan Reach, Bruthen, Sarsfield	 98%	Stage 2 water restrictions almost certain in mid-January with likely increase to Stage 4 by March.	Pump installed at Woodglen water treatment plant to allow flows at lower levels. Water from the Mitchell River is being injected into five groundwater bores in Woodglen area as additional raw water storage.
East Gippsland Water	Buchan	Buchan	 88%	Stage 2 water restrictions if water carting is required from the Mitchell River system.	A new raw water storage tank for the Buchan water treatment plant to be completed 2020-21.
Gippsland Water	Brigalong	Brigalong	N/A Groundwater	Stage 1 or 2 water restrictions possible unless a significant aquifer recharge event occurs over summer.	Water carting in severe circumstances. An alternative supply from a deep aquifer is being investigated.
Under a worst on record scenario					

Worst on record conditions are not expected to occur this year. However, if they were to occur, urban water corporations have identified restrictions may be required in up to 31 towns. The annual water outlooks for these systems will be updated accordingly and urban water corporations will implement their Drought Preparedness Plan to minimise the effect of any water restrictions.

Water systems across the state are diverse and many factors influence why some areas of the state and their water systems are more vulnerable to drought than others.

Factors include:

- Climatic conditions
- Physical characteristics of water systems themselves, including reservoir capacity and availability of water for irrigation
- Whether there is a drought reserve
- Flexibility of local demand, including pressure by large industrial or commercial water customers
- Whether there is the option for additional or alternative supplies.

Some parts of the state may be reliant on smaller water systems with small storage that either has less than 12 months' supply or a supply direct from a river or stream. These parts of the state are more susceptible to drought and dry conditions.

Permanent Water Saving Rules are always in place throughout the state to ensure continued sensible water use, even when water restrictions do not apply.

See [page 29](#) for more details.

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Rural water supplies



Northern Victoria:



With dry conditions experienced in 2018-19, numerous unregulated waterways started the 2019-20 water year with restrictions on diversions for licence holders, and a further number have since been implemented.

Weather conditions in the coming months will determine the extent of restrictions on licence holders across Northern Victoria, however, even with average conditions significant restrictions are likely. The seasonal rainfall and temperature outlooks suggest unregulated waterway customers should anticipate some level of restriction on diversions over the summer and autumn period.

Following a dry year in 2018-19, northern Victoria experienced a dry first quarter in 2019-20. Inflows into storages were below average but reserves established in 2018-19 contributed to opening seasonal determinations in the Murray, Goulburn, Campaspe, Bullarook and Loddon systems on 1 July 2019. Seasonal determinations in the Broken opened at 0 per cent high-reliability water shares (HRWS).

On 15 November 2019, seasonal determinations increased with the Murray system on 48 per cent HRWS, Campaspe on 60 per cent, Goulburn and Loddon on 61 per cent HRWS, with the Broken system remaining on 0 per cent HRWS. The Bullarook system remained at 100 per cent HRWS and 100 per cent low-reliability water share (LRWS). A LRWS seasonal determination in the other systems in 2019-20 is highly unlikely (see [Figure 4](#)).

Early system reserves for 2020-21 have already been established in the Goulburn and Murray systems. The Broken, Bullarook and Ovens systems are annual systems and water availability will depend on seasonal conditions and inflows closer to the start of 2020-21.

Seasonal determinations in 2020-21 could be very low if the low inflow trend continues. Contingency planning among agencies will be required early in 2020 if this scenario is looking likely.

The majority of groundwater licence holders have access to 100 per cent of their entitlement, except for those in the Newlyn zone of the Loddon Highlands Water Supply Protection Area (WSPA) and the Barnadown zone of the Lower Campaspe WSPA, who have a 75 per cent allocation for 2019-20. A final allocation announcement will be made for the Newlyn zone in mid-December 2019.

Groundwater levels are likely to continue to decline in 2019-20. The largest impacts are likely to be felt in the western catchments, Shepparton Irrigation Region Groundwater Management Area and the Katunga WSPA. As a result of this, groundwater licence holders in the Lower Campaspe Valley WSPA and Loddon Highlands WSPA are likely to have access to less than 100 per cent of their entitlement in 2020-21.

We are responding through targeted drought support packages and exploring options to make additional water available where possible.



Since September 2018, **more than \$80 million** in targeted drought support has been provided.



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Water shares explained...



A water share is an ongoing entitlement to a share of water available in a water system. The volume of a water share is defined as the maximum amount of allocation that can be made against it each year.

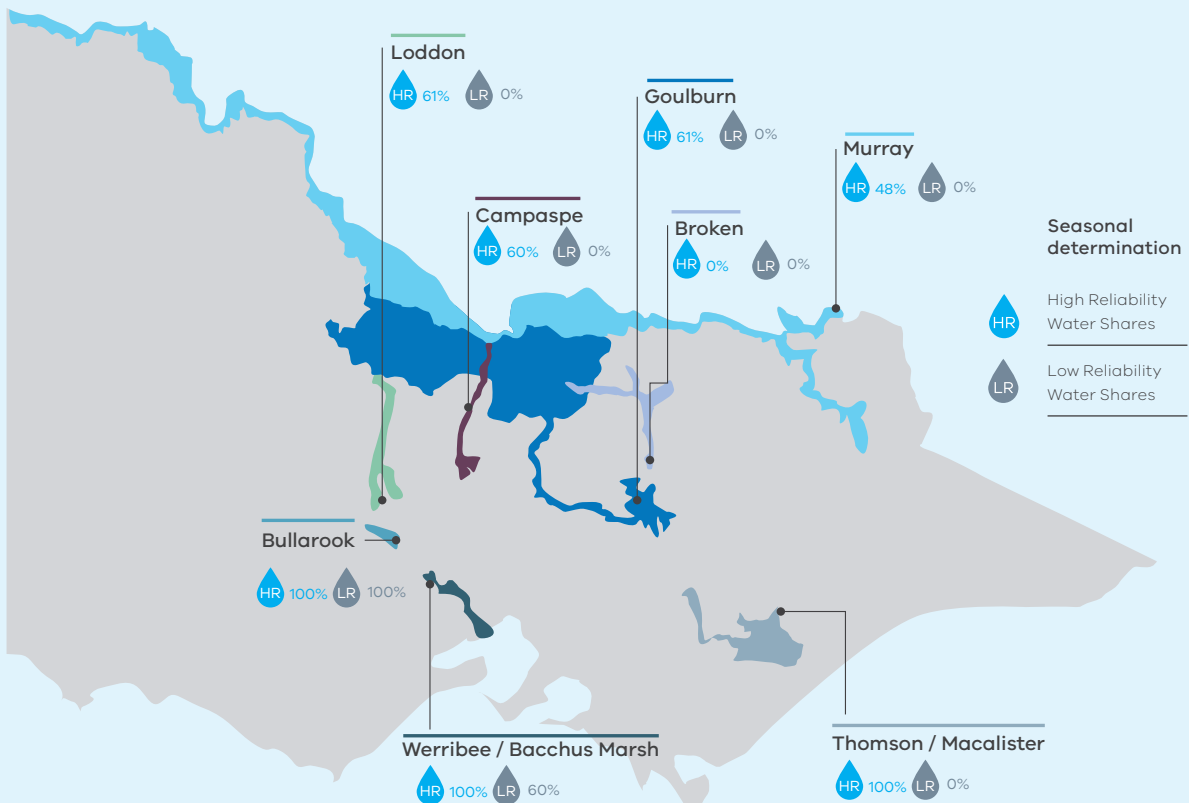
Water shares are classed by their reliability, which is defined by how often full season allocations are expected to be available. There are two types, **high-reliability water shares (HRWS)** and **low-reliability water share (LRWS)**.

Allocations are made to HRWS before LRWS. When HRWS have reached 100% allocation and existing commitments are satisfied, only then will allocation for LRWS be considered.

Figure 4: Seasonal determinations in declared systems in Victoria as at 28 November 2019

1 Water year – 1 July to 30 June

2 Water shares can be high or low-reliability. Seasonal determinations are made to high-reliability water shares before low-reliability shares.



Murray-Darling Basin:

The Murray-Darling Basin Authority (MDBA) is responsible for overseeing the sharing of water in the Murray system between the states and directing system operations to manage the flow and delivery of the water. If there is water available in the dams which cannot be supplied when it is required (i.e. when demand spikes and there is not enough time to release more water from dams, or when the physical channel capacity of the rivers limits the amount of water that can be delivered) the MDBA will announce a

delivery shortfall. A delivery shortfall has always been more likely downstream of the Barmah Choke during summer and autumn.

The MDBA's [Annual Operating Outlook](#) for the River Murray system (published July 2019) shows 2019-20 could be another challenging year with potentially high summer flows through the Barmah Choke. The MDBA will update its Annual Operating Outlook with more information about system operations and likelihood of a shortfall during summer and autumn in early December 2019.

Wimmera-Mallee:



Early winter rainfall in the Wimmera-Mallee was above average but followed by a dry spring, resulting in below average inflows.

The 2019-20 water year started with storages holding 36 per cent of the total capacity, increasing to just over 44 per cent of capacity in early October 2019. The volume in storages then began to decrease through a combination of low inflows, evaporation losses and water releases. Storages are holding 42 per cent (as at 27 November 2019).

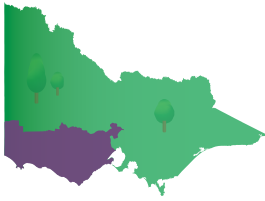
As at 8 November 2019, Grampians-Wimmera Mallee Water (as storage manager for the Wimmera-Mallee system) has made allocations of 35 per cent against the Wimmera-Mallee Pipeline Product and 1 per cent against the Glenelg compensation flow. No allocation has been made against the recreation entitlement, wetlands entitlement or Commonwealth environmental entitlement. However, some

recreation lakes received water from other entitlements. Supplies for rural water customers from the Wimmera-Mallee Pipeline and Northern-Mallee Pipeline are secure this season. Low allocations may require entitlement holders to draw on carryover reserves from the 2018-19 season.

Groundwater supplies remain relatively unaffected by recent conditions. There are sufficient volumes of water available to meet demands, with the exception of Neuarpur Zone 1 which remains on restrictions.

Irrigation triggers reached 100 per cent by mid-August for Wimmera River or Avoca River and irrigation diverters are permitted to take water during 2019-20 season subject to relevant conditions.

South-Western Victoria:



There are two irrigation districts in south-western Victoria - Werribee and Bacchus Marsh – both of which are supplied from the Werribee and Lerderderg catchments via the Werribee system.

In 2018-19, the catchments had a second successive year of below average rainfall resulting in low inflow into the reservoirs. This resulted in an 2019-20 opening seasonal determination of 45 per cent for HRWS. However, the 2019 winter delivered above average rainfall and streamflow, resulting in Pykes Creek and Melton reservoirs filling, with seasonal determinations for Werribee and Bacchus Marsh at 100 per cent HRWS and 60 per cent LRWS, as at 19 November. Further increases to seasonal determination in 2019-20 are unlikely until autumn, however with Pykes Creek and Melton Reservoirs full and 6GL of water carried over from 2018-19, irrigators are well placed for the rest of the season.

Despite the higher than average rainfall in the Werribee catchment, the Maribyrnong catchment has had a poor winter and spring, with Rosslynne Reservoir receiving little inflows. It is currently 27 per cent full which is the same as the previous year.

Slightly above average winter rainfall in the far south-west of Victoria has seen the major waterways of Glenelg River, Wannon River, Hopkins and Mount Emu Creek maintain reasonable flow levels for lengthy periods, similar to last year. Restrictions for licence holders are likely to be in place by early December 2019 to early February 2020, which is normal for these rivers. Central/southwest rivers and streams have generally experienced average to below average rainfall, with flows similar to last year and as a result, restrictions are likely to be in place at a similar time to last year.

Groundwater levels in the western areas are generally showing a stable trend with most groundwater levels normal for this time of year. The exception is the shallow Deutgam aquifer in Werribee South where licence holders have been restricted to 25 per cent of licence volume to protect the aquifer. At the same time last year, they were restricted to 50 per cent.

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Gippsland:



The Gippsland region has faced mixed conditions over winter and spring, with deficiencies in rainfall increasing further towards the east.

The primary source of water for the Macalister Irrigation District (MID) is Lake Glenmaggie. The opening seasonal determination for the 2019-20 water year in the MID was 45 per cent HRWS. Inflows into the catchment were steady during July and August, allowing SRW to increase the seasonal determination to 100 per cent HRWS by 10 September. As at 28 November 2019, customers have not had access to supplementary spill entitlement. The next seasonal determination will be on 15 December 2019. If there is a significant rain event which causes Lake Glenmaggie to spill prior to 15 December (the end of the potential spill period), then all water previously used by customers will be reclassified as spill entitlement and allocation against HRWS will be reset to 100 per cent. If Lake Glenmaggie does not spill, then SRW anticipates making a seasonal determination against LRWS.

As at 28 November 2019, Blue Rock Reservoir (in the Latrobe system) is 98.9 per cent full. Under a medium to low streamflow scenario, Blue Rock Reservoir is likely to decline over summer and will rely on winter/ spring rainfall to fill again.

East Gippsland has been dry for the past three years and the lack of spring rains in 2019 has translated to an early start to the irrigation season for licence holders in unregulated systems, although at this stage there are no streams with restrictions on diversions for licence holders. The outlook is indicating a very low chance of exceeding medium rainfall over the coming summer so it is likely that restrictions on diversions will be in place earlier and longer than normal across east Gippsland. There may be bans on diversions in Cann River and Swifts Creek, and restrictions on the lower Tambo (by early December 2019) and other systems which normally don't face restrictions until February or March 2020. If dry conditions persist in the Mitchell system, restrictions on diversions are likely to be implemented before summer and are likely to be at least as severe as last year.

South/Central Gippsland rivers have been flowing well so far this irrigation season, but licence holders in unregulated streams may face restrictions later in summer.

Groundwater systems do not have any restrictions on extractions by licence holders and have sufficient water availability to meet unrestricted demand.

South-Central Victoria:



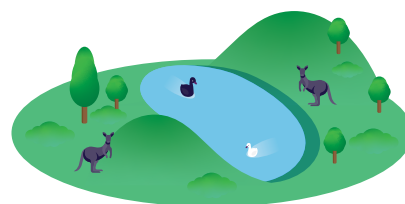
Rainfall has been above average in areas of the central region so far this water year and as a result, unregulated stream flows were higher than expected.

However, higher than average temperatures and below average rainfall are predicted now to January 2020 period and likely to result in low streamflows. Restrictions or bans are expected for licence holders in many areas over the summer irrigation period, in addition to those already on bans.

Conditions in the Maribyrnong and Yarra catchments may lead to restrictions for licence holders being implemented in December 2019. Streamflow in Dandenong Creek is significantly lower than last year and further reductions in rainfall may lead to restrictions or bans for licence holders.

Flows in the Tarago /Bunyip basin are well under last year's levels and if this trend continues, rosters may be introduced in December 2019.

Environmental water supplies



‘Water for the environment’ is water managed to protect and maintain rivers, wetlands and lakes and the native species that rely on them. It is critical in keeping waterways – and the life within and around them – healthy. This has ongoing social and recreational benefits for local communities as well as the homes and farms that rely on healthy, functioning rivers. These are critical when communities are faced with drought.

The Victorian Environment Water Holder (VEWH) holds water entitlements and receives water allocations that can be used for environmental purposes. In planning for environmental watering each year, the VEWH and its partner waterway managers consider a range of possible climate and water availability scenarios to determine environmental watering actions that might be taken under different conditions. The VEWH’s annual seasonal watering plan can be accessed at www.vewh.vic.gov.au.

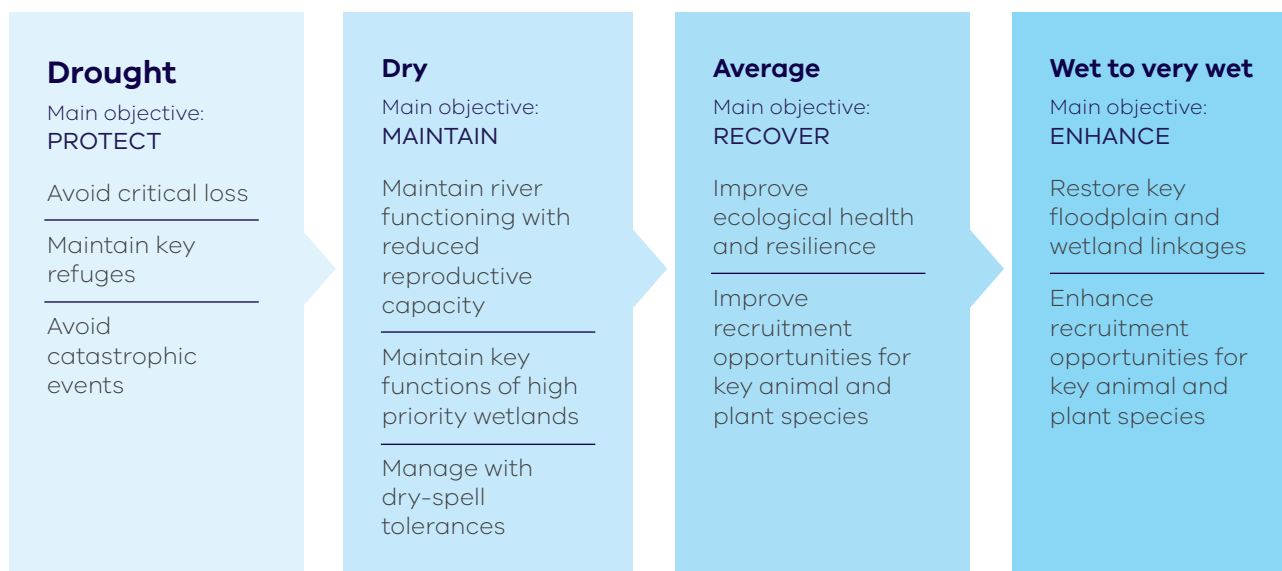
The VEWH took a conservative approach to environmental watering in many systems during 2018-19 to ensure sufficient supply was carried over and available for environmental watering demands under continuing dry conditions during 2019-20. The carryover water has enabled local waterway managers to deliver environmental flows needed to support the health of our rivers and wetlands and help maintain resilience in a dry season. This will help protect important sites in case the dry conditions become prolonged drought.

The VEWH is planning for dry conditions for the rest of 2019-20 and potentially drought conditions if inflows to water storages remain low. During 2019-20 many sites will not be actively watered, but it is still important to maintain critical flow in rivers and deliver water to selected wetlands to maintain habitat and food for native plants and animals. This approach is necessary to protect the outcomes of previous environmental watering and prevent ecological declines that may be difficult to recover in the future.

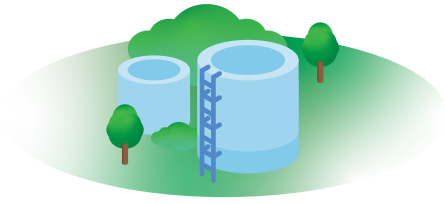
Where possible, VEWH will carryover water to ensure that sufficient water is available to help meet the critical environmental requirements of our waterways in 2020-21.

The VEWH may also consider buying or selling water for the environment where it is important for meeting an environmental objective. The VEWH’s annual *Water Allocation Trading Strategy* covers the trading activity that the VEWH may undertake in each region depending on priority environmental water needs, weather conditions and other factors: www.vewh.vic.gov.au/watering-program/trading.

Figure 5: Examples of environmental watering objectives under different planning scenarios



Securing our water supplies



With the impact of population growth and climate change, we need to stay focused on both water supply and demand.

The Victorian Water Grid

The Water Grid Partnership was established in late-2018 to oversee the grid and realise opportunities to maximise community benefit, water affordability and water security across the state. The partnership consists of water corporations, catchment management authorities and the Victorian Environmental Water Holder, and integrates perspectives from the broader water industry. Throughout 2019, the Partnership focussed on improving our understanding of the grid and the resources it supplies, as well as assessing options to augment the grid.

Desalination Plant

The Victorian Desalination Plant underpins water security for Melbourne and surrounding regions through the water grid and is managed to ensure storages do not reach dangerously low levels.

Better use of our water grid means Melbourne's storages must also be ready to provide for new regional allocations to other towns. The water grid connects the Desalination Plant to many regional towns, including; Geelong, Sunbury, Melton, Cowes, Wonthaggi, Korumburra, Poowong, Loch and Nyora.

To date the Victorian Desalination Project has delivered over 140 GL of water to the Melbourne system. Melbourne's storages would be approximately 8 per cent lower without the water provided from the Victorian Desalination Project.

Water efficiency measures in urban areas

The urban water corporations are working collaboratively with DELWP on a program of initiatives for residential and non-residential customers, including:



Target 155 water efficiency program helping metropolitan Melbourne and Western Water householders to target 155 litres per person per day



Target Your Water Use regional water efficiency program focusing on efficient water use for each region



Schools Water Efficiency Program enabling schools to track their water usage using data loggers to help identify leaks, faulty appliances and inefficient water practices

Community Rebate and Housing Retrofit programs helping vulnerable and hardship customers and not-for-profit housing organisations to reduce water use and bills.

Smart Water Advice provides water utilities, customers and councils with a range of educational, interactive water saving resources - www.smartwatermark.org/Victoria

TIP

To see if you're hitting Target155, check your last water bill. It will tell you if you're using 155 litres per person per day. If it just shows total water use, just divide this by the number of people living at home to get your daily total.

REMEMBER

Permanent Water Saving Rules are always in place. See [page 29](#) for the full list of rules to help guide your water use.



Coliban Water



Demand is as important as supply and we all have an important part to play in conserving water – if we each save a little, we all save a lot.

Public spaces (Urban water security planning)

Each urban water corporation produced an Urban Water Strategy in 2017. They identify the best mix of measures to provide water services in towns and cities now and into the future. These strategies include Drought Preparedness Plans that set out how the water corporation will respond to water shortages if they arise to reduce the need for and impact of water restrictions. The strategies are updated every five years.

As part of those strategies, water corporations continue to engage with councils and other public open space managers, to identify and assess which important liveability assets, such as sporting facilities, public gardens and street trees, would be impacted under water restrictions and the extent to which they should be exempted. Urban water corporations also consult with customers regarding important community assets that may require water to be made available during periods of shortages.

Rural water supplies

Rural water infrastructure is vital to support agriculture and its future growth. Successive governments have invested in modernising irrigation districts with a focus on reducing the amount of water required to operate the irrigation systems and enabling increased value of agricultural production. Governments have partnered with communities to build modern stock and domestic supply systems in drier parts of the state that traditionally rely on rainfall or groundwater. The Wimmera-Mallee supply system is the largest of these systems.

Climate change will increase the need for existing infrastructure to be more efficient. New infrastructure that enables access to water via the

expansion of the water grid is also a consideration. The Victorian Government, the Commonwealth Government and local communities are investing in the South West Loddon Rural Water Supply project which upon completion in the coming months, will provide a more secure stock and domestic water supply to Wedderburn and the surrounding region. The Commonwealth Government has recently confirmed its co-investment along with the Victorian Government and landholders towards the East Grampians Water Supply Project and Mitiamo Reticulated Water Supply Project, allowing these projects to be delivered and provide greater water security through expansion of the grid. Both projects are due to commence in 2020.

Construction work continues on the modernisation of the Goulburn Murray Irrigation district with the Connections Project which is Australia's largest irrigation modernisation project. Other modernisation projects currently underway include the Werribee and Bacchus Marsh Irrigation districts, scheduled to complete in the coming months. Further funding opportunities are being sought to complete modernisation of the Werribee and Bacchus Marsh irrigation districts. Modernisation of the Macalister irrigation district (Phase 1B) is on track to be complete by late 2020 while Commonwealth funding to modernise the final phase of the Macalister irrigation district (Phase 2) was announced in February 2019.

Private landholders and the Commonwealth Government have co-invested in upgrades to existing open channels outside of the Sunraysia irrigation district, which was completed in October 2019.

The Victorian Government has also invested in developing business cases for five feasibility projects listed in Victoria's Northern Water Infrastructure Prospectus³ that have neutral or positive socio-economic impacts and will generate water savings for the environment to meet Victoria's Basin Plan targets.

³ https://www.water.vic.gov.au/_data/assets/pdf_file/0028/395830/Victorias-Northern-Water-Infrastructure-Prospectus-Continuing-to-deliver-the-Basin-Plan.pdf

What are Permanent Water Saving Rules?

They are a set of common-sense rules to help Victorians use water wisely. They are in place at all times and are only replaced if water restrictions are enforced. Breaking these rules could result in penalties.



Hand-held Hose

Water from a hand-held hose must not be used for any purpose unless the hose is:

- Fitted with a trigger nozzle; and
- Leak-free.

Residential or commercial gardens and lawns

Can be watered with

- A hand-held hose, bucket or watering can at any time; and
- A watering system between the hours of 6PM – 10AM on any day.

Public gardens and lawns and playing surfaces

Can be watered with:

- A hand-held hose, bucket or watering can at any time;
- A watering system fitted with a rain or soil moisture sensor between the hours of 6PM – 10AM on any day; and
- In accordance with an approved Water Use Plan.

Fountains and water features

Water can only be used for fountains or water features that recirculate water.

Cleaning of hard surfaces

(includes driveways, paths, concrete, tiles, timber decking)

High-pressure water cleaning devices, a hand-held hose or bucket only can be used for:

- Cleaning as a result of an accident, fire, health hazard, safety hazard or other emergency;
- Staining to the surface has developed (limited to once a season).

Exemptions

Each Victorian urban water corporation can grant exemptions in special circumstance.



You can **save up to \$40 a year** on water and energy bills by using one bucket less of water per day.



Permanent water-saving rules do not apply to recycled, reclaimed, rain or grey water use.

Further information

More information about sustainable water management and how we manage in dry conditions can be found at:

- Department of Environment, Land, Water and Planning – www.water.vic.gov.au

More information about your local conditions and how water corporations manage in dry conditions can be found at:

- Barwon Water – www.barwonwater.vic.gov.au
- Central Highlands Water – www.chw.net.au
- City West Water – www.citywestwater.com.au
- Coliban Water – www.coliban.com.au
- East Gippsland Water – www.egwater.vic.gov.au
- Gippsland Water – www.gippswater.com.au
- Goulburn-Murray Water – www.g-mwater.com.au
- Goulburn Valley Water – www.gvwater.vic.gov.au
- Grampian Wimmera Mallee Water – www.gwmwater.org.au
- Lower Murray Water – www.lmw.vic.gov.au
- Melbourne Water – www.melbournewater.com.au
- North East Water – www.newater.com.au
- South East Water – www.southeastwater.com.au
- South Gippsland Water – www.sgwater.com.au
- Southern Rural Water – www.srw.com.au
- Wannon Water – www.wannonwater.com.au
- Western Water – www.westernwater.com.au
- Westernport Water – www.westernportwater.com.au
- Yarra Valley Water – www.yvw.com.au

More information about environmental water can be found at:

- Victorian Environmental Water Holder – www.vewh.vic.gov.au

More information about forecast rainfall and temperatures can be found at:

- Australian Bureau of Meteorology – www.bom.gov.au/climate/ahead

More information about using water efficiently can be found at:

- Smart Water Advice – [www.smartwatermark.org/Victoria/](http://www.smartwatermark.org/Victoria/www.smartwatermark.org/Victoria/)

More information on water restrictions can be found at:

- <https://www.water.vic.gov.au/liveable/water-restrictions>



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