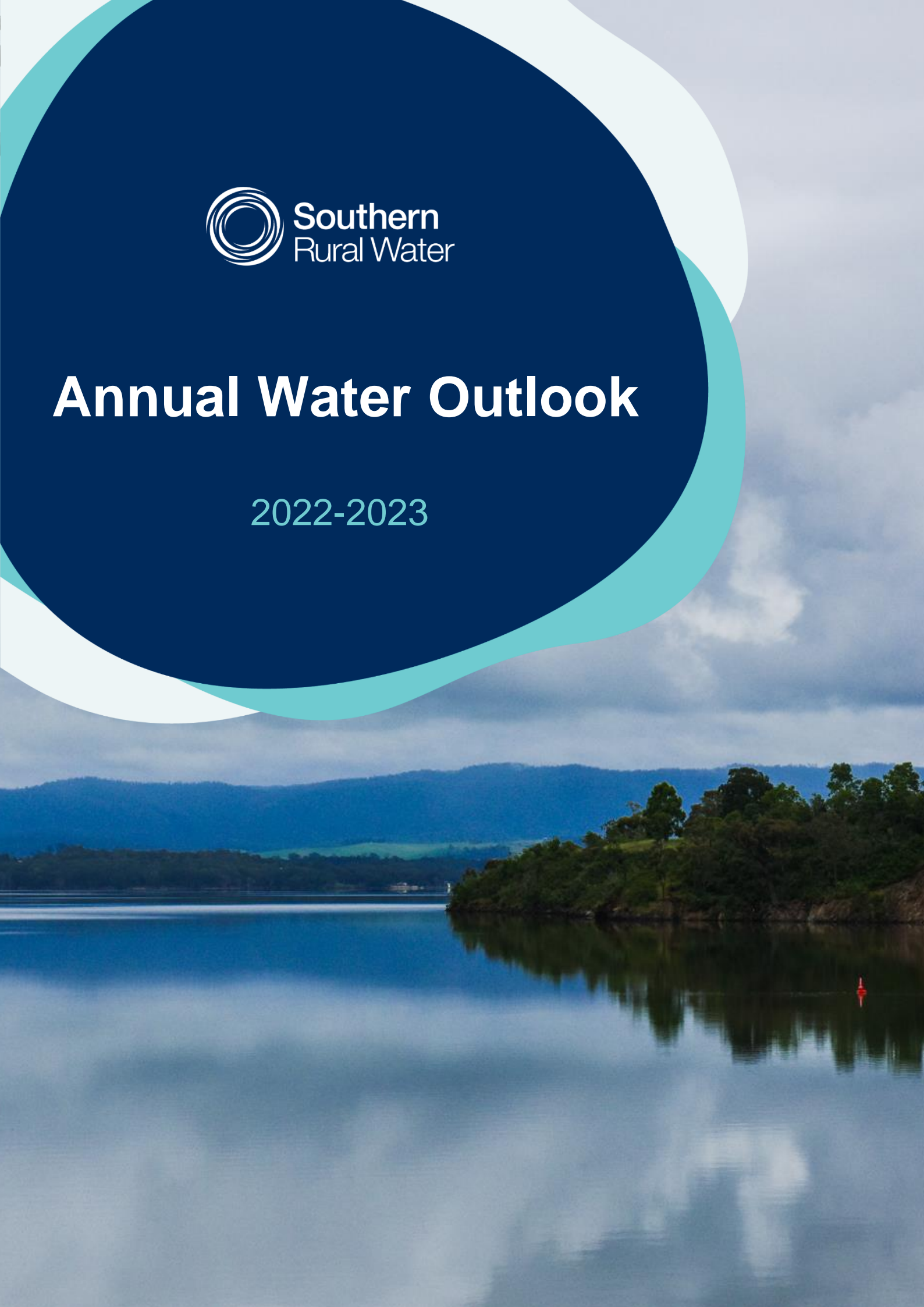




Annual Water Outlook

2022-2023



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Executive Summary

Conditions are wet across most of our region, and the forecast is for above average rainfall to continue across spring and summer.

The Macalister Irrigation District opened with an allocation of 100% high reliability water shares. Around 330 GL of excess flow has been passed through the Thomson River system due to full storages, low demand and good catchment rainfall. The spill period ends on Wednesday, 15 December at which time an outlook will be issued on low reliability water shares.

The opening allocations were good for Pykes Creek Reservoir at 86.8%, and Melton Reservoir was at 87.3% which is likely to result in another high allocation season.

We are not expecting to place bans or restrictions on unregulated systems.

Groundwater levels across the regions are stable or higher, which reflects the wet conditions.

Introduction

Southern Rural Water (SRW) has responsibility for managing surface water licensing, groundwater extraction, storage dams and irrigation districts across the southern third of Victoria. We supply water for agricultural, urban, power generation and industrial purposes.

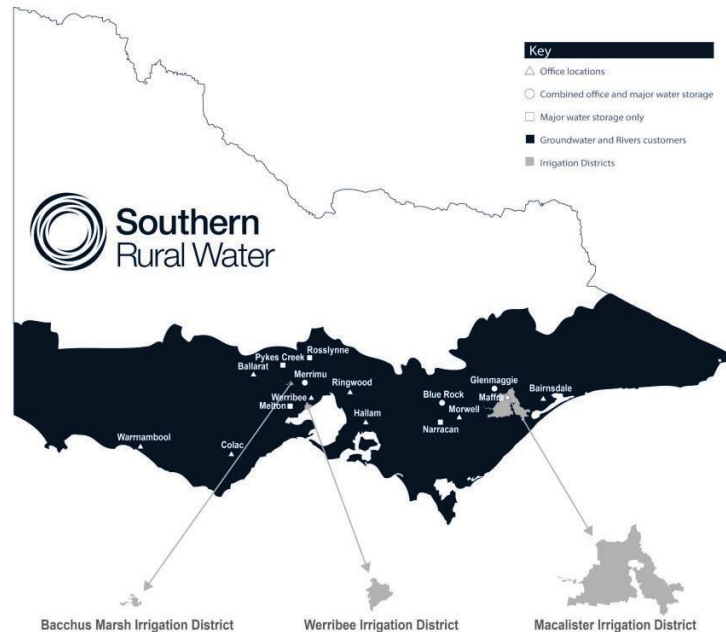


Figure 1 – Southern Rural Water service area

Across this wide geographic area SRW manages:

- seven major dams
- three irrigation districts
- licences for taking water from rivers and groundwater aquifers
- licences for operating farm dams.

As detailed in Figure 1, SRW manages the Macalister Irrigation District (MID) in central Gippsland and the Werribee (WID) and Bacchus Marsh (BMID) irrigation districts west of Melbourne. Much of the water used in the irrigation districts is for primary agricultural production, along with stock and domestic and minor industrial use. Water shares are held by individual customers within the districts and transactions are recorded in the Victorian Water Register.

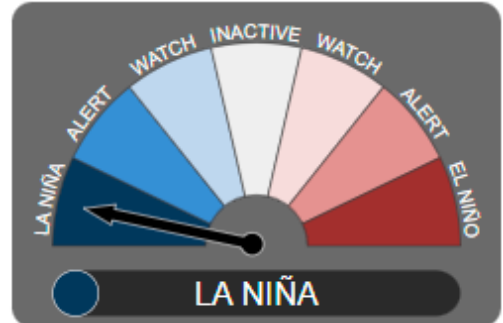
Blue Rock Lake (part of the Latrobe River system) plays a key role in providing cooling water for Victoria's brown coal power generation.

Blue Rock Lake and Lake Glenmaggie also have environmental water entitlements that are managed by the West Gippsland Catchment Management Authority on behalf of the Victorian Environmental Water Holder. Visit SRW's website for further information: <http://www.srw.com.au>.

Climate Outlook 2022-23

Climate influences

The El Niño Southern Oscillation (ENSO) outlook remains at La Niña, based upon the alert issued 25 October 2022. The majority of models predict a return to neutral ENSO during early 2023, where ENSO events are likely to decay during autumn. Sea surface temperatures in the tropical Pacific remain near La Niña thresholds and the Southern Oscillation Index (SOI) (one of the key atmospheric indices for gauging the strength of El Niño and La Niña events) also remains indicative of La Niña.



Rainfall and temperature ahead

The Bureau of Meteorology's (BOM) seasonal rainfall outlook for the period December 2022 to February 2023 predicts wetter than average conditions. It is showing a 50-80% chance of above median rainfall across the state for the period. The southwest of the state is less likely to exceed median rainfall than central and east Gippsland regions of the state.



Temperature and rainfall influence water use, especially during summer periods. At the same time, they also influence catchment soil moisture levels and inflows to SRW's unregulated waterways and storages. SRW continually monitors flow conditions and the Bureau's seasonal climate outlooks. Waterway flow and rainfall information is made publicly available on the SRW website. For the most up to date weather, temperature and rainfall data and predictions, see the BOM website www.bom.gov.au/climate/.

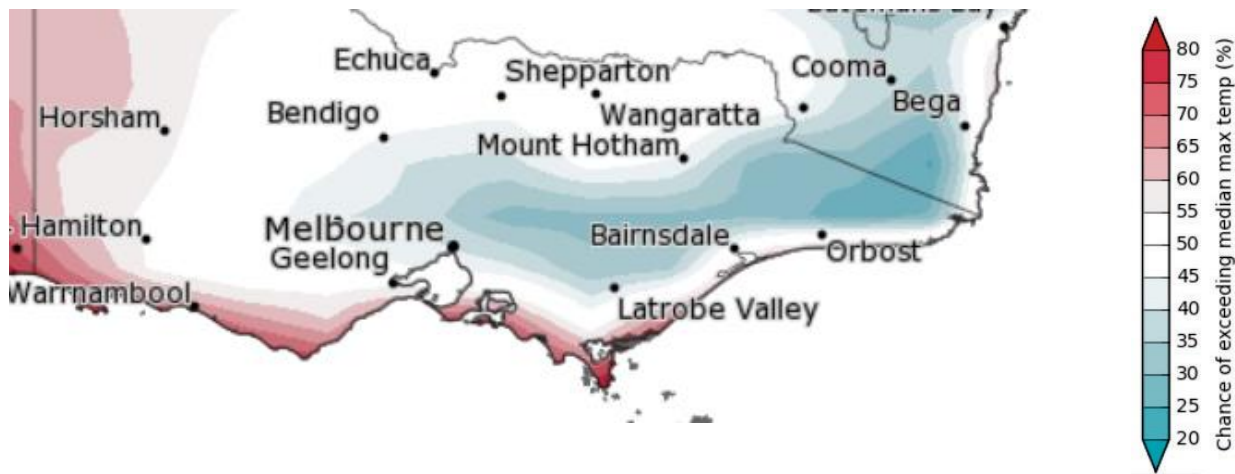


Figure 3 - Chance of exceeding the median maximum temperature December 2022 – February 2023 (Source: BOM)

Figure 3 indicates that in southern and south-western parts of the SRW area, the probability of exceeding median temperatures is higher (up to 75%) whilst in the inland areas, the probability of higher than median temperatures is lower (between 25 % and 45 %). The timing of warmer weather and rainfall are critical to growing and harvesting crops.

Longer term trend

Victoria’s climate has shown a warming and drying trend over recent decades, and this trend is expected to continue over the longer-term future.

Although there will still be a lot of variability in Victoria’s climate and streamflow, the chance of experiencing warmer conditions and less streamflow is now higher than in past decades.

More information on the observed changes and longer-term future climate and water projections can be found at <https://www.water.vic.gov.au/climate-change>.

Macalister Irrigation District

Current water resource position

The Macalister Irrigation District's (MID) primary sources of water are Lake Glenmaggie and Thomson Reservoir. Lake Glenmaggie is an annual fill and spill reservoir, which means SRW is reliant on winter and spring rains to fill it to enable a 100% seasonal determination for the Thomson/Macalister Irrigation District. Thomson Reservoir holds the drought reserve which provides additional allocation in years with low rainfall.

Good inflows through early winter allowed for an opening seasonal allocation announcement of 100% of high reliability water shares on 1 July. For irrigators on the channel system, the irrigation season started on 15 August, while those taking directly from the river can operate all year round.

Rainfall through the catchment and the district since 1 July has ranged between 200–300mm which has resulted in continued high flows through the river systems and low demand from customers. Because of this, we have passed more than 330 GL of excess flow to date within the current irrigation season.

Irrigation deliveries to date are estimated at 5,000 ML which is 36,543 ML below the five-year average of 41,543 ML.

Lake Glenmaggie has been spilling since 1 July 2022 and continues to be managed at approximately 165,000 ML to assist with flood management. SRW's share of Thomson Reservoir is holding at the maximum volume of 45,000 ML which is the same as last year.

Whilst we continue in the spill period and will be spilling for customer usage through to the 15th Dec, there will be no further allocation reviews until 15 December which is the end of the spill period. At that time, we will assess storage levels, inflows, customer usage and Thomson Reserve volume and will provide an outlook on when allocation against low reliability water shares will be issued.

Forward outlook

Because Lake Glenmaggie is a fill and spill system, opening allocations are highly dependent on rainfall over autumn and winter within the Macalister catchment area. Additionally, the Thomson drought reserve volume is used to supplement opening allocations.

The BOM outlook suggests Central Gippsland will have above average rainfall along with above average temperatures through to December. This in conjunction with an already wet catchment and district is likely to result in median to high flows through the catchment river system.

Under current conditions of continuing spill entitlement, we are unlikely to see any announcement of substantial low reliability water share on 15 December. This is due to the need to supply approximately 155,628 ML in five months. The availability of allocation against low reliability water shares will be assessed fortnightly against seasonal conditions and stream flows, with the expectation of further allocation announcements later in the season.

Werribee and Bacchus Marsh Irrigation Districts

Current water resource position

At the opening of the irrigation season, Pykes Creek Reservoir was holding 86.8% of capacity whilst Melton Reservoir held 87.3% of capacity. These are good starting storage levels, which will result in another high allocation season.

The opening allocation for the season was set at 70% of high reliability water shares, with customers holding 10.4 GL of carryover. Since the opening allocation, our catchment to these reservoirs has continued to receive good rainfall, resulting in both Pykes Creek and Melton Reservoirs filling and spilling, and the allocation reaching 100% high reliability shares, and 60% low reliability shares.

Forward outlook

The positive BOM outlook and full storages indicate our customers can plan their irrigation with a high degree of confidence, and carryover water into next year.

Latrobe System

Current water resource position

Blue Rock Reservoir is the primary storage for the Latrobe System. Water from Blue Rock Reservoir is primarily used for electricity generation in the Latrobe Valley coal fire power plants. It also supplies Gippsland Water with water for urban supply to towns in the Latrobe Valley and secures entitlements for licensed river diverters along the Latrobe River.

Last year Blue Rock Reservoir held at or around 100% capacity for the entire year. This has continued into the current season. Our dams have little air space to mitigate the minor to major flooding caused by the high rainfall and wet catchment.

Forward outlook

The BOM outlook suggests Central Gippsland will have above average rainfall along with above average temperatures through to January. In conjunction with an already wet catchment, this is likely to result in median to high flows.

Blue Rock Reservoir is likely to hold or slightly decline over summer and will quickly refill with winter/autumn rains, having filled in eight out of the last 10 years.

All entitlements including both the regulated and unregulated systems will be able to be met, including supplementation of unregulated licences in the lower Latrobe River. Latrobe River irrigators may seek access to additional water if their share of Blue Rock storage or run of river flows is less than their demand. In dry conditions Latrobe licence holders are also able to access additional water from the Latrobe Reserve (drought reserve) or via trade with other licence holders.

Maribyrnong System

Current water resource position

The Rosslynne Reservoir on Jackson's Creek near Gisborne provides additional water supplies to the townships of Sunbury and Gisborne, and irrigation water to licence holders along the Maribyrnong River, with a capacity when full of 25,400 ML.

The reservoir reached 100% storage on 13 October 2022, and spilled for the first time in 26 years. At this time last year, Rosslynne was at 55% (13,920 ML) of total capacity and October 2012 was the last time comparably high levels were observed, when storage reached 95% full.

Forward outlook

With Rosslynne storage at 100%, there is no current restriction on irrigation supply. Urban supplies are managed by the relevant urban water authority, with information provided in their outlooks.

Unregulated Surface Water

Overview

Unregulated surface water relates to water accessed from rivers where supply to some or all users is not managed through releases from onstream dams. Most rivers in southern Victoria are therefore unregulated. Access to water in unregulated rivers is governed through rules documented in Local Management Plans. The purpose of these plans is to provide fair and equitable access for consumptive users and the environment. These rules set out a framework for trade, restricting access and managing local water issues. Access to water is therefore linked to streamflow which relates to antecedent and forecast climate conditions such as rainfall.

Gippsland Region

Conditions in Gippsland have been wet this season and there are no systems on restriction or ban in spring 2022. All eastern Victorian rivers are flowing at higher rates than 12 months ago. All farm dams are full.

The rainfall outlook indicates a very high likelihood of achieving or exceeding median rainfall through the remainder of spring and early summer. It appears unlikely that significant restrictions will be imposed on customers this year, though minor restrictions may apply in some systems during late summer and early autumn.

The Mitchell River is the most significant unregulated stream in the east due to the substantial number of licences, and the total area commanded for high value horticultural production. The Mitchell River is experiencing strong flows similar to recent years, resulting in a positive outlook for summer. Restrictions may apply late in the season if dry conditions return but are otherwise unlikely.

Rainfall across the region has been above average for spring which has resulted in frequent flooding in the Latrobe River System, South Gippsland River Systems and most Eastern River Systems such as the Mitchell River and Snowy River. This provides a positive outlook for water availability in this system through the irrigation season. Restrictions may apply late in the season if dry conditions return but are otherwise unlikely.

In South Gippsland, creeks and rivers have been flowing strongly. The Tarwin, Agnes and Albert rivers are all benefiting from above average rainfall across their catchments. This region enjoys reliable rainfall and is less prone to restrictions than other regions. The Tarra River has also recorded above average rainfall. Rosters and restrictions on water access in these streams are unlikely. In the Thorpdale area, above average rainfall resulted in farm dams continuing to spill through early spring following re-filling early in the winter.

The first 9 months of 2022 have yielded rainfall totals of up to 700mm across much of west and south Gippsland. Based on the rainfall forecast, there is likely to be low demand for irrigation during the coming irrigation season. Restrictions may apply late in the season if dry conditions return but are otherwise unlikely.

Western Region

Heavy late winter and spring rainfall has occurred in western Victoria. Rainfall across the region has been above average for spring and has seen the major streams experiencing bankfull and overbank flows through much of the high rainfall season and well into spring including the Barwon River, Leigh River, Glenelg River, Wannon River, Hopkins River and Mount Emu Creek. Flows peaked in all systems in late spring with minor and major flooding occurring across all basins. Hopkins River at Hopkins Falls had a maximum flow peak of approximately 100,000ML/day.

On farm storages have filled and are overflowing. Saturated catchments will support baseflows through summer, supporting licensed use. Major river basins in the far southwest are unlikely to face rosters or restrictions imposed based on current flows and the La Nina forecast.

Rosters and restrictions for the Gellibrand and Curdies rivers are likely to be similar to the 2020-21 season.

The Otway Basin has experienced rainfall well above average while flows remain high as was observed last season. The Barwon system has experienced slightly above average rainfall for the late winter and early spring. Winterfill licences on the Barwon, Leigh and Moorabool rivers have been able to access their full allocation. Restrictions on the upper reaches of the Barwon River above Birregurra will be managed to align with environmental releases from the West Barwon dam for summer flow augmentations. Restrictions on the lower reaches of the Moorabool River below Lal Lal Reservoir will take into account any environmental releases for either summer or winter flow augmentation.

Central Region

There has been above-average rainfall within the Central Region and as a result stream flows have remained stable. Forecasts predict above-average rainfall for the period November 2022 to January 2023. This is likely to result in normal or wetter than normal conditions with little to no restrictions imposed on consumptive users. Some areas of the central region have experienced bankfull and overbank conditions. All central region catchments will be monitored closely over summer and any restrictions will be imposed in line with relevant operating rules.

Winter and spring rainfall across the Dandenong Creek catchment has been high and is consistent with the wetter conditions observed last year. Stream flows in the Dandenong Creek systems have remained similar to last year. Above-average flows have been observed in Mile Creek, Monbulk Creek and Eumemmerring Creek systems. The forecast rainfall across the catchment will provide a positive outlook for license holders and make restrictions unlikely in this catchment. The Dandenong Creek system experienced some minor flooding over spring due to high rainfall events.

The Werribee and Maribyrnong catchments continued to have above-average rainfall for the first nine months of 2022. The season is developing similar to summer 2020-21 where restrictions were not imposed on the Maribyrnong system. The Turitable Creek and Willimigongong Creek are often subject to a total ban or restrictions in the summer months though neither system has had bans imposed in the past two years. With predicted rainfall, these systems may avoid bans again this year, however, these systems can be quick to change and will be monitored closely. The Werribee and Maribyrnong systems experienced flooding over spring due to the high rainfall events experienced.

Rainfall across the Tarago/Bunyip catchment remained above average during winter 2022. Stream flows in the semi regulated Tarago/Bunyip were completely supplied by natural flows last season rather than releases from Tarago Reservoir. This occurred following significant rainfall last year and continuing wet catchment conditions. With the rainfall forecast again expected to be above average for summer and expected demand to continue to be low, the river system should be well placed to meet consumptive demands through the coming irrigation season.

Groundwater

No groundwater rosters/restrictions are anticipated. A 100% allocation was announced on 1 July 2022 for the Deutgam Water Supply Protection Area which is the first time in a number of years where the groundwater allocation in Deutgam has been unrestricted.

Generally, groundwater levels across the regions are stable or higher, which reflects the wet conditions.

Recent groundwater level trends for each groundwater management unit are summarised in Table 1.

Table 1 - Groundwater level trends

Gippsland region		
Groundwater management unit	Recent Trend	Notes
Corinella	Rising	
Denison		Insufficient data available
Giffard	Stable	
Leongatha	Stable	
Moe	Declining	
Orbost	Stable	
Rosedale	Declining	Depressurised for Latrobe Valley mines
Sale	Declining	
Stratford	Declining	Depressurised for Latrobe Valley mines & offshore oil and gas
Tarwin	Stable	
Wa De Lock	Stable	
Wy Yung	Rising	
Yarram	Declining	Depressurised for Latrobe Valley mines & offshore oil and gas

South-west region		
Groundwater management unit	Recent Trend	Notes
Bungaree	Stable	
Colongulac	Stable	
Condah	Rising	
Gellibrand	Stable	
Gerangamete	Rising	
Glenelg	Stable	
Glenormiston		No data available
Jan Juc	Declining	
Newlingrook	Stable	
Paaratte	Stable	
Portland		No data available
South-west limestone	Stable	
Warrion	Stable	

Port Phillip & Western Port region		
Groundwater management unit	Recent Trend	Notes
Cut Paw Paw		No data available
Deutgam	Stable	100% allocation
Frankston	Stable	
Koo Wee Rup	Stable	
Lancefield	Rising	
Merrimu	Stable	
Moorabbin	Rising	
Nepean	Stable	
Wandin Yallock	Rising	

Source: https://www.water.vic.gov.au/data/assets/excel_doc/0039/535989/Groundwater_trends_2018-2022.xlsx

Further information

SRW provides a variety of information on allocations, streamflows, rosters and restrictions and delivery/availability issues on our website www.srw.com.au

For all climate and weather predictions and observations, customers should go to the Bureau of Meteorology site at www.bom.gov.au