



Gippsland  
Water

# Annual Water Outlook

December 2021

# Table of contents

<b>Executive summary .....</b>	<b>1</b>
Water outlook.....	1
System summary .....	2
<b>Overview.....</b>	<b>6</b>
Summary of water system characteristics .....	6
<b>2021 Rainfall and streamflows .....</b>	<b>9</b>
Recent consumption trends .....	13
Other risks to water supply .....	18
<b>Current water resource position .....</b>	<b>19</b>
<b>Climate outlook.....</b>	<b>21</b>
Bureau of Meteorology (BOM) rainfall outlook .....	21
BOM temperature outlook.....	22
BOM streamflow outlooks .....	23
BOM ENSO outlook.....	24
Summary.....	24
<b>Water resources outlook.....</b>	<b>25</b>
Public green space watering.....	28
<b>Actions .....</b>	<b>29</b>



## Executive summary

### Water outlook

Above average rainfall has been recorded across almost all of our region during 2021. This follows the average to above average rainfall conditions of 2020 and has led to above average soil dampness in all of our water catchments, along with the highest sustained streamflows we've seen since the last strong La Niña conditions a decade ago. All of our water supply systems are in a strong position for the coming summer, and customers can be confident that their water supplies will remain secure over the summer season and into 2022.

Our current catchment conditions and the seasonal outlook also suggest that there is low risk for our smaller communities without large water storages, and where sudden and unforeseen changes in conditions have the potential to lead to shortages. Previous performance and drought modelling of these water systems provides further confidence that full demand can be met this summer.

On 23 November 2021 the Bureau of Meteorology (BOM) announced the commencement of a La Niña, which for our region is the wet phase of the Pacific Ocean's El Niño Southern Oscillation. The BOM is also forecasting a generally positive Southern Annular Mode to persist until the end of the year, a condition that can bring above average rainfall to our region. These prevailing weather patterns underpin their outlook for a high probability of a wetter than average summer. With our catchments already quite damp, and storages in a great position, the wetter outlook will help ensure that we can meet demand without water restrictions this summer.


Latrobe Valley resources are at 100%. Both Moondarra Reservoir and our capacity share of Blue Rock Reservoir are full. West Gippsland communities and industries have their full drought reserve allocation available as well as supply from the interconnecting pipeline between the Moe and Tarago systems.

Sale and surrounding areas retain their full access to the deep and reliable Boisdale Aquifer. Supplies for smaller communities are in a good position due to augmentation programs that have been implemented over the last decade such as the Seaspray raw water basin and the Boolarra interconnection to the Morwell supply system.


## System Summary

Water system	Towns serviced	Water source	Water restriction outlook period	Water restriction likelihood and comments
Briagolong	Briagolong.	Wa De Lock Aquifer.	While a groundwater system, the aquifer is shallow and unconfined. It is also strongly connected to the Freestone Creek. The outlook is therefore limited to the coming summer only.	Groundwater levels in the Wa De Lock aquifer reached their highest in five years during June 2021 and continued to increase over winter and early spring. The current level provides confidence of a sufficient resource for unrestricted supply this summer. It should be noted that matters outside our control such as management of the resource as well as use by others could impact this outlook.
Rawson	Erica, Rawson.	Trigger Creek.	A long term outlook is not possible because this is a run-of-river system with minimal storage. The outlook is therefore limited to the coming summer only.	Based on historic performance and current streamflows, the chance of water restrictions this summer is deemed unlikely.

Water system	Towns serviced	Water source	Water restriction outlook period	Water restriction likelihood and comments
Latrobe	Moe, Trafalgar, Yarragon, Darnum (north), Yallourn Nth, Morwell, Churchill, Yinnar, Boolarra, Traralgon South, Jeeralang Junction, Traralgon, Tyers, Glengarry, Rosedale, Toongabbie, Cowwarr, Thorpdale, Willow Grove.	Moondarra Reservoir, Blue Rock Reservoir, Narracan Creek.	12 months. A storage forecast chart for the next 12 months under a range of climate and demand scenarios is presented in the water resources outlook section of this report.	Current storage levels in the Latrobe system provide excellent supply security for the coming 12 months. The chance of water restrictions during the next year is deemed unlikely.
Mirboo North	Mirboo North	Little Morwell River (north arm)	A long term outlook is not possible because this is a run-of-river system with minimal storage. The outlook is therefore limited to the coming summer only.	Based on historic performance and current streamflows, the chance of water restrictions this summer is deemed unlikely. While a reliable stream, supply could become restricted by a catchment water quality incident such as heavy soil runoff into the stream due to very heavy rain combined with upstream agricultural land use.
Sale	Sale	Boisdale Aquifer	12 months.	The chance of water restrictions in the coming year is deemed unlikely. This resource is a deep, confined aquifer. While subject to long term decline, short term trends in aquifer levels are more strongly related to usage than climate, and are reasonably predictable. There is high confidence of supply meeting demand for the year ahead.



Water system	Towns serviced	Water source	Water restriction outlook period	Water restriction likelihood and comments
Seaspray	Seaspray	Merriman Creek	While the raw water basin holds up to 30 ML, enough for about nine months' supply, flow in Merriman Creek sometimes completely stops during summer. Restriction rules are designed to maintain a reserve in the raw water basin. Therefore the restriction outlook is limited to three months only.	With the raw water basin currently almost full, the chance of water restrictions for the coming summer is deemed to be unlikely. Algae outbreaks in the raw water basin could give rise to water restrictions, although measures have been implemented to address this so the risk is deemed unlikely.
Tarago	Warragul, Drouin, Rokeby, Buln Buln, Nilma, Darnum (south), Neerim South, Noojee.	Tarago River	With the exception of a reserve for Neerim South, we do not have an entitlement to water stored in Tarago Reservoir. Supply to Warragul and Drouin is limited to run-of-river flows in the Tarago River. To address this risk, we have arranged a drought reserve in Tarago Reservoir with Melbourne's water retailers. This reserve is limited, therefore the water restriction outlook is for three months only.	Based on historic performance and good holdings in the drought reserve (supply agreement with Melbourne water retailers), the chance of water restrictions this summer is deemed unlikely. The Moe-Warragul Interconnection will help to reduce reliance on the Melbourne system.



Water system	Towns serviced	Water source	Water restriction outlook period	Water restriction likelihood and comments
Thomson Macalister	Heyfield, Maffra, Stratford, Boisdale, Coongulla, Glenmaggie.	Thomson River, Macalister River, Lake Glenmaggie .	The outlook period is to 30 June 2022 because we have received our full allocation for this system for the 2021-22 financial year.	With a full allocation, the chance of water restrictions for the remainder of the current financial year is deemed unlikely. Late summer and autumn low water levels can occur in Lake Glenmaggie depending on inflows and irrigation use and this can lead to water carting to Coongulla, however the seasonal outlook suggests this is unlikely. If this did eventuate, it is anticipated that such water carting would not require concurrent water restrictions.

Disclaimer: While we have considered relevant climate forecasts and taken care in presenting the information in this Annual Water Outlook, we cannot and do not guarantee any forecast outcome or event. There are many factors that could deliver a different outcome and many are beyond our control. Examples include fires and floods that lead to dirty water sources that are untreatable or that can only be treated at reduced rates, requiring water restrictions.

It is always possible that a drought could occur that is worse than any on the historic record. For instance, the 2017-19 east Gippsland drought that affected the north east of our region including the Briagolong supply system two years ago, was 13% drier at the Giffard rain gauge than any previous lowest rainfall three year period in over a century. We undertook modelling in the preparation of our 2017 Urban Water Strategy to determine the resilience of our systems to extreme drought, using a method that creates a test drought event worse than experienced. The results showed that none of our systems failed to meet demand during this test drought under stage 4 restrictions, meaning all systems were shown to be sufficiently robust to meet critical human needs. Furthermore, modelling we undertook during the development of the 2017 Urban Water Strategy showed all of our systems to be highly resilient to a repeat of the Millennium Drought (1997-2009), with only minimal water restrictions necessary to balance supply and demand.

## Overview

We published our 2017 Urban Water Strategy (UWS) in April 2017. The UWS supersedes earlier Water Supply Demand Strategies and is our principal water resources planning tool. The UWS undergoes a major review every five years and we are currently working on our UWS 2022, which will be published next April.

In preparing the UWS, we undertook a thorough review of all of our water resource systems, including a long term 50 year supply–demand outlook, as well as an assessment of short term drought vulnerability risks. Where we identified that a system may be at risk of supply falling short of demand, we estimated the extent and possible timing of the shortfall, leading to an action plan to maintain an adequate supply–demand level of service. The UWS is prepared at a point in time, using the best available knowledge at that time, acknowledging that new, better information will be forthcoming in the future and that we will need to be adaptable in our planning.

Our Annual Water Outlook fulfils two primary purposes, one of which is to report on changes in circumstances that have led to the need to adapt any actions set out in the UWS. The other is to provide an outlook of the water supply situation for the year ahead, with a focus on the forthcoming summer and the likelihood of water restrictions being necessary.


### Summary of water system characteristics

The UWS contains comprehensive descriptions of each of our systems as a public record. This summary will therefore focus on aspects of each water system most relevant to preparing an outlook for the summer ahead, and beyond, where that is possible.

Water System	Brief overview of source and relevant outlook period
Briagolong	Wa De Lock Aquifer. While a groundwater system, the aquifer is shallow and unconfined. It is also strongly connected to the Freestone Creek. This source is also used for irrigation by others. While the source has a history of reliability, the short term volatility in draw down and recharge, and the potential uncertainty in use by others, means the outlook is limited to the coming summer only.
Rawson	Trigger Creek. While a historically reliable source, a long term outlook is not possible because this is a run-of-river system with minimal storage. The outlook is therefore limited to the coming summer only.



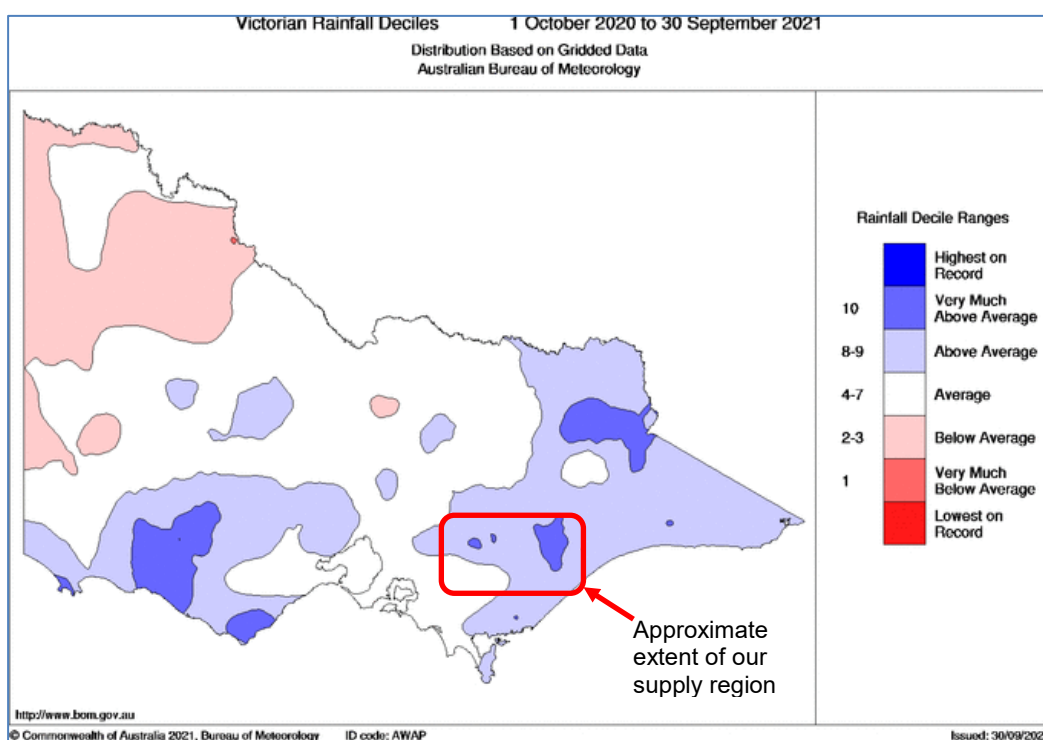
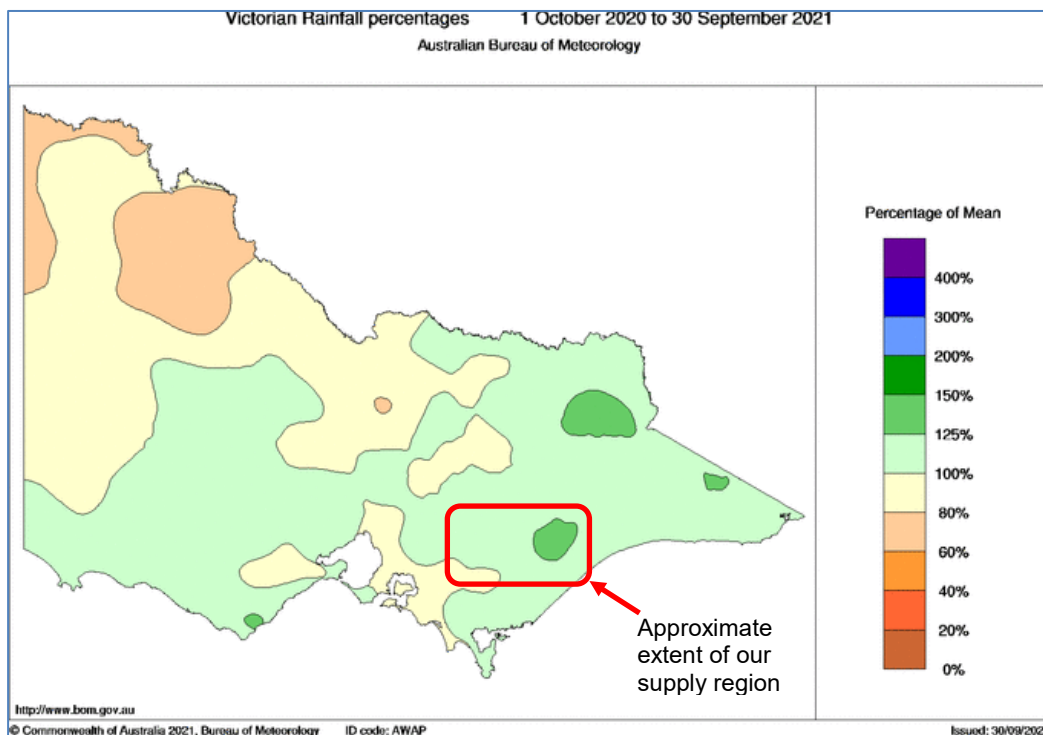
Water System	Brief overview of source and relevant outlook period
Latrobe	Moondarra Reservoir, Blue Rock Reservoir and Narracan Creek. The large storage volume, reliable minimum streamflows, and typically predictable demand from a major industry dominated customer base, means this system lends itself to a 12 month outlook. A storage forecast chart for the next 12 months under a range of climate scenarios is presented in the water resources outlook section of this report.
Mirboo North	Little Morwell River (north arm). While a historically reliable source, a long term outlook is not possible because this is a run-of-river system with minimal storage. The outlook is therefore limited to the coming summer only.
Sale	Boisdale Aquifer. While in a state of long term decline, this aquifer is relatively deep and is confined. The aquifer behaves fairly predictably with annual drawdown from urban and irrigation use, followed by a recharge that returns the aquifer to a level usually (with the exception of particularly wet years) slightly below the previous year's peak level. For short term outlook purposes, this resource allows a 12 month outlook with good confidence.
Seaspray	Merriman Creek. While the raw water basin holds up to 30 ML, enough for about nine months' supply, flow in Merriman Creek sometimes completely stops during summer. In addition to this, flows can stay quite low during autumn with higher flows due to significant rain events sometimes being unsuitable for diversion due to poor water quality. The winter fill period from July to October inclusive is then subject to a particularly high minimum passing flow before diversions can be made. Because of these constraints, water stored in the basin may be needed well beyond a summer. Restriction rules are therefore designed to be conservative and maintain a reserve in the raw water basin so the restriction outlook is limited to three months only.
Tarago	Tarago River. With the exception of a reserve for Neerim South, we do not have an entitlement to water stored in Tarago Reservoir. Supply to Warragul and Drouin is limited to run-of-river flows in Tarago River. To address this risk, we have arranged a drought reserve in Tarago Reservoir with Melbourne's water retailers who hold the bulk of the entitlement to storage in the reservoir. This reserve is critical to supply reliability and is used to a small degree in almost all years to manage summer peak demand. This reserve is limited to 400 ML/year (about 12% of total annual demand), therefore the water restriction outlook is for three months only.



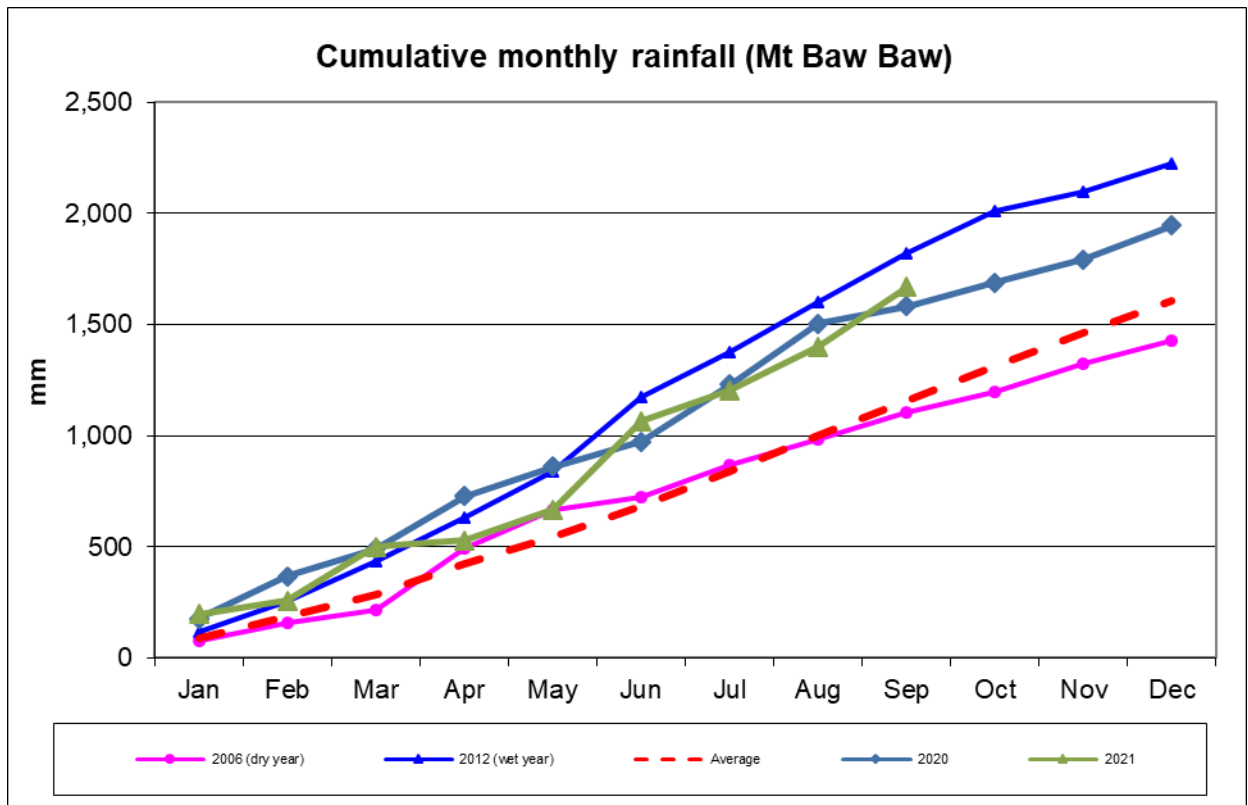
Water System	Brief overview of source and relevant outlook period
Thomson Macalister	Thomson River, Macalister River, Lake Glenmaggie. The outlook period is to 30 June 2022, because we have received our full allocation for this system for the 2021-22 financial year. The outlook beyond that will depend on the opening allocation and subsequent allocation progression during the 2022-23 year.

## 2021 Rainfall and Streamflows

Rainfall in our region in the 12 month period up to the end of September 2021 has been mostly above average, with the exception of slightly below average rainfall in the far south west (Mirboo North catchment) and well above average rainfall in the north east (around Briagolong and Maffra).

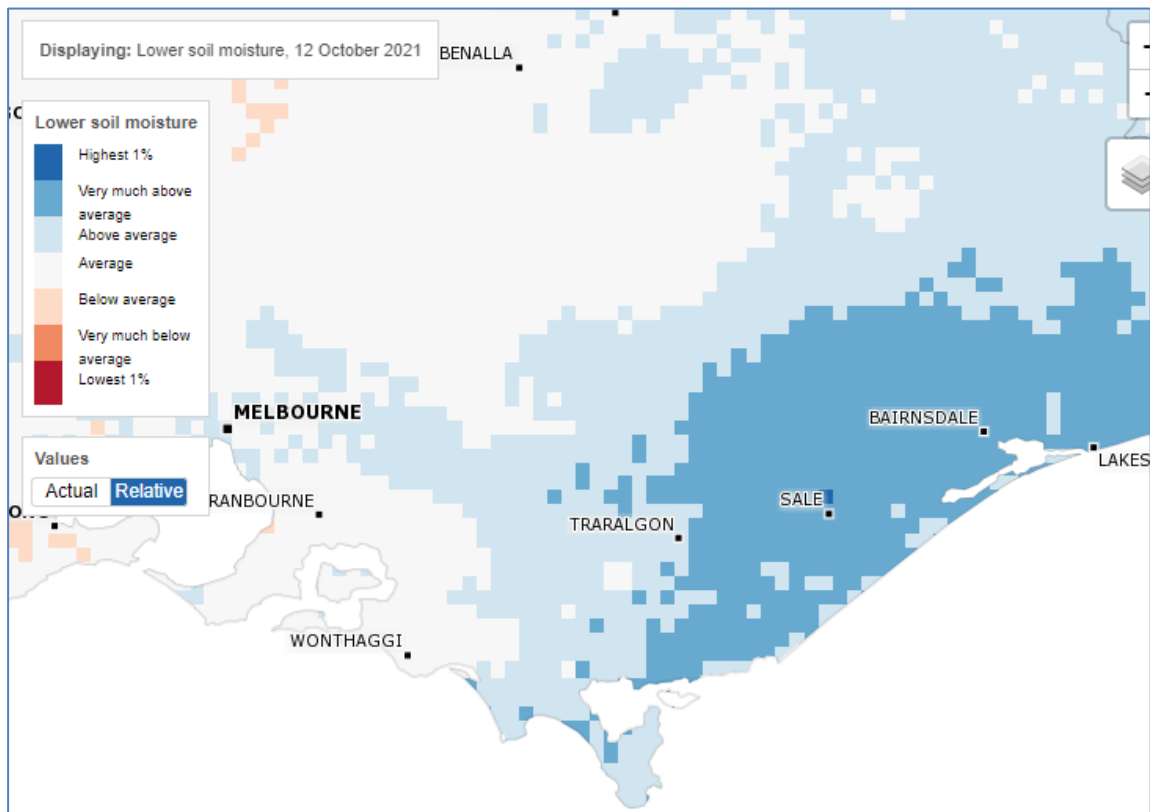


The chart below shows that rainfall in our main catchment, the Baw Baw plateau, has been consistently good for most of the year, with only a few drier months such as April. June rainfall was exceptionally high and this led to flooding in many parts of our region. This year's rainfall to date has been almost as good as 2012, a particularly wet year.



The rainfall this year and last year has led to catchments across our region being generally damper than average, in some cases much damper. The chart below shows lower (deeper) soil moisture levels (at 10 cm to 1 m depth), relative to average, around mid-October. All of our catchments currently have above average lower soil moisture levels with only a small area south west of Traralgon experiencing average soil moisture. This area centres on the Morwell River and does not impact on our supplies.

Above average soil moisture means less rain water is absorbed by the soil providing more runoff and streamflow. The associated higher water table also provides a baseflow return to streams in some catchments. This provides confidence that rainfall over the coming summer will have a higher conversion to streamflow.

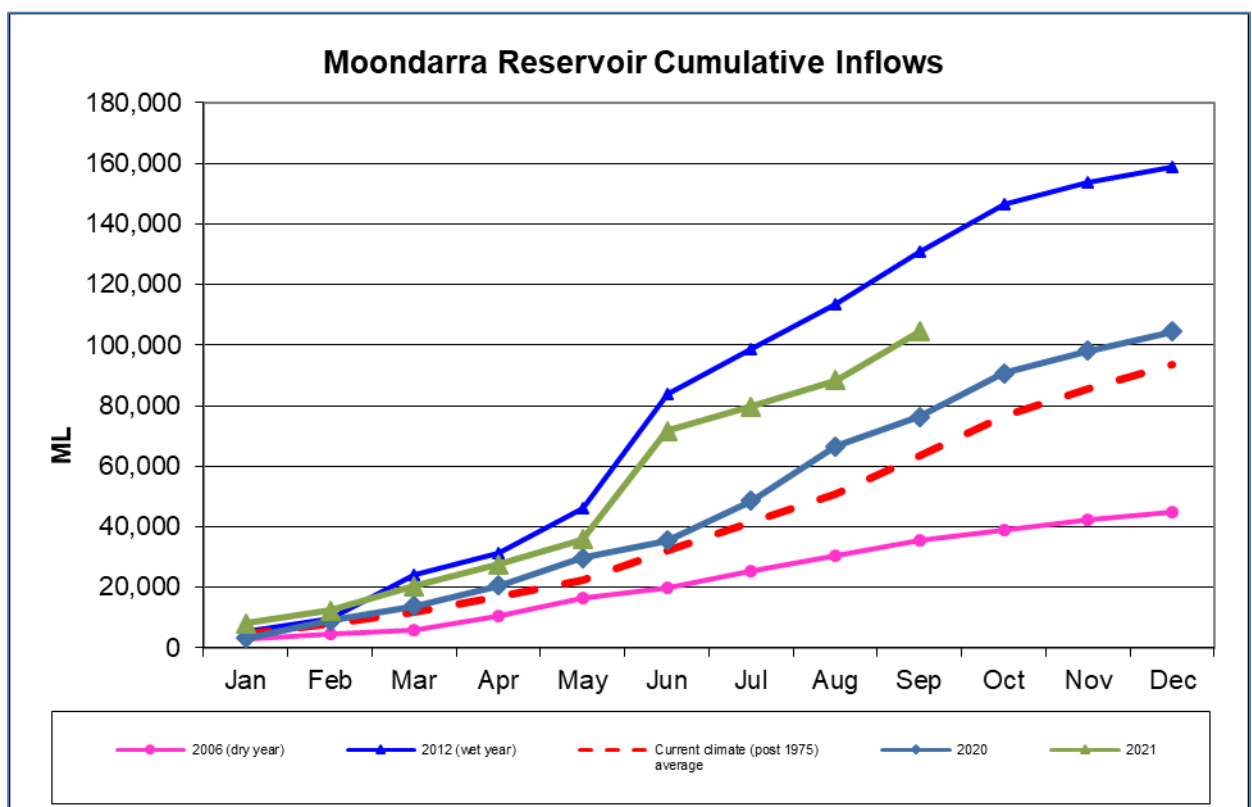


Source: Bureau of Meteorology Australian Water Resources Assessment Landscape model (AWRA-L) [www.bom.gov.au/water/landscape](http://www.bom.gov.au/water/landscape)

The chart below shows that 2021 has produced above average inflows to Moondarra Reservoir in every month, particularly June. While total rainfall for the year up to the end of September has been very similar to last year, inflows have been significantly higher. This is a result of both the pattern of rainfall, with one very wet month, as well as the damper catchment conditions this year, in comparison 2020 began the year very dry.

With the exception of June, rainfall over the rest of this winter was less than both last year and the particularly wet year of 2012 and this is why we've not seen the very high inflows of that year. Good rainfall in the 'cool season' when catchments are colder and damper, and trees don't take as much water, contributes to better streamflows.

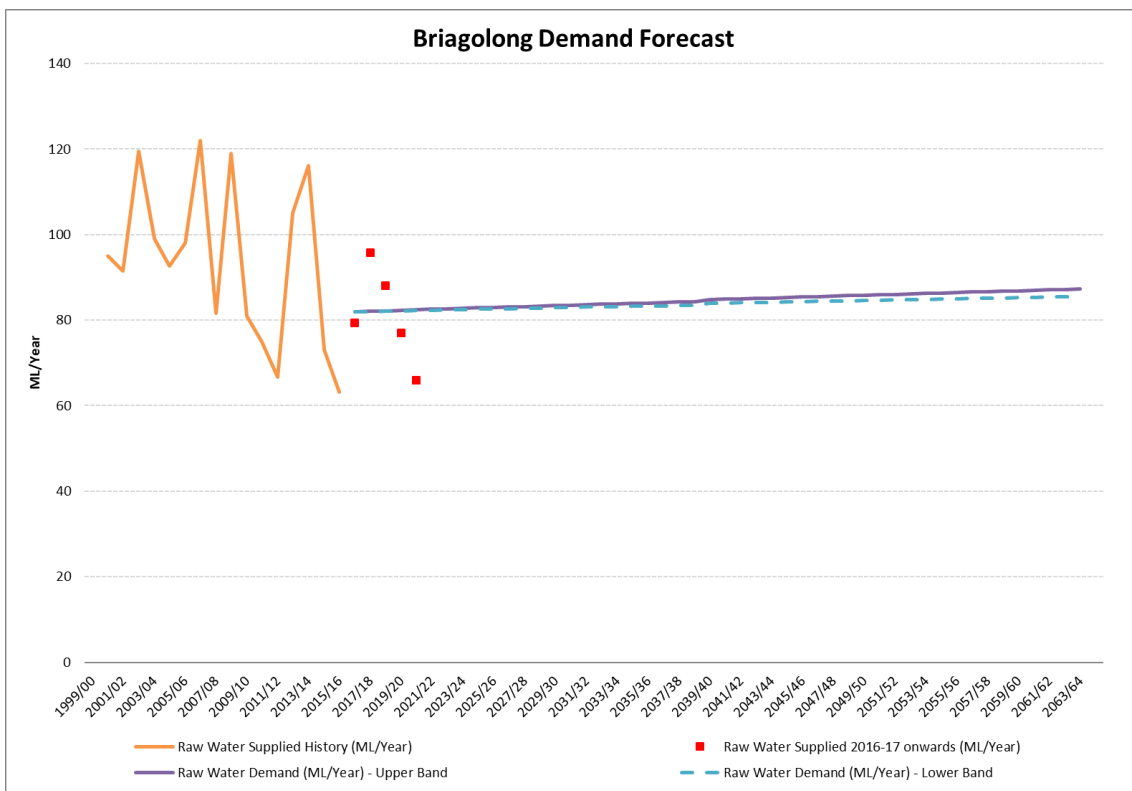
Nevertheless, 2021 has been an excellent inflow year with Moondarra Reservoir drawing down briefly in February and March to a minimum of 98% then remaining full for the rest of the year.



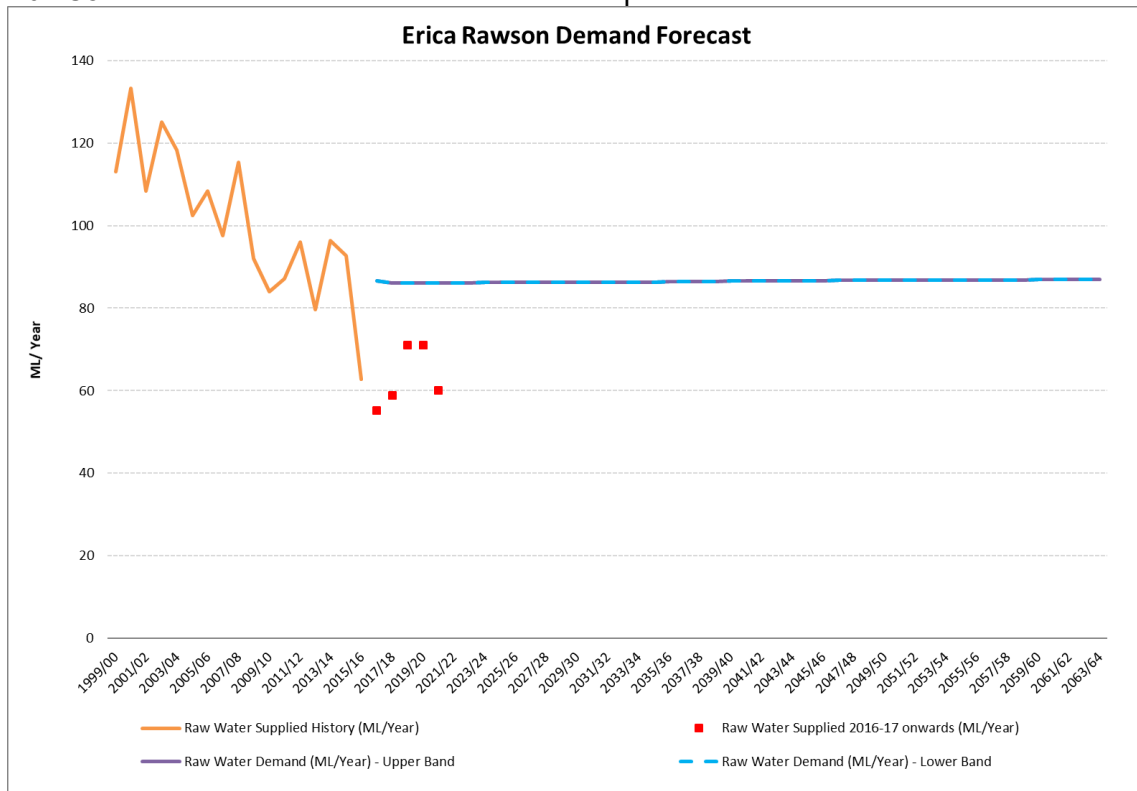
## Recent consumption trends

The following charts show the 2017 UWS demand forecasts with the actual raw water consumption from 2016-17 onwards overlaid as red points. We compare this each year to ensure action can be taken to manage any evolving trends that differ from those upon which the UWS action plan was based. Demand in 2020-21 was lower than forecast in all systems except Tarago, most likely a result of the cooler and wetter conditions, especially over summer. Higher than forecast demand in the Tarago system is a result of ongoing strong urban growth in Warragul and Drouin.

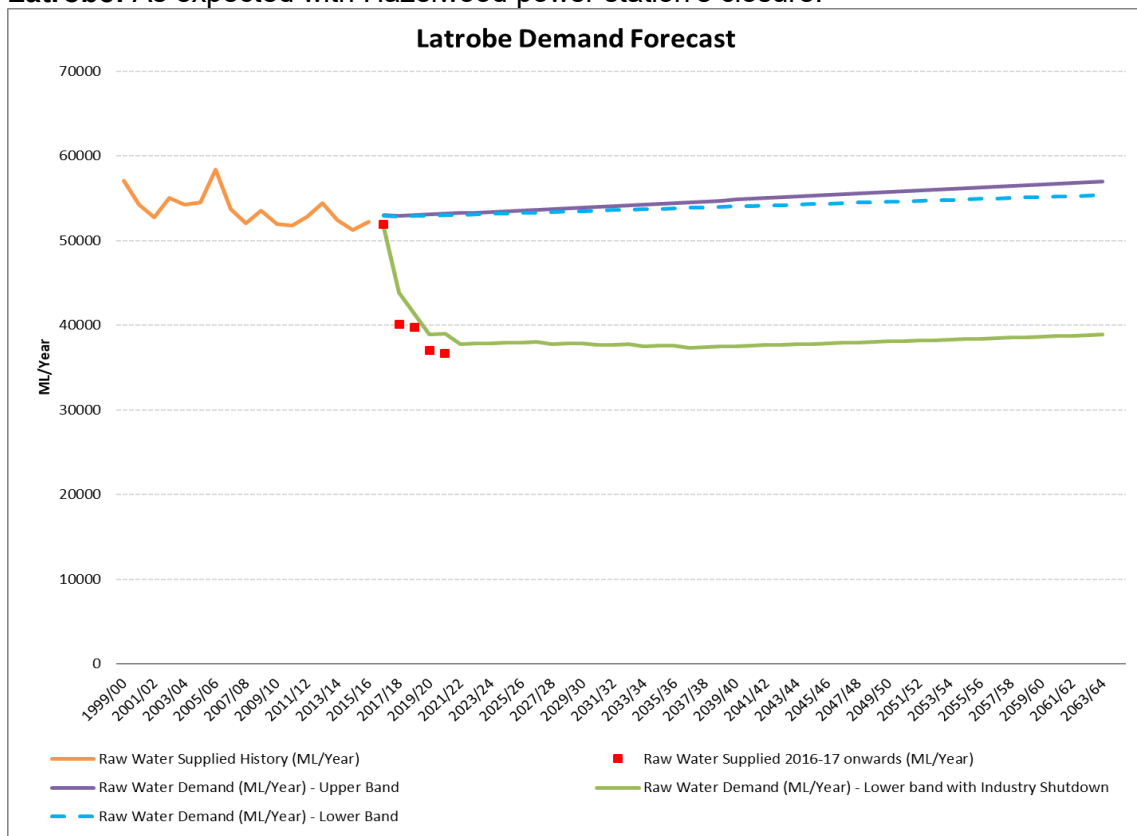
**Briagolong:** Demand has been significantly lower than forecast.



**Rawson:** Demand remains much lower than expected.

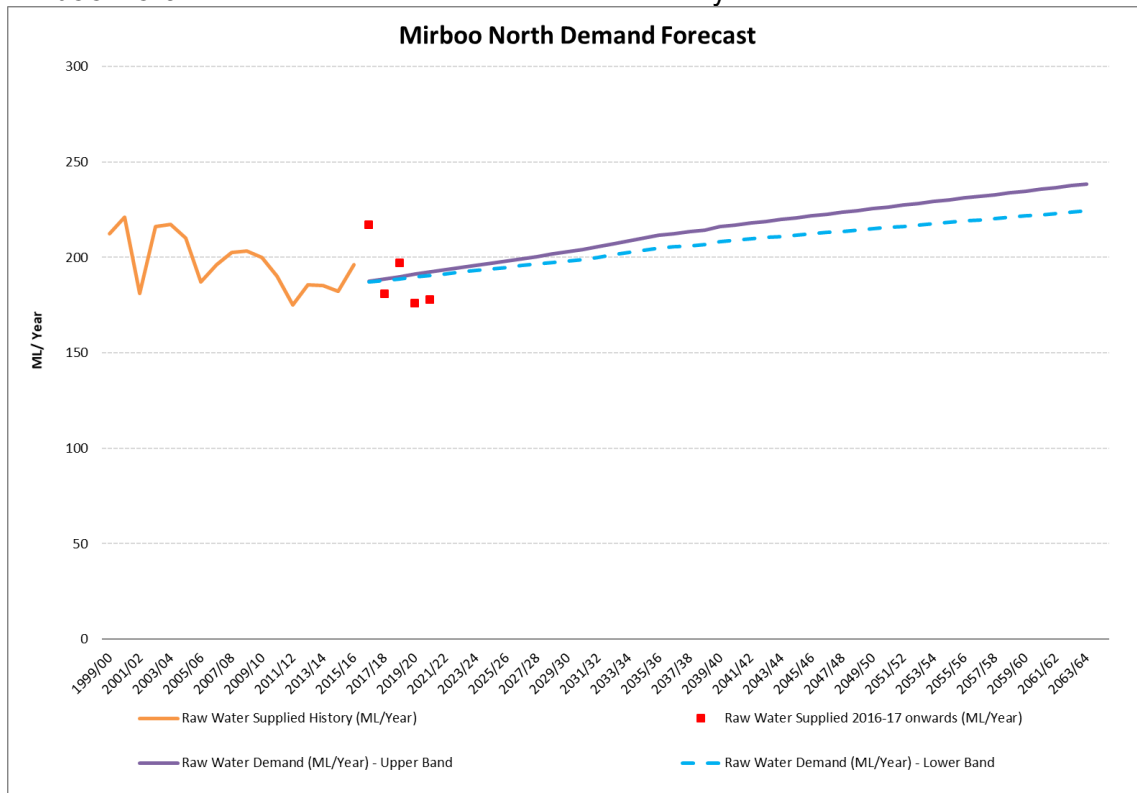


**Latrobe:** As expected with Hazelwood power station's closure.

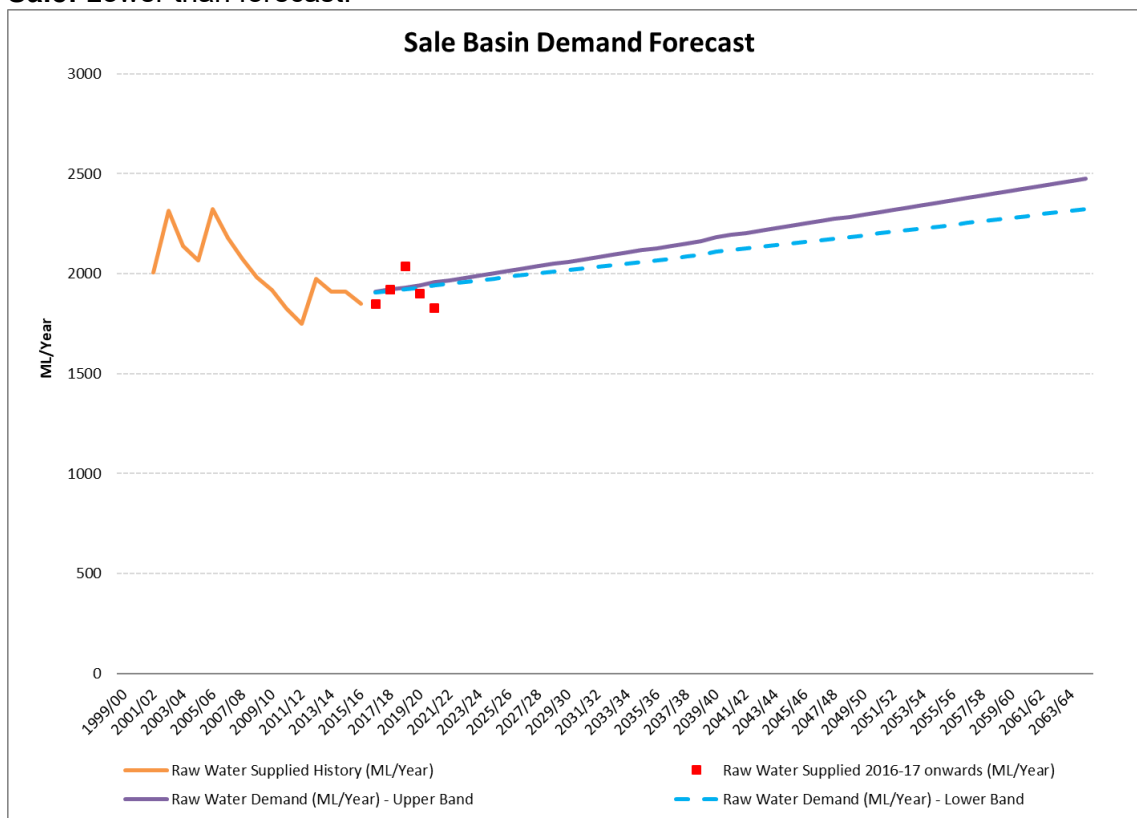




**Mirboo North:** Lower than forecast and similar to last year.



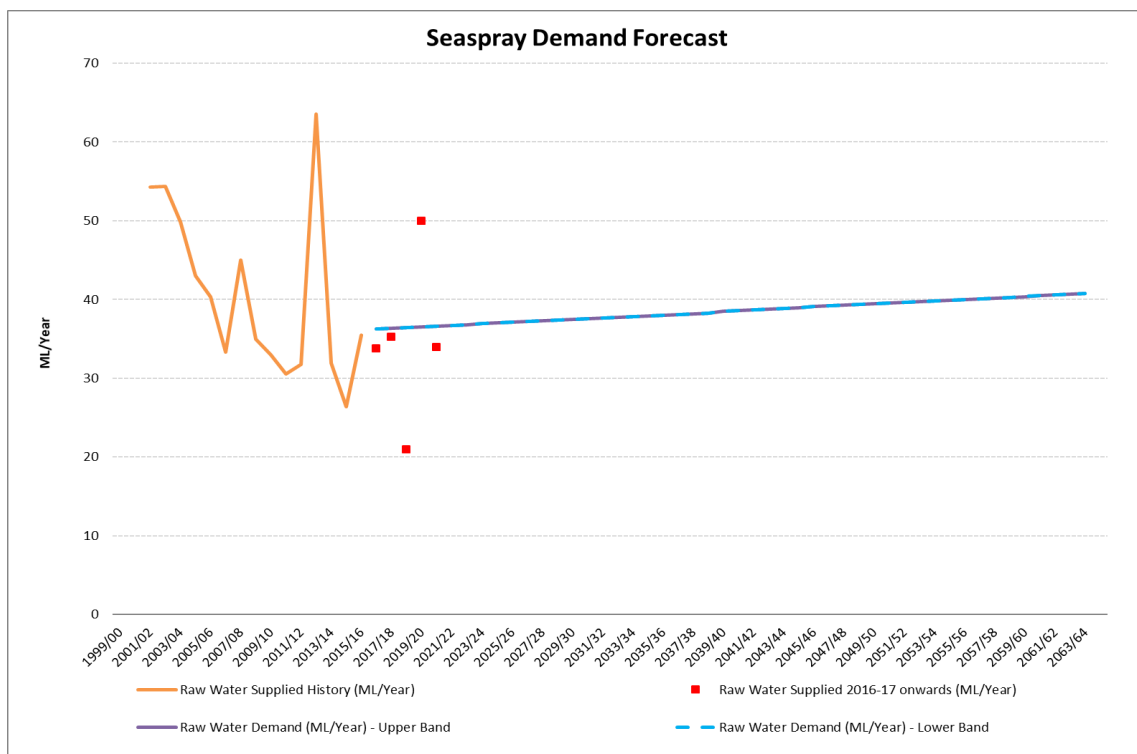
**Sale:** Lower than forecast.



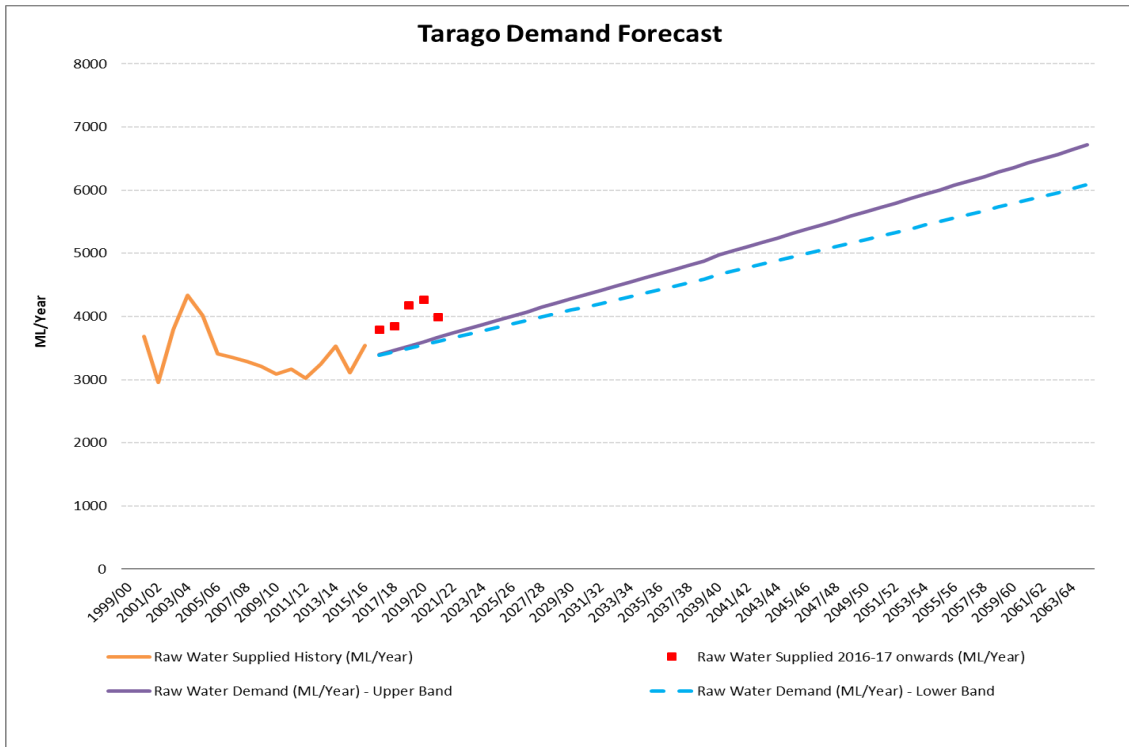
**Seaspray:** Slightly lower than forecast.

The two previous years saw a very low raw water consumption followed by a very high consumption. Seaspray has a 30 ML raw water basin between the Merriman Creek weir and the water treatment plant. This is a critical part of the system and helps maintain supply reliability during times of no streamflow or when the terms of our water entitlement prevent us from accessing streamflow.

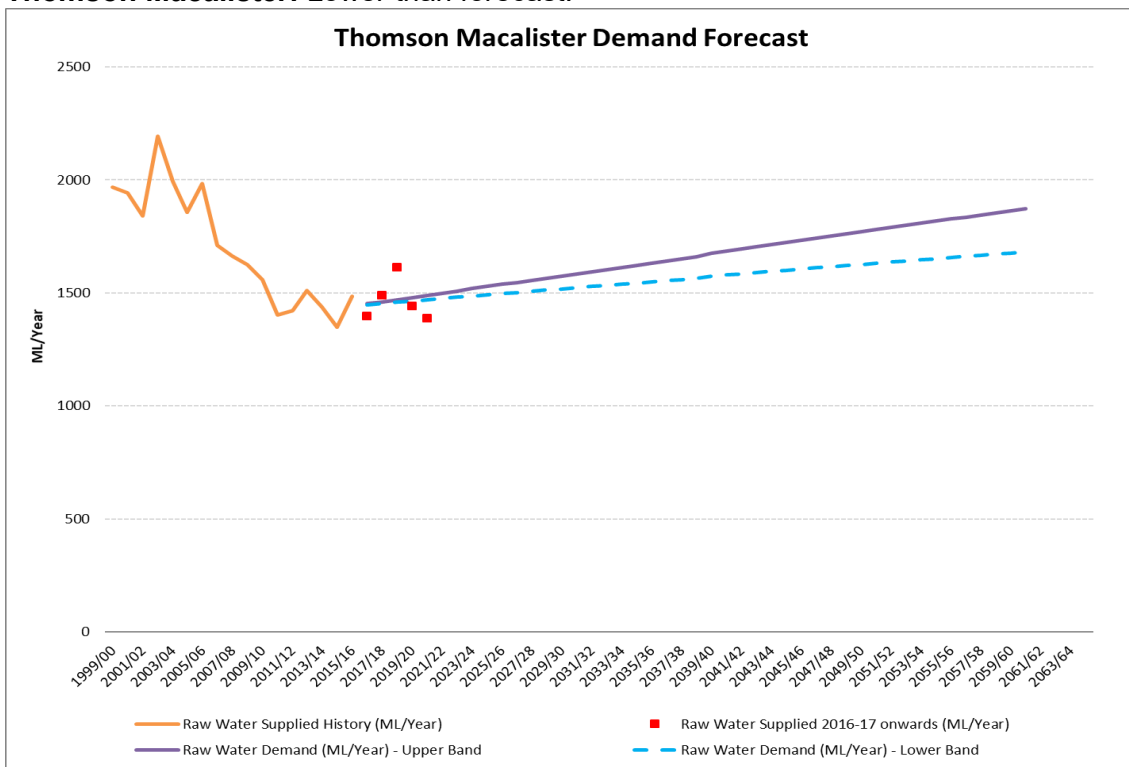
A year affected by drought, 2018-19, saw extended periods when we could not divert water from the creek and we therefore drew down the basin. During 2019-20 when adequate streamflow returned, we were able to refill the basin. Town demand for potable water remained around the forecast level in both of these years and the basin ensured reliable supply.



**Tarago:** Greater than forecast but lower than the previous two years, most likely as a result of the cooler and wetter conditions, particularly in summer. Strong urban growth continues to increase demand.



**Thomson Macalister:** Lower than forecast.





### Other risks to water supply

In addition to supply shortages and higher than expected demand, a range of other factors can impact upon our ability to meet the target supply–demand level of service. Water quality incidents such as the floods of 2007 that followed the 2006-07 Summer Great Divide Fires, which brought large amounts of suspended solids (soil) into rivers, can lead to the inability to treat water to a potable standard, or at least a reduction in the rate of treatment and the ability to meet demand. Also, Blue Green Algae outbreaks in storages can impact upon water treatment and supply reliability. Therefore even our supply systems that are secure from a water quantity perspective are not guaranteed to be immune from restrictions.

## Current water resource position

Water system	Towns supplied	No. of connections (June 2021)		Major customers	Water source	Alternative water source	Current supply position	Current consumption comments
		Residential	Non-residential					
Briagolong	Briagolong.	320	22	None	Wa De Lock Aquifer.	Possible deeper groundwater resource being investigated.	Aquifer level is in an excellent position for October and well above restriction levels.	Lower than expected due to prevailing weather.
Rawson	Erica, Rawson.	299	45	None	Trigger Creek.	None	Stream flows adequate.	Lower than expected due to prevailing weather.
Latrobe	Moe, Trafalgar, Yarragon, Darnum (north) Yallourn Nth, Morwell, Churchill, Yinnar, Boolarra, Traralgon South, Jeeralang Junction, Traralgon, Tyers, Glengarry, Rosedale, Toongabbie, Cowwarr, Thorpdale, Willow Grove.	37,927	3,333	AGL Loy Yang A, Opal Aust. Paper, Australian Char, Energy Aust. Yallourn W, Alinta Loy Yang B, Omnia, Fonterra, IXOM, Jelfor Timber, Latrobe Regional Hospital, Bega.	Moondarra Reservoir, Blue Rock Reservoir, Narracan Creek.	Blue Rock Drought Reserve	Storages at 100%.	From November 2021 demand will increase significantly to supply the Hazelwood mine fire protection system.



Water system	Towns supplied	No. of connections (June 2021)		Major customers	Water source	Alternative water source	Current supply position	Current consumption comments
		Residential	Non-residential					
Mirboo North	Mirboo North	750	83	None	Little Morwell River (north arm)	None	Stream flows adequate.	Lower than expected due to prevailing weather.
Sale	Sale	7,324	866	Sale Hospital, RAAF Base, Livestock Exchange, Fulham Correctional Centre.	Boisdale Aquifer	None	Secure aquifer.	Lower than expected due to prevailing weather.
Seaspray	Seaspray	342	10	None	Merriman Creek	Water carting	Raw water basin at 97%.	Lower than expected due to prevailing weather.
Tarago	Warragul, Drouin, Rokeby, Buln Buln, Nilma, Darnum (south), Neerim South, Noojee.	15,963	1,297	Park Avenue Laundry, Pureharvest, Warragul Linen, Warragul Sale Yards, Warragul Hospital.	Tarago River	Trade in Melbourne system. Moe-Warragul Interconnect.	Stream flows adequate. Drought reserve at 100%.	Demand continues to grow in this system at a greater rate than forecast due to urban growth.
Thomson Macalister	Heyfield, Maffra, Stratford, Boisdale, Coongulla, Glenmaggie.	4,645	415	Saputo Milk Factory.	Thomson River, Macalister River, Lake Glenmaggie	Trade in Macalister Irrigation District.	2021-22 allocation 100%.	Lower than expected due to prevailing weather.

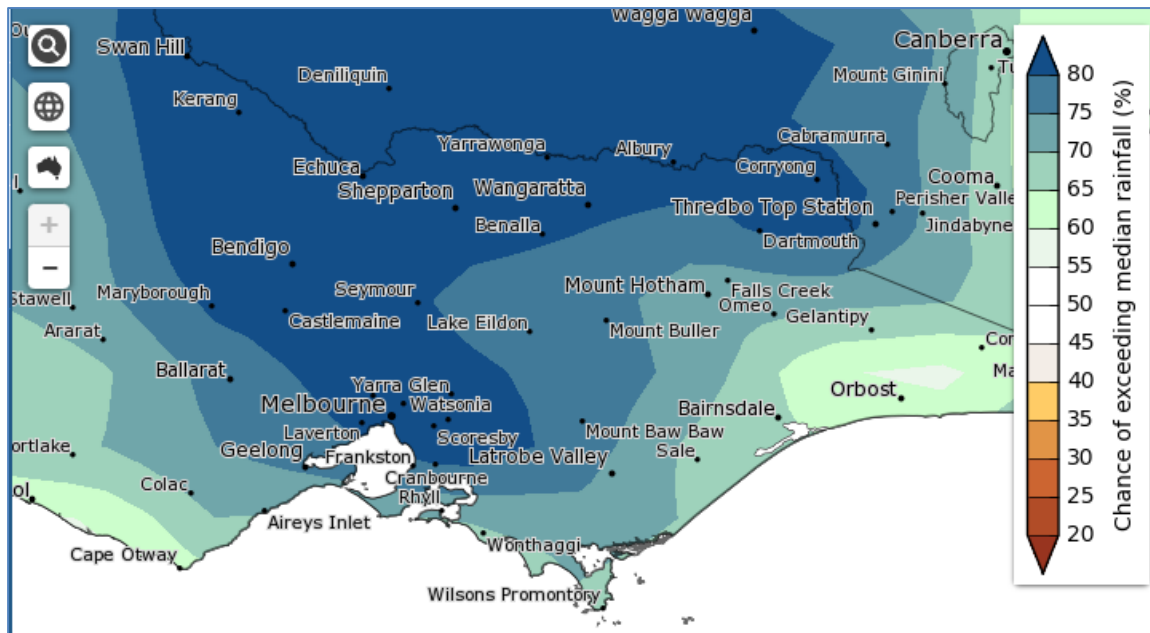
## Climate outlook

### Bureau of Meteorology (BOM) rainfall outlook

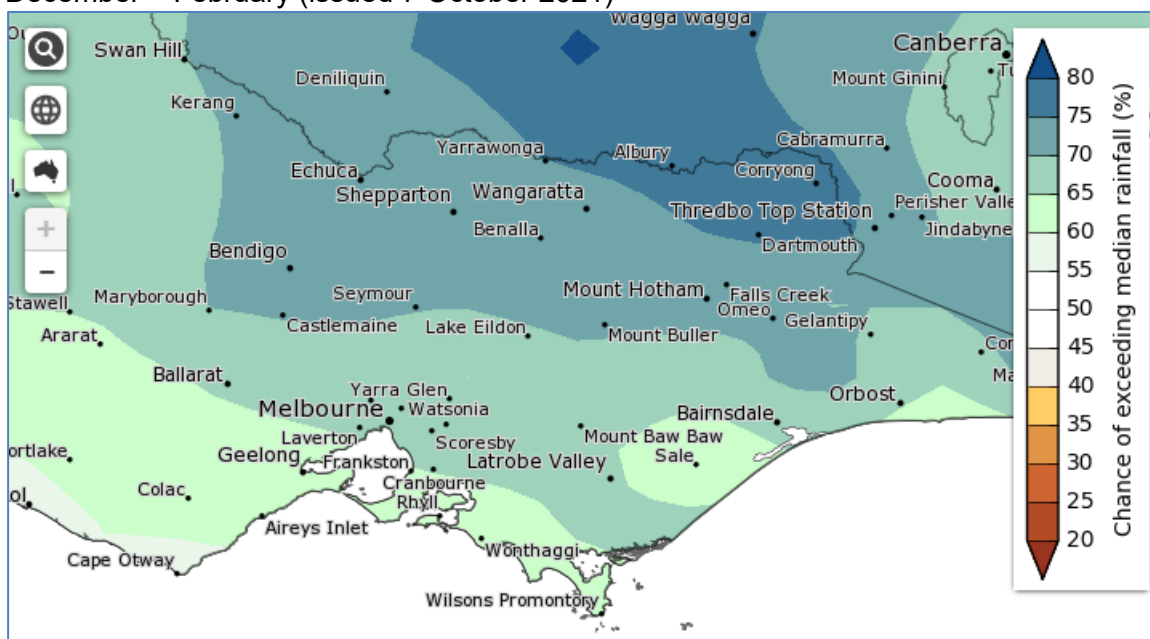
The outlook forecasts a strong 75% likelihood of rainfall for the next three months being above average. The outlook for the summer is also for wetter than average conditions with a probability of about 65%.

#### Chance of above median rainfall

November – January (issued 7 October 2021)



December – February (issued 7 October 2021)

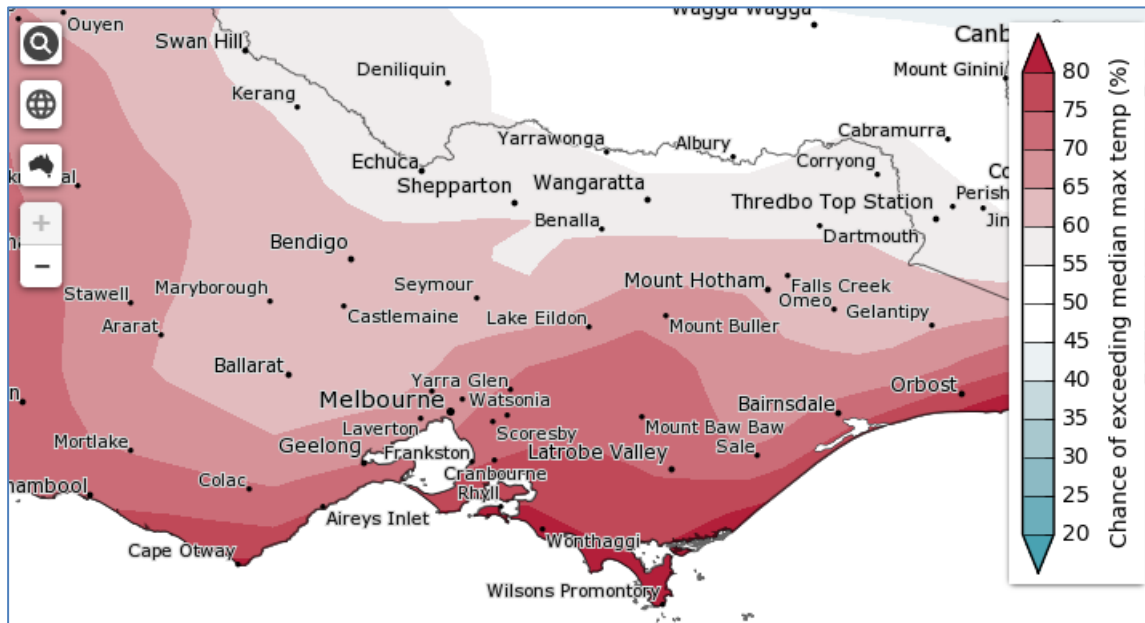


## BOM temperature outlook

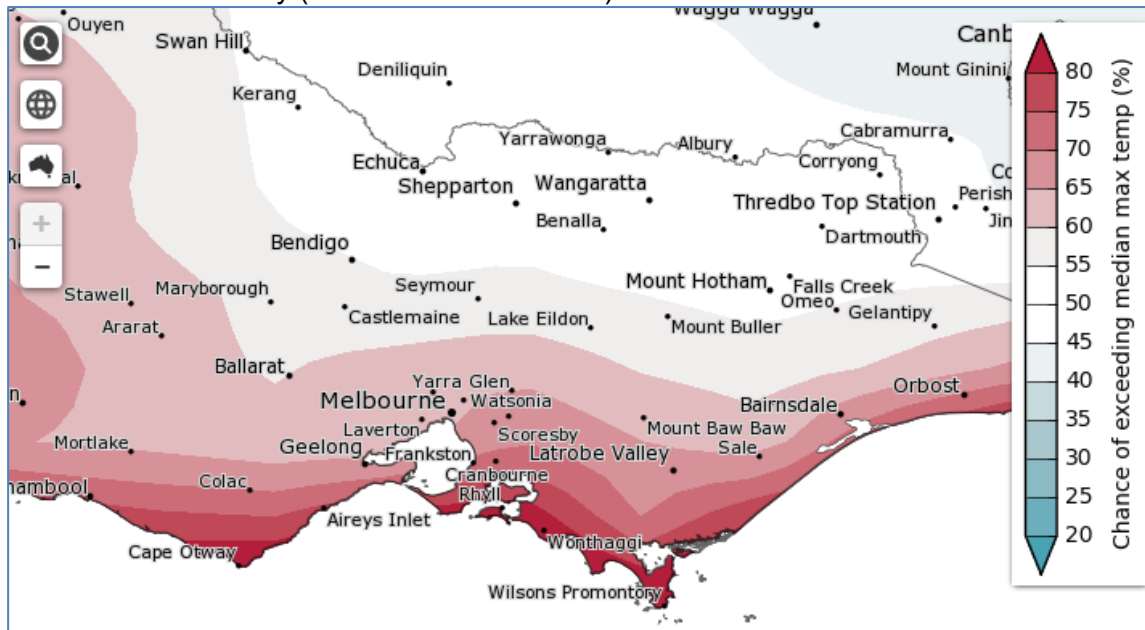
The outlook suggests a stronger chance of warmer days. This may lead to higher water demand for outside garden watering use, although this may be offset by the forecast wetter conditions.

### Chance of above median maximum temperature

November – January (issued 7 October 2021)



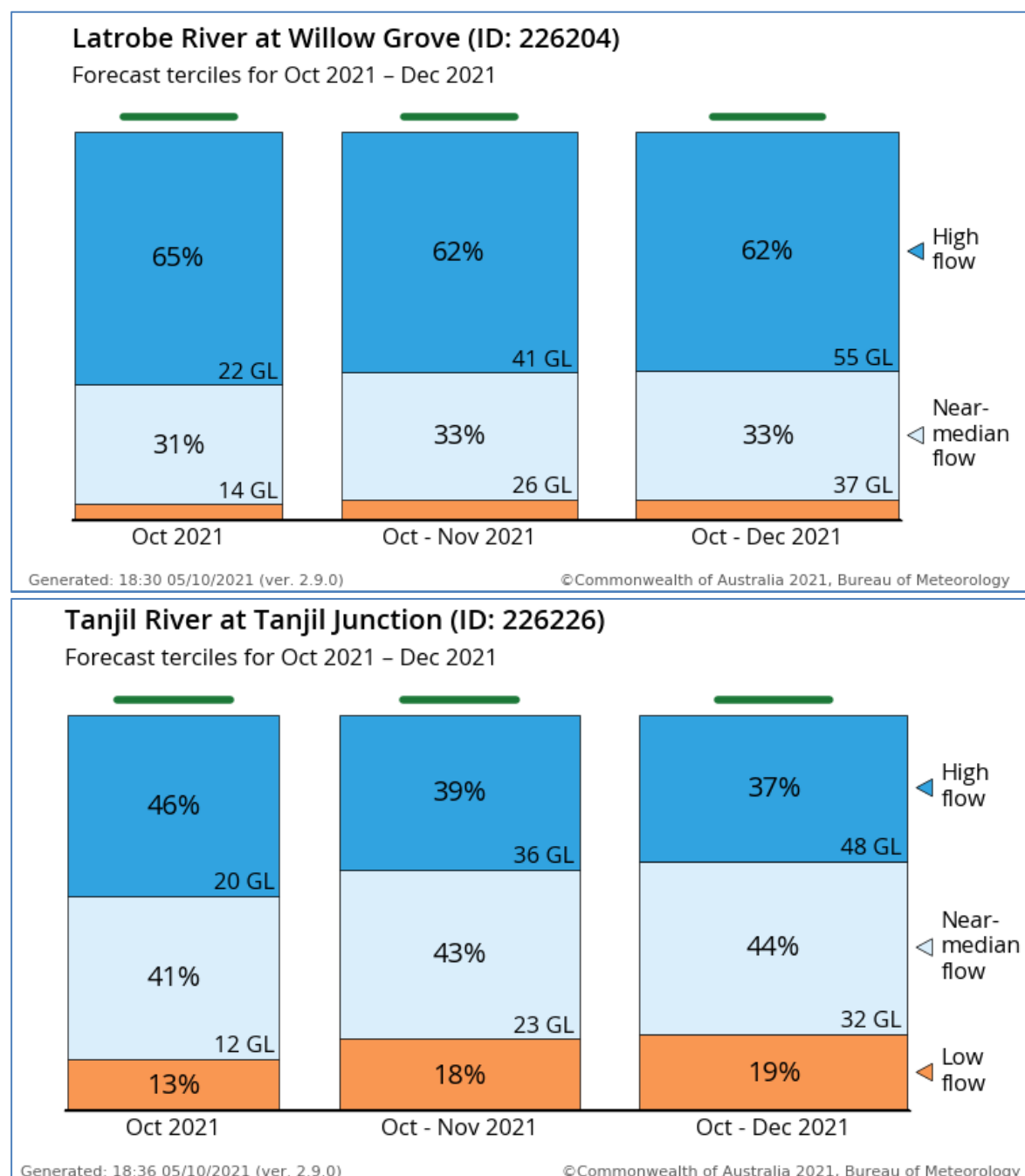
December – February (issued 7 October 2021)





## BOM streamflow outlooks

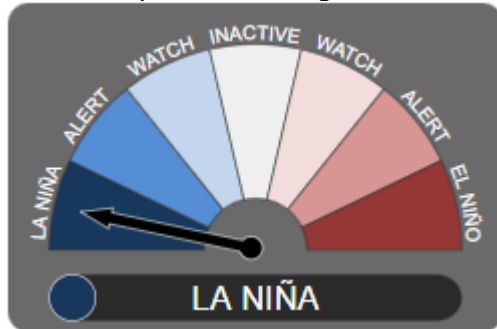
The following two charts show the forecast for streamflows in two major rivers in our region. While not a source of water for our systems, we believe the Latrobe River outlook to be indicative of likely streamflows in other nearby catchments upon which we rely. This is because some of these other catchments are in relatively close proximity to the Latrobe catchment. The Tanjil River is the source of water for Blue Rock Reservoir. Both outlooks below forecast a strong likelihood of average to high stream flows through November and December. This is as expected given the outlook of above average rainfall and the currently wetter than average catchments.



## BOM ENSO outlook

Summary of ENSO Outlook 23 November 2021

Source: <http://www.bom.gov.au/climate/enso/>



Climate in our region is influenced by several cyclical weather patterns, in particular the El Niño Southern Oscillation (ENSO), the Indian Ocean Dipole (IOD) and the Southern Annular Mode (SAM). All of these have phases that contribute to wetter or drier conditions for our region, and their impact also depends on the time of year.

On 23 November 2021 the Bureau of Meteorology (BOM) announced the commencement of a La Niña, with atmospheric and oceanic indicators signalling the coupling of ocean and weather patterns required to declare a La Niña event. While climate models suggest this event will only last until late summer or early autumn, La Niña events increase the chance of above-average rainfall for our region during spring and summer.

A weak negative IOD event during spring is coming to an end, although meteorological indicators suggest its influence may continue for a short while. A negative IOD increases the chance of above-average spring rainfall for our region.

The SAM index has been at positive levels for most of spring and is expected to remain generally positive through to the end of the year. A positive SAM during summer typically brings wetter weather to our region.

It is important to also note that climate change is influencing our climate, with average warming across Australia of around 1.4 °C since 1910. Furthermore, southern Australia has seen a 10–20% reduction in cool season (April–October) rainfall in recent decades.

## Summary

The outlooks presented above indicate a likelihood of higher than average rainfall during summer, along with warmer than average weather. With all catchments currently at average or wetter than average soil dampness, we are expecting close to or better than average streamflows through spring and into summer.

## Water resources outlook

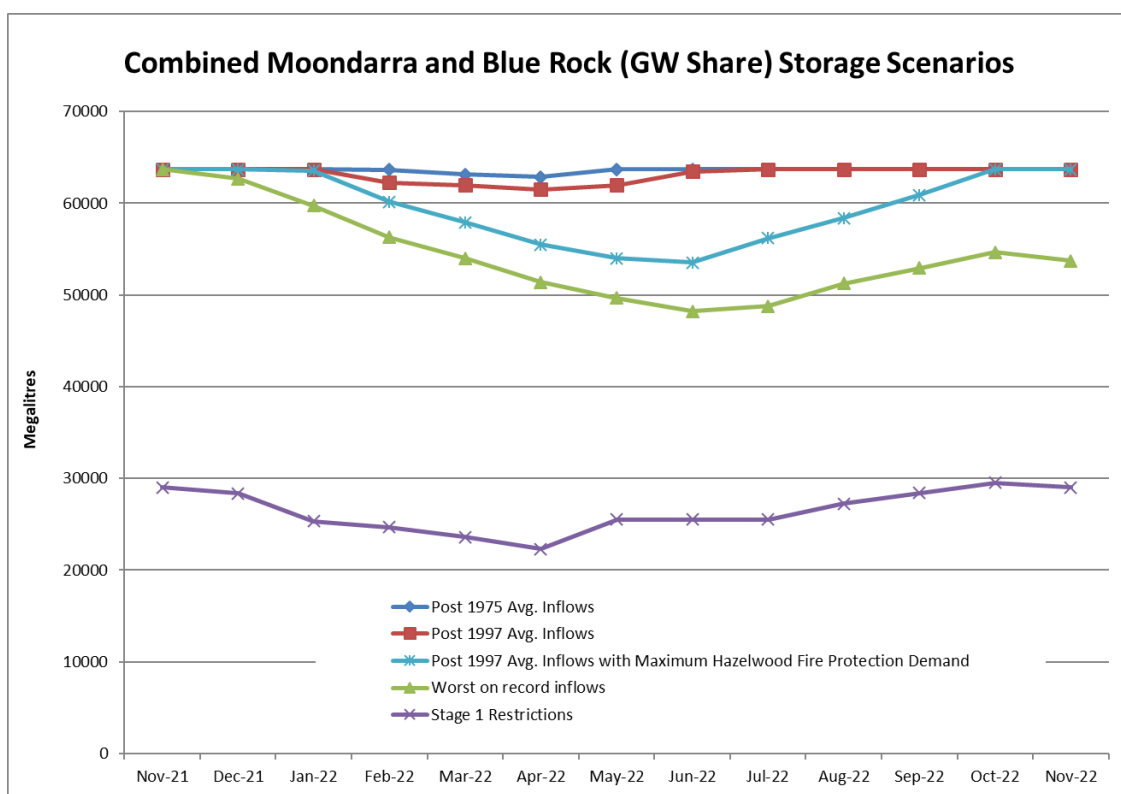
The following chart shows a 12-month outlook in megalitres of the combined water holdings in Moondarra Reservoir and our share of Blue Rock Reservoir under four scenarios starting from the current storage level of 100%. The scenarios present three differing outlooks for reservoir inflows:

- Post 1975 average, nominated by the Victorian Water and Climate Initiative as the 'current climate';
- Post 1997 average, recognising that Victoria's climate took a 'step change' in 1997, the commencement of the Millennium Drought, and that some climatic characteristics of this change persist despite several wetter periods; and
- Worst year on record (2006/07).

The outlook scenarios adopt typical demand levels that would be anticipated with the weather conditions likely under each inflow scenario, eg in a drier year inflows decrease but demand would increase with less rain leading to more garden watering.

From November 2021 the Hazelwood mine has commenced drawing significant flows of water from the Latrobe system for fire risk mitigation purposes. The outlook below shows an estimate of the drawdown on storage that could result from this use at the higher end of anticipated demand and with reservoir inflows at the average since 1997. While applying this demand to the worst on record inflow would result in a worse storage outlook, the outlook presented in the preceding sections suggests a very low chance of such low inflows. This demand is not a guaranteed supply and could be restricted to protect reservoir levels for residential, commercial and industrial customers.

The chart shows a significant buffer between both the 'worst on record' streamflow and 'maximum Hazelwood mine fire protection' demand draw downs compared with the stage 1 restriction trigger.



The following table provides an outlook for each water system for this summer.

Water system	Supply – Demand outlook and water restriction likelihood
Briargolong	Groundwater levels in the Wa De Lock aquifer reached their highest in 5 years during June 2021 and continued to increase over winter and early spring. The current level provides confidence of a sufficient resource for unrestricted supply this summer. It should be noted that matters outside our control such as management of the resource as well as use by others could impact this outlook.
Rawson	Based on historic performance and current streamflows, the chance of water restrictions this summer is deemed unlikely.
Latrobe	Current storage levels in the Latrobe System provide excellent supply security for the coming 12 months. The chance of water restrictions during the next year is deemed unlikely as detailed in the discussion and chart above.
Mirboo North	Based on historic performance and current streamflows, the chance of water restrictions this summer is deemed unlikely. While a reliable stream, supply could become restricted by a catchment water quality incident such as heavy soil runoff into the stream due to very heavy rain combined with upstream agricultural land use.


Water system	Supply – Demand outlook and water restriction likelihood
Sale	The chance of water restrictions in the coming year is deemed unlikely. This resource is a deep, confined aquifer. While subject to long term decline, short term trends in aquifer levels are more strongly related to usage than climate, and are reasonably predictable. There is high confidence of supply meeting and exceeding demand for the year ahead.
Seaspray	With the raw water basin currently almost full, the chance of water restrictions for the coming summer is deemed to be unlikely. Algae outbreaks in the raw water basin could give rise to water restrictions, although measures have been implemented to address this so the risk is deemed unlikely.
Tarago	Based on historic performance and good holdings in the drought reserve (supply agreement with Melbourne water retailers), the chance of water restrictions this summer is deemed unlikely. The Moe-Warragul Interconnection will help to reduce reliance on the Melbourne system.
Thomson Macalister	With a full allocation, the chance of water restrictions for the remainder of the current financial year is deemed unlikely. Late summer and autumn low water levels can occur in Lake Glenmaggie depending on inflows and irrigation use and this can lead to water carting to Coongulla, however the seasonal outlook suggests this is unlikely. If this did eventuate, it is anticipated that such water carting would not require concurrent water restrictions.

It is always possible that a drought could occur that is worse than any on the historic record. For instance, the 2017-19 east Gippsland drought that affected the north east of our region including the Briagolong supply system two years ago, was 13% drier at the Giffard raingauge than the previous lowest rainfall three year period in over a century. We undertook modelling in the preparation of our 2017 UWS to determine the resilience of our systems to extreme drought, using a method that creates a test drought event worse than experienced. The results showed that none of our systems failed to meet demand during this test drought under stage 4 restrictions, meaning all systems were shown to be sufficiently robust to meet critical human needs.

Furthermore, modelling we undertook during the development of the 2017 UWS showed all of our systems to be highly resilient to a repeat of the Millennium Drought (1997-2009), with only minimal water restrictions necessary to balance supply and demand.

Actual performance during the Millennium Drought is no longer relevant for many of our systems due to augmentations undertaken over the last decade, these include:

- Connecting Boolarra to the Latrobe system;
- Constructing a 30 ML water storage for Seaspray;
- Purchasing an increased share of Blue Rock Lake;
- After detailed assessment, resolving to truck potable water to Thorpdale as a

- 
- permanent supply measure; and
  - Moe to Warragul Interconnect Stage One (Yarragon to Darnum), with Stage Two to Warragul now complete.

Disclaimer: While we have considered relevant climate forecasts and taken care in presenting the information in this Annual Water Outlook, we cannot and do not guarantee any forecast outcome or event. There are many factors that could deliver a different outcome and many are beyond our control. Examples include fires and floods that lead to dirty water sources that are untreatable or that can only be treated at reduced rates, requiring water restrictions.

### Public green space watering

In the 2017 UWS, we committed to collaborating with our local councils and communities to identify priority public green spaces and plan for their maintenance during drought periods. This could mean providing water restrictions exemptions or assisting with alternative water resources. A preliminary list of priority reserves was published in the UWS. It is important to note also that limitations on watering of public reserves are not limited to drought and other constraints also exist such as the cost of potable water which may not be the most suitable source. We will consider requests for restriction exemptions, although as stated above, the chance of restrictions this summer is deemed unlikely.


We have also continued to engage with councils since we published the 2017 UWS through the Gippsland Integrated Water Management Forum that commenced in May 2018. The Forum, a Water for Victoria action, provides a platform for addressing some of the challenges in maintaining public green space.

Baw Baw Shire Council has released its municipal Integrated Water Management (IWM) Plan which outlines priority projects for alternative water supply to recreation facilities. We are currently working with them on the delivery of some actions including the Warragul Western Park stormwater reuse scheme. Latrobe City Council and Wellington Shire Council have also completed their municipal IWM plans and are currently working through their endorsement processes. These activities have been assisted by external funding and we will be continuing to work closely with our region's councils to support the delivery of actions.

## Actions

Our Urban Water Strategy 2017 set the following actions for the 2018-23 price submission period:

- 1. Complete the assessment of options for the Warragul/Drouin water system, selecting and implementing the most appropriate solution.** On 8 October 2021 the Minister for Water released the draft Central and Gippsland Region Sustainable Water Strategy. The strategy acknowledges ongoing growth and water resource constraints for Warragul and Drouin and sets out a government direction to secure the water supply to these towns by increasing our access to Tarago Reservoir. We are currently working with government and other stakeholders on an implementation plan to deliver this outcome.
- 2. Complete the upgrade of the Drouin Wastewater Treatment Plant.** This is currently under construction with completion due 2022.
- 3. Continue to promote water conservation and efficiency under the Target Your Water Use program.** Throughout the year, particularly during summer, we created and shared social media content that supports the Victorian Government's Target Your Water Use campaign. These messages included water saving tips adapted from Smart Approved WaterMark advice; promotion of the Permanent Water Saving Rules; and promotion of online tools, such as a household water use calculator. Other education activities included continuing to work with schools to support their ongoing commitment to improving water efficiency, with 35 schools in our region actively involved in the Schools Water Efficiency Program; and forging closer partnerships with our regional education partners.
- 4. Work with DELWP and Southern Rural Water to improve the understanding of risks and sustainability of the Boisdale Aquifer during the Gippsland Region Sustainable Water Strategy five year review, or other process as appropriate.** The Victorian Government has committed to a program of assessment of the sustainable extraction level for many of Victoria's aquifers over the next few years, with the Boisdale aquifer to be part of this program.
- 5. Continue to monitor trends and report annually through the Annual Water Outlook, bringing forward action on other systems if required.** This continues to be actioned.
- 6. Actively participate in the upcoming Integrated Water Management forums (Water for Victoria Action 5.7) in conjunction with DELWP, local Councils and the West Gippsland Catchment Management Authority.** This commenced in May 2018. The Minister for Water endorsed a Strategic Directions Statement in 2019 outlining commitments made by Forum agencies to pursue a range of initiatives and projects. In particular, councils have prepared municipal Integrated



Water Management Plans, outlining opportunities within their townships and we have actively supported this process. We have also completed stage 1 of a stormwater management IWM project at Willow Grove to help protect the adjacent Blue Rock Reservoir from town and agricultural runoff pollution.

### **Additional Action**

The unprecedented east Gippsland drought from 2017-19 put pressure on the Briagolong supply system to a degree not seen before. Following a review of the reliability of this water resource in light of that event and updated climate science, we have adapted our water resource planning to bring forward an augmentation for Briagolong. We reviewed a range of options and have progressed the preferred option of developing a production bore in the deeper local aquifer. During 2021 we drilled a 100m deep observation bore at our Briagolong water treatment plant and undertook water quality and yield assessments. With promising results, our next steps include buying water entitlement, working through the statutory licence application process with Southern Rural Water, assessing our treatment processes for suitability for this new water resource, and ultimately installing a production bore in late 2022 or 2023.





**Gippsland  
Water**

PO Box 348  
55 Hazelwood Road  
Traralgon VIC 3844

General enquiries 1800 050 500  
Faults and emergencies 1800 057 057

[contactus@gippswater.com.au](mailto:contactus@gippswater.com.au)  
[www.gippswater.com.au](http://www.gippswater.com.au)

ABN 75 830 750 413