Gippsland Water

Annual Water Outlook

December 2020

Contents

1 Executive summary

1.1 Water outlook

Average to above average rainfall across our region has been recorded during 2020. This has led to a significant recovery for some of our water supply systems in the east of our region, in particular Briagolong, after three years of record drought conditions. All of our water supply systems are now 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 2021.

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.

The Bureau of Meteorology (BOM) has recently announced that we are in a La Nina, the wet phase of the Pacific Ocean's El Nino Southern Oscillation (ENSO). A negative Indian Ocean Dipole (IOD), the Indian Ocean's equivalent to ENSO, was also occurring earlier in spring although this has returned to a neutral position. Nevertheless, while the BOM is predicting this year's La Nina won't be as strong as the one in 2010-12, the prevailing climate 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 the newly commissioned interconnecting pipeline between the Moe and Tarago systems.

Sale and surrounding areas retain their full access to the deep and reliable Boisdale Aquifer, while 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.

1.2 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 lowest on record last January after three years of record drought during which time only one significant aquifer recharge occurred. Late January and February 2020, saw significant rainfall at Briagolong and in the Freestone Creek catchment. One event in January provided the aquifer with the largest recovery seen since the 2017-19 drought commenced. The remainder of 2020 has provided several smaller recharges, maintaining the aquifer at a level that 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.
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 scenarios is presented in Section 5.	Current storage levels in the Latrobe System provide excellent supply security for the coming 12 months. Furthermore, the closure of Hazelwood Power Station has significantly reduced demand. The chance of water restrictions during the next year is deemed unlikely.

Water system	Towns serviced	Water source	Water restriction outlook period	Water restriction likelihood and comments
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 and exceeding demand for the year ahead.
Seaspray	Seaspray	Merrimans Creek	While the raw water basin holds up to 30 ML, enough for about nine months' supply, flow in Merrimans 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 reduce this risk and are also 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 don't 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. 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 be available for use this summer and will help to reduce reliance on the Melbourne system.
Thomson Macalister	Heyfield, Maffra, Stratford, Boisdale, Coongulla, Glenmaggie	Thomson River, Macalister River, Lake Glenmaggie	The outlook period is to 30 June 2021 because we have received our full allocation for this system for the 2020-21 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 AWO, 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, such as the 2017-19 east Gippsland drought that affected the north east of our region including the Briagolong supply system last year. 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.

2 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. 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.

2.1 Summary of water system characteristics

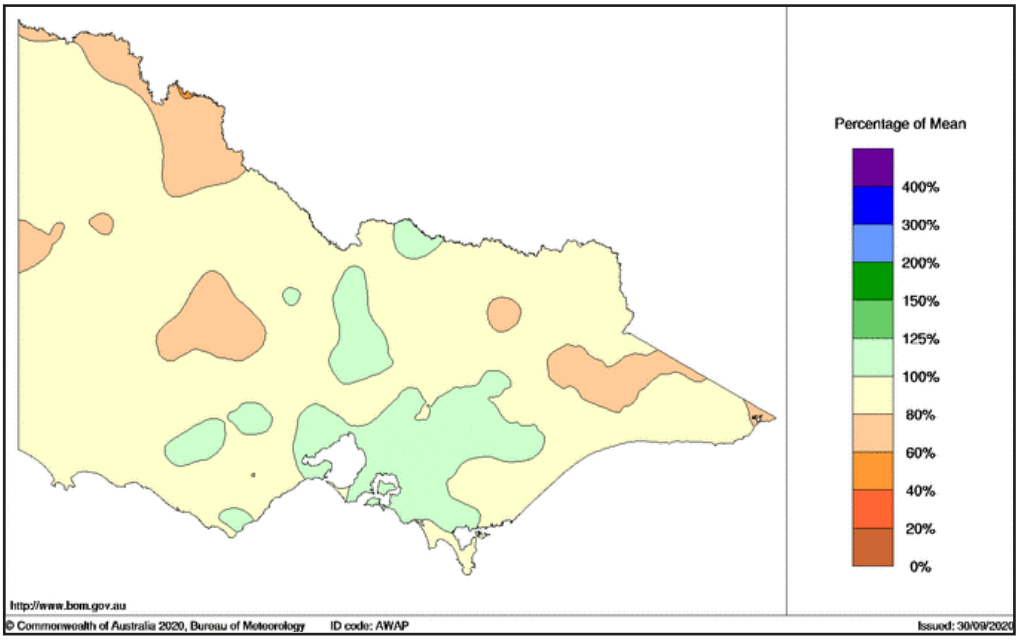
The UWS contains comprehensive descriptions of each of our systems as a public record. This summary will therefore focus on aspects of each water system most relevant to preparing an outlook for the summer ahead, and beyond, where that is possible.

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.
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 section 5.
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 and 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	Merrimans Creek. While the raw water basin holds up to 30 ML, enough for about nine months supply, flow in Merrimans 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 winterfill 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 in almost all years to manage summer peak demand. This reserve is limited to 400 ML/y (about 12% of total annual demand), therefore the water restriction outlook is for three months only.
Thomson Macalister	Thomson River, Macalister River, Lake Glenmaggie. The outlook period is to 30 June 2021, because we have received our full allocation for this system for the 2020-21 financial year. The outlook beyond that will depend on the opening allocation and subsequent allocation progression during the 2021-22 year.

2.2 2020 Rainfall and streamflows

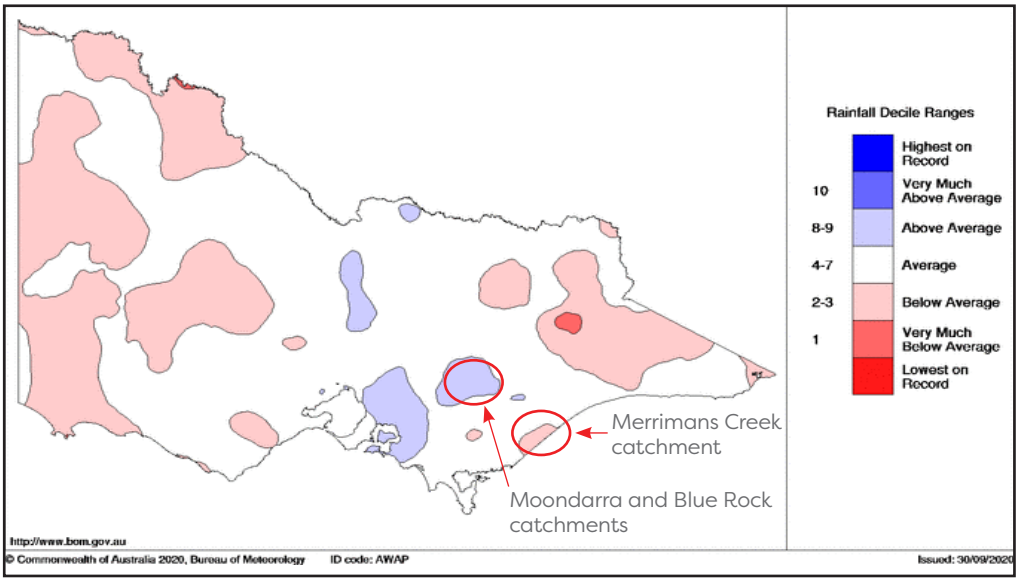
Rainfall in our region in the 12 month period up to the end of September 2020 has been slightly above average in the west while slightly below average in some parts of the east. The chart below shows that rainfall ranged from 80-120% of average across our region and catchments.

Victorian rainfall percentages - 1 October 2019 to 30 September 2020

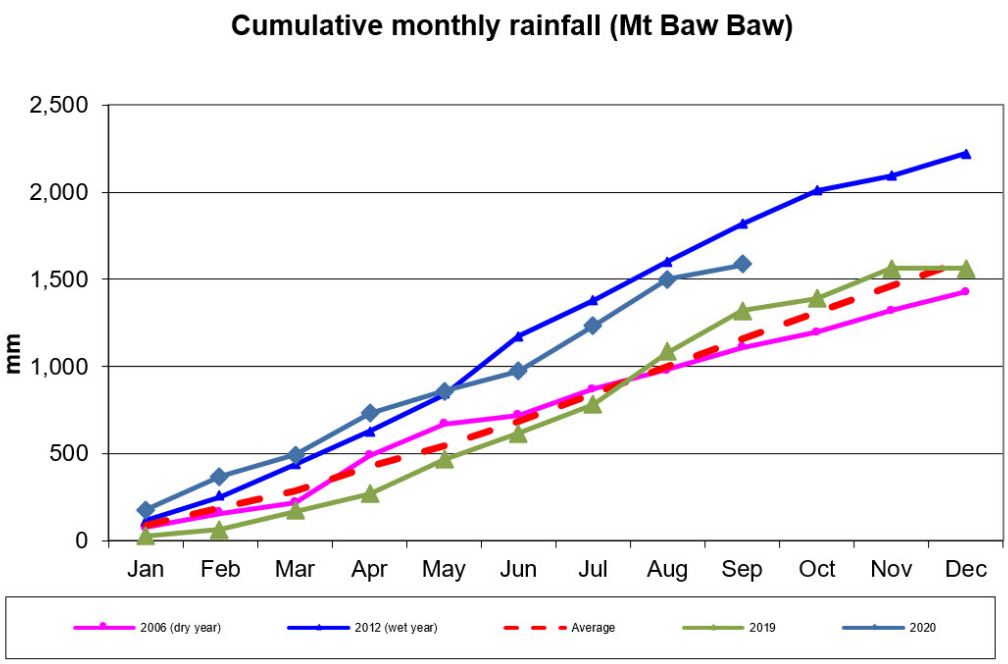


The following rainfall decile chart shows that rainfall across our region has been close to average for the past 12 months with better falls in the Moondarra Reservoir and Blue Rock Reservoir catchments to the north around Mt Baw Baw, and slightly below average rainfall affecting the Merrimans Creek catchment that supplies Seaspray.

Victorian rainfall deciles - 1 October 2019 to 30 September 2020

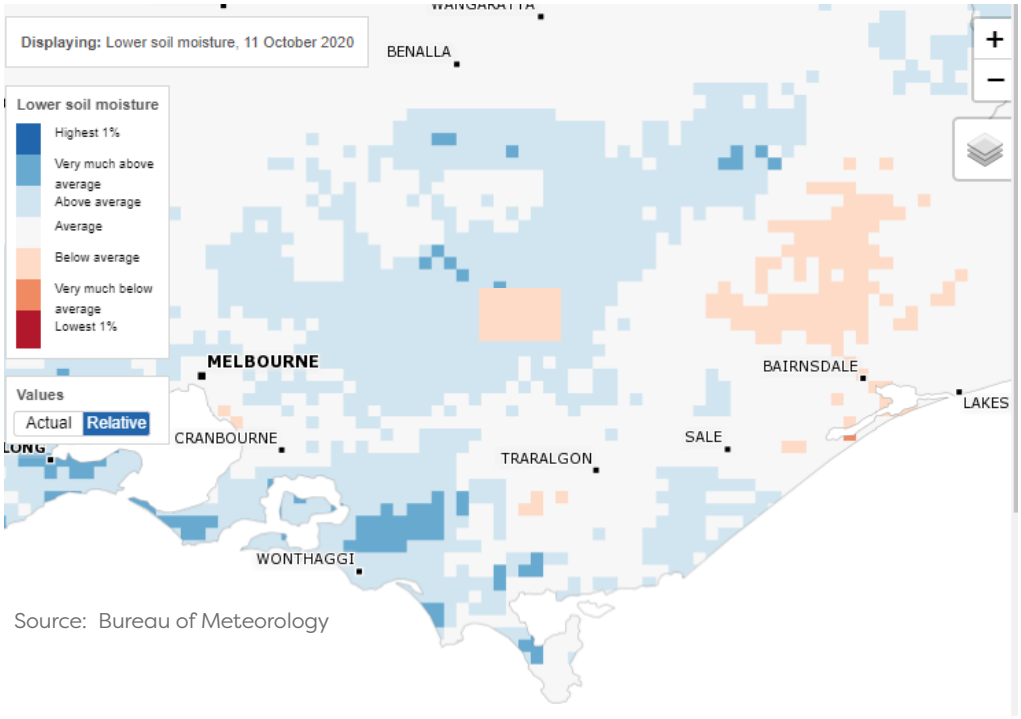


The chart below shows that rainfall in our main catchment, the Baw Baw plateau, has been consistently good all year with only June and September slightly drying off. This year's rainfall to date has been almost as good as 2012, a particularly wet year, and much better than last year.



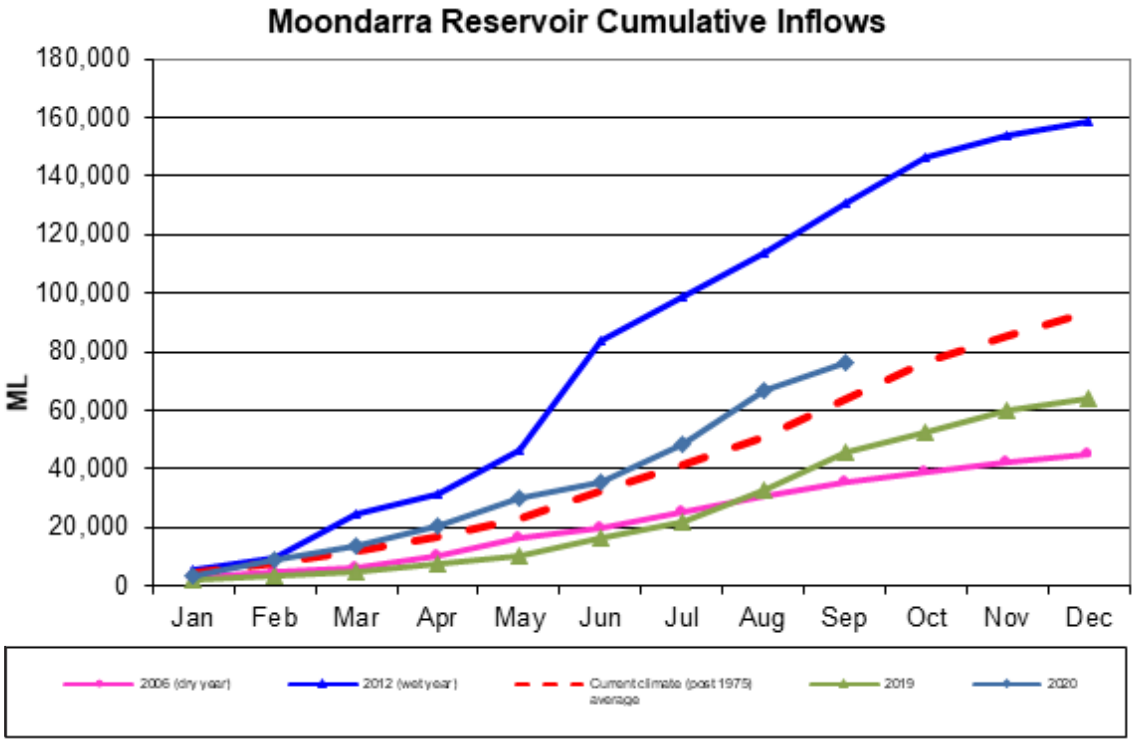
The rainfall this year has led to catchments across our region being generally damper than average. The chart below shows lower soil moisture levels (at 10 cm to 1 m depth), relative to average, around mid-October. All of our catchments currently have average to above average soil moisture levels with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

Lower soil moisture - 11 October 2020



Source: Bureau of Meteorology

The chart below shows that 2020 has produced above average inflows to Moondarra Reservoir. The cumulative inflow has remained above average in all months except January which was dry up until late in that month. However, while rainfall was almost as good as 2012, and better than 2012 for the first few months, inflows have fallen well short of 2012. This is due to the catchment being very dry at the beginning of 2020 as well as the timing of rainfall. Year 2012 saw good rain fall in early winter, while in comparison June this year was drier. Good rainfall in the "cool season" when catchments are damper and trees don't take as much water leads to good streamflows. Nevertheless, 2020 has been a good inflow year with Moondarra reaching full capacity in February and spilling all year since.

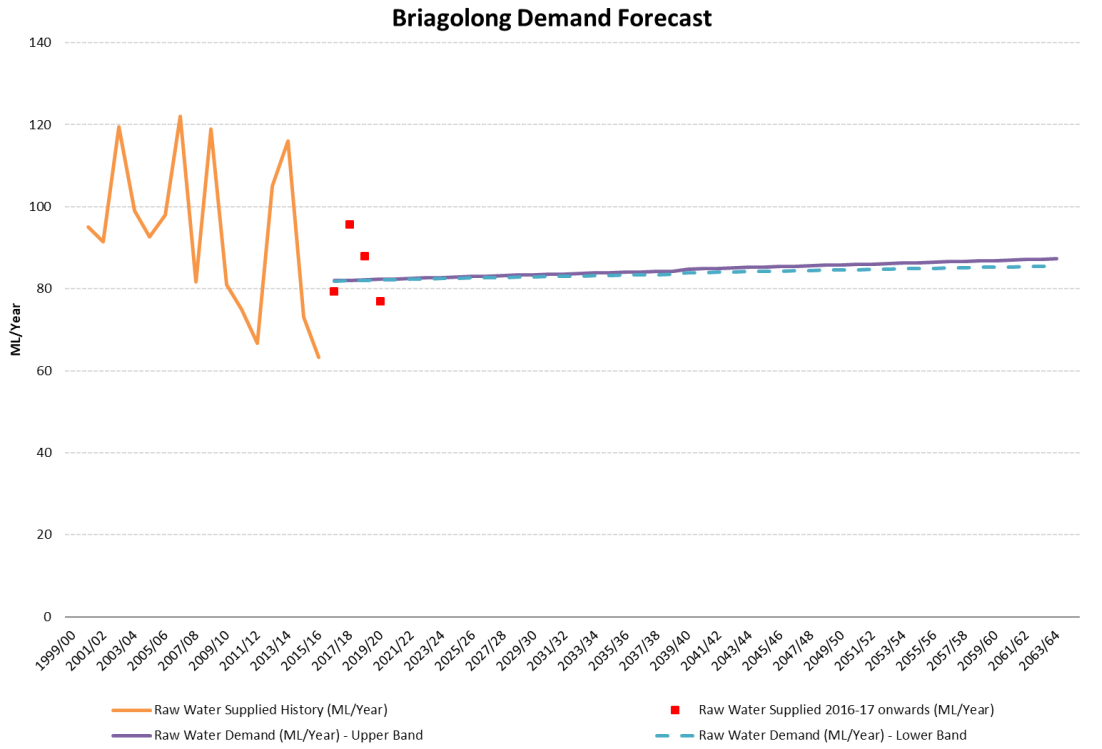


Previously dry areas, dominant in the eastern part of our service region, have benefitted from recent wetter conditions.

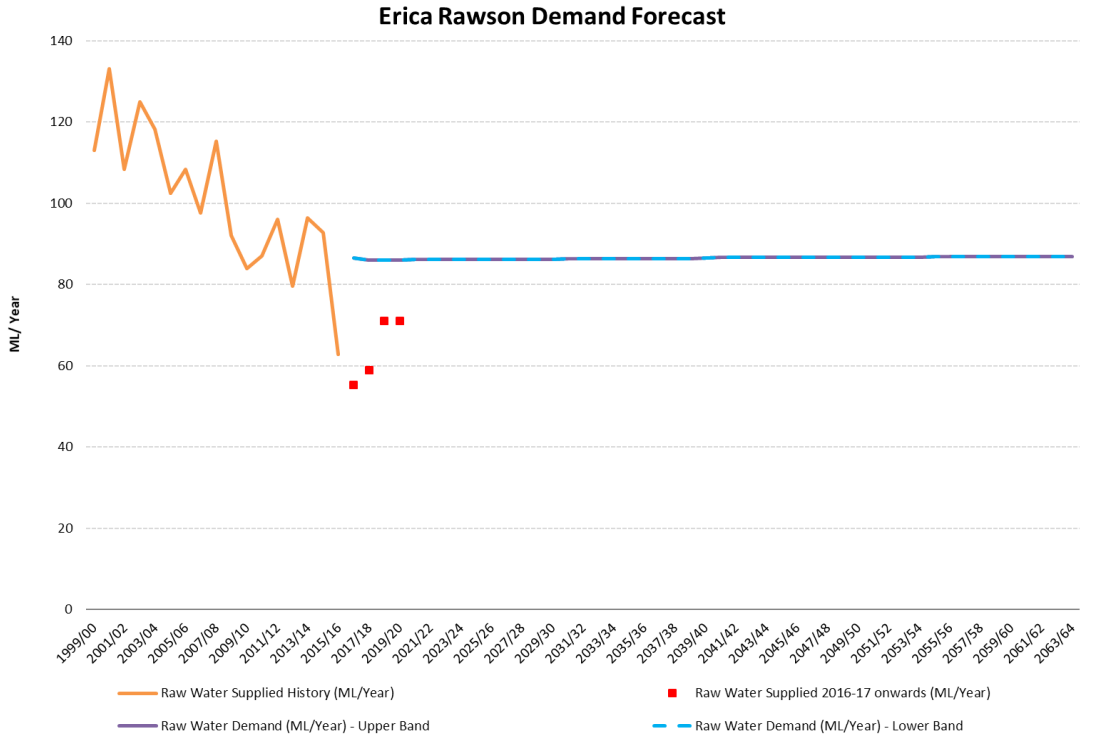
2.3 Recent consumption trends

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.

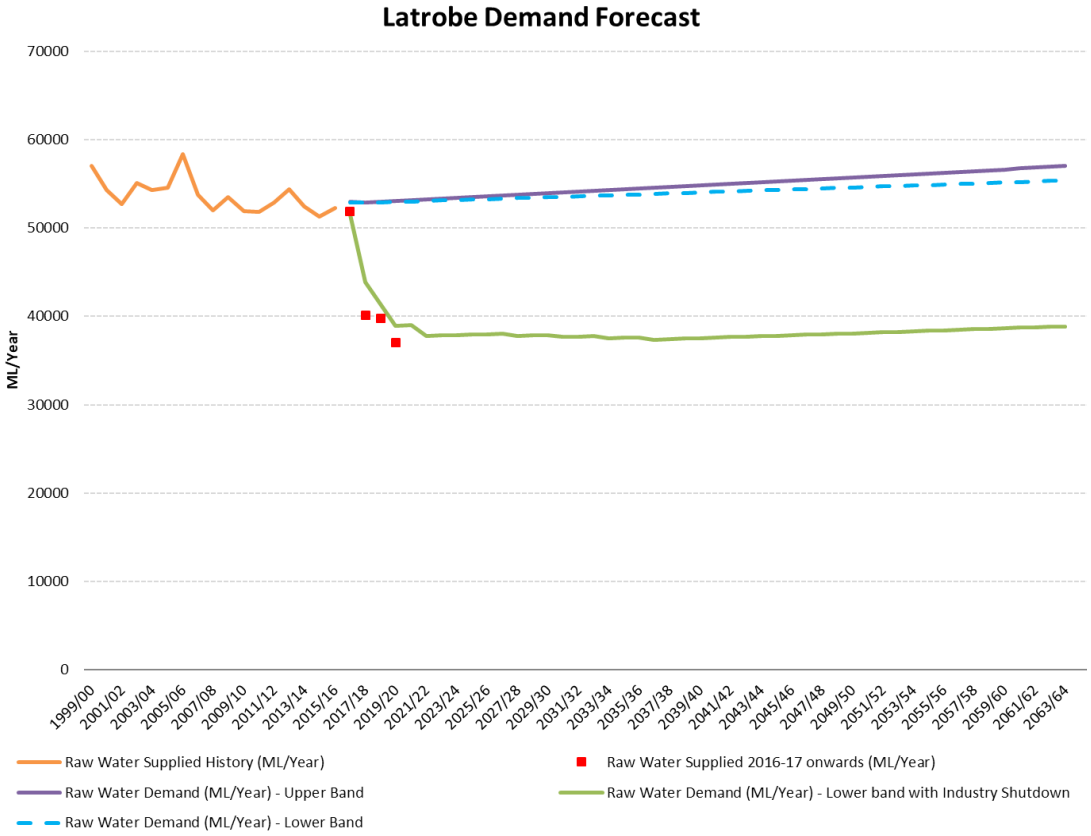
Briagolong: Despite the dry first half of 2019-20, the subsequent wet period, as well as a brief period of water restrictions, has led to lower than forecast demand. We worked closely with the Briagolong community leading up to last summer and during the restriction period to encourage and assist with water conservation and the result below confirms this was achieved.



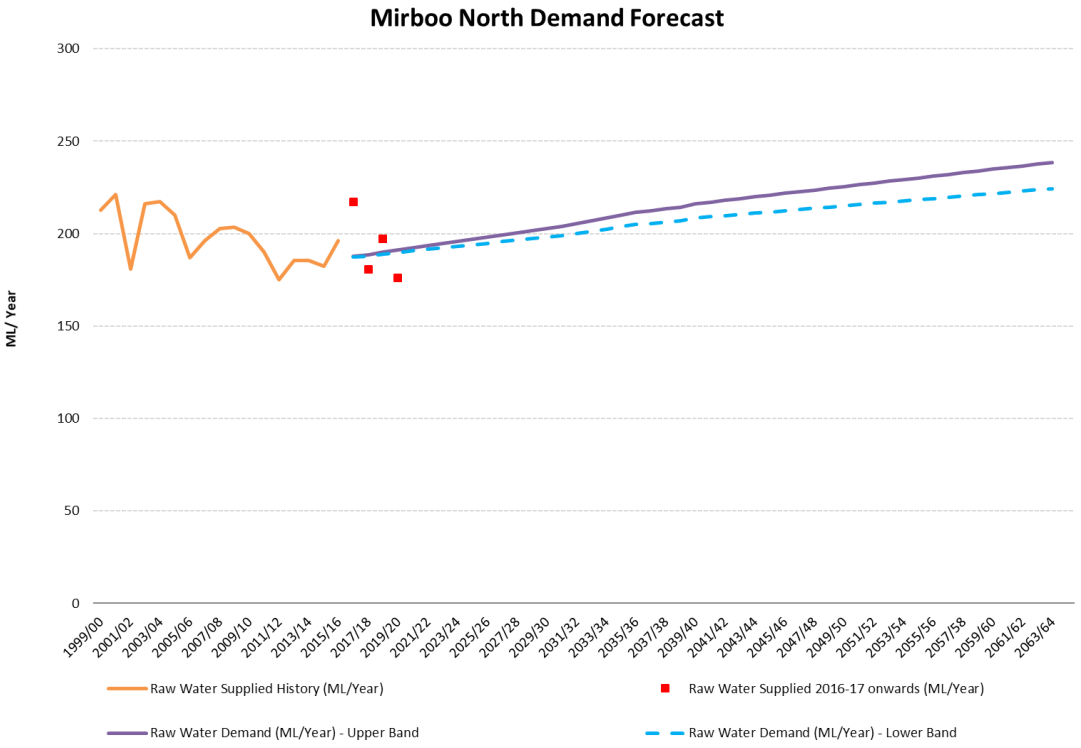
Rawson: Demand remains much lower than expected.



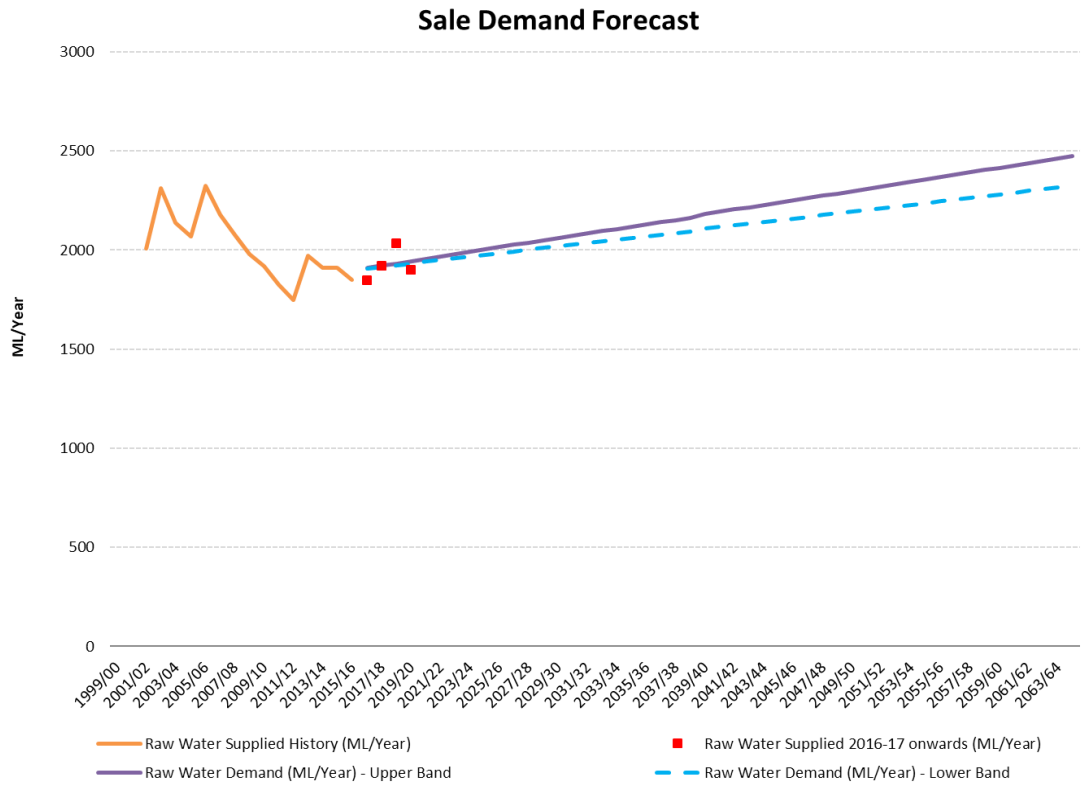
Latrobe: As expected with Hazelwood's closure.



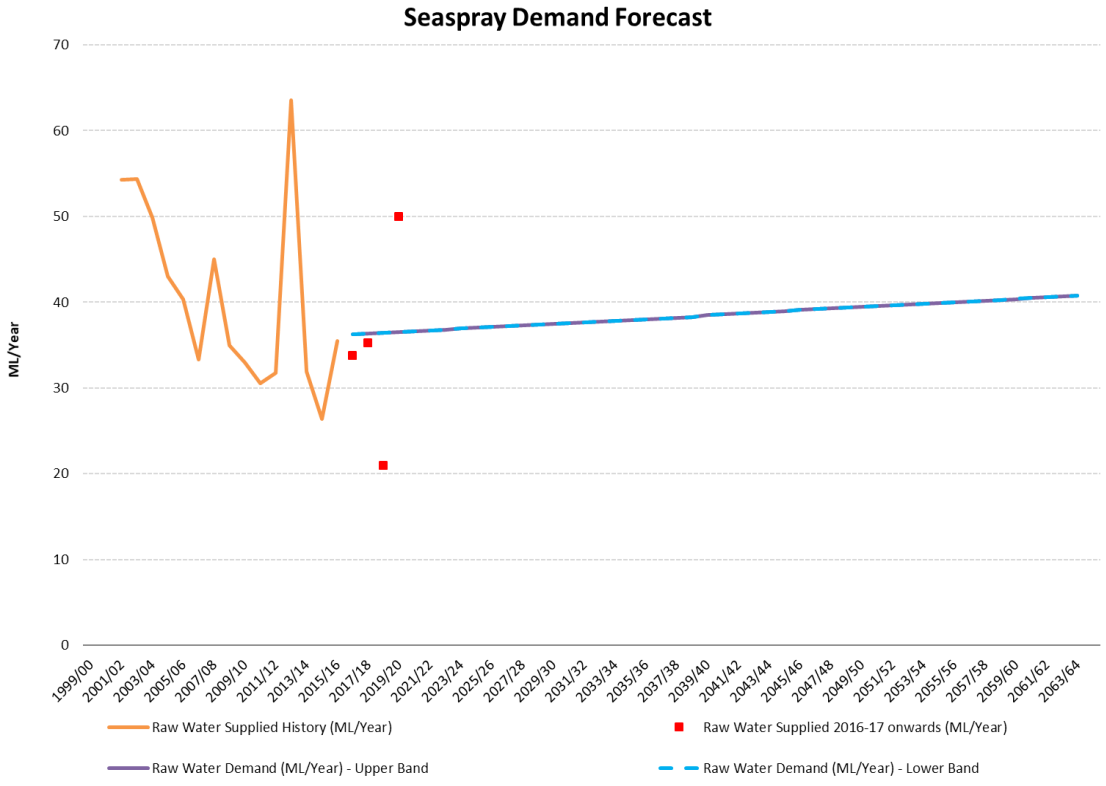
Mirboo North: Lower than forecast but unsurprising due to the wetter second half of the year.



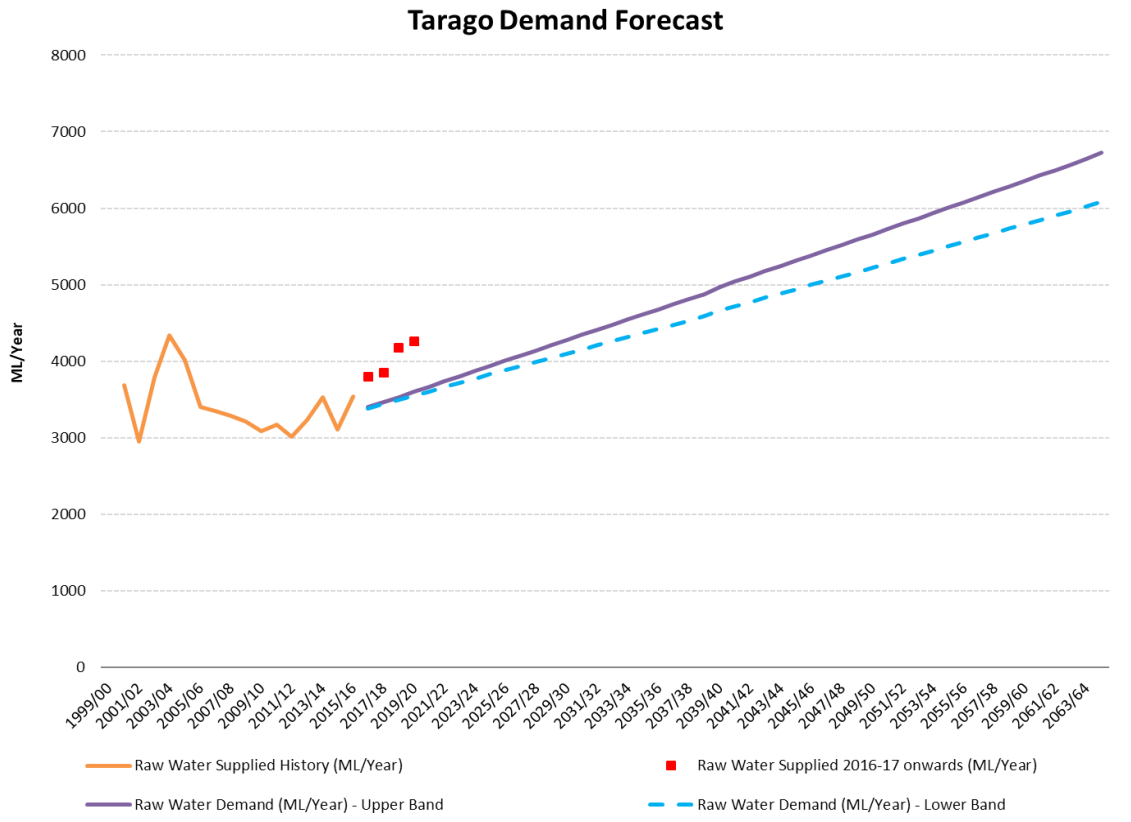
Sale: As forecast.



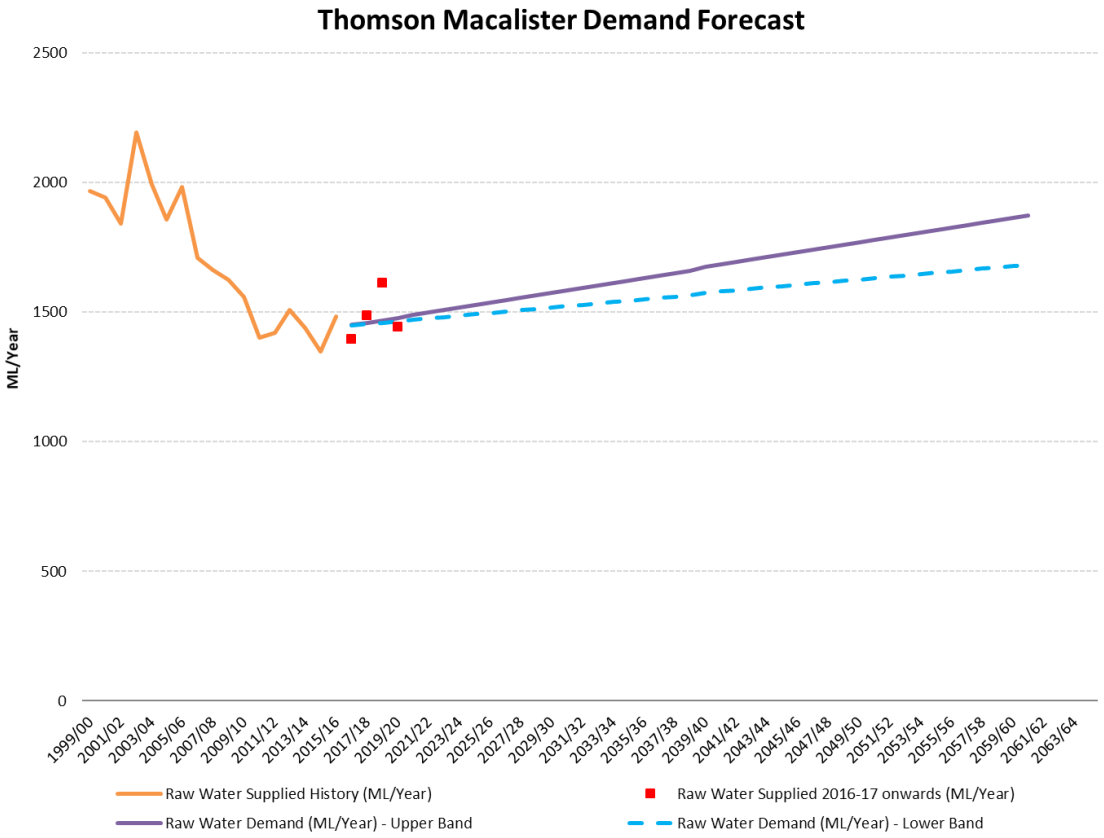
Seaspray: Seaspray has a 30 ML raw water basin between the Merrimans Creek weir and the water treatment plant. This is a critical part of the system and helps maintain supply reliability during times of no streamflow or when the terms of our water entitlement prevent us from accessing streamflow. Raw water demand this year has been much higher than normal but this is offset by last year's very low consumption. Year 2018-19 saw extended periods when we could not divert water from the creek and we therefore drew down the basin. During 2019-20 we were able to refill the basin. Town demand for potable water remained around the forecast and the basin ensured reliable supply.



Tarago: Greater than forecast and continuing to increase. The drivers of this increase include urban growth and hot, dry weather up until late January. Also, this system was at times used to supply Darnum and Yarragon during the completion of works on the Moe-Warragul Interconnection.



Thomson Macalister: As forecast.



2.4 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 that 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.

3 Current water resource position

Water system	Towns supplied	No of connections (June 2020)		Major customers	Water source	Alternative water source	Current supply position	Current consumption comments
		Residential	Non-residential					
Briagolong	Briagolong.	318	22	None	Wa De Lock Aquifer	Possible deeper groundwater resource being investigated.	Aquifer level is in a good position for October and well above restriction levels.	As expected.
Rawson	Erica, Rawson.	296	45	None	Trigger Creek.	None	Stream flows adequate.	As expected.
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	37,078	3,312	AGL Loy Yang A, Australian Paper, Australia Char, Energy Aust. Yallourn, Alinta Loy Yang B, Omnia, Fonterra, IXOM, Jelfor Timber, Latrobe Regional Hospital, Lion Foods, Yallourn Engineering	Moondarra Reservoir, Blue Rock Reservoir, Narracan Creek	Blue Rock Drought Reserve.	Storages at 100%.	Lower demand than the historic average due to Hazelwood closure.
Mirboo North	Mirboo North	743	83	None	Little Morwell River (north arm)	None.	Stream flows adequate.	As expected.
Sale	Sale	7,232	864	Sale Hospital, RAAF Base, Livestock Exchange, Fulham Correctional Centre	Boisdale Aquifer	None.	Secure aquifer.	As expected.

Water system	Towns supplied	No of connections (June 2020)		Major customers	Water source	Alternative water source	Current supply position	Current consumption comments
		Residential	Non-residential					
Seaspray	Seaspray	341	11	None	Merrimans Creek	Water carting.	Raw water basin at 90%.	As expected.
Tarago	Warragul, Drouin, Rokeby, Buln Buln, Nilma, Darnum (south), Neerim South, Noojee	15,363	1,301	Park Avenue Laundry, Pureharvest, Warragul Linen, Warragul Sale Yards, Warragul Hospital	Tarago River	Trade in Melbourne system.	Stream flows adequate. Drought reserve at 100%.	Demand continues to grow in this system at a greater rate than forecast.
Thomson Macalister	Heyfield, Maffra, Stratford, Boisdale, Coongulla, Glenmaggie	4,534	420	Saputo Milk Factory	Thomson River, Macalister River, Lake Glenmaggie	Trade in MID.	2020-21 allocation 100%.	As expected.

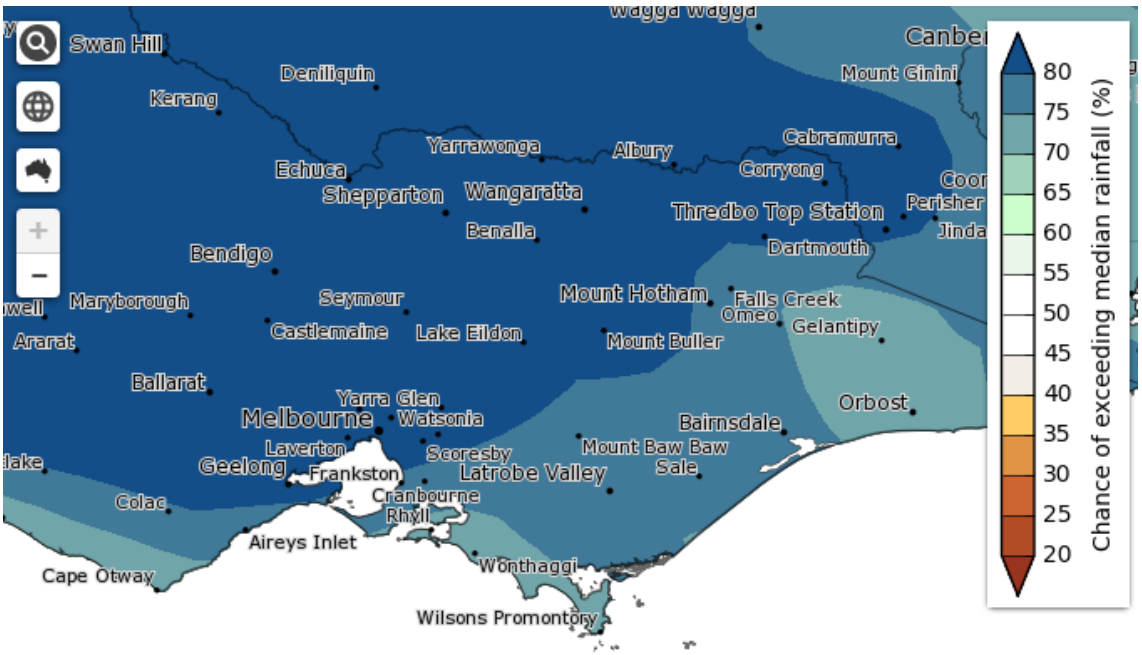
4 Climate outlook

4.1 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 70%.

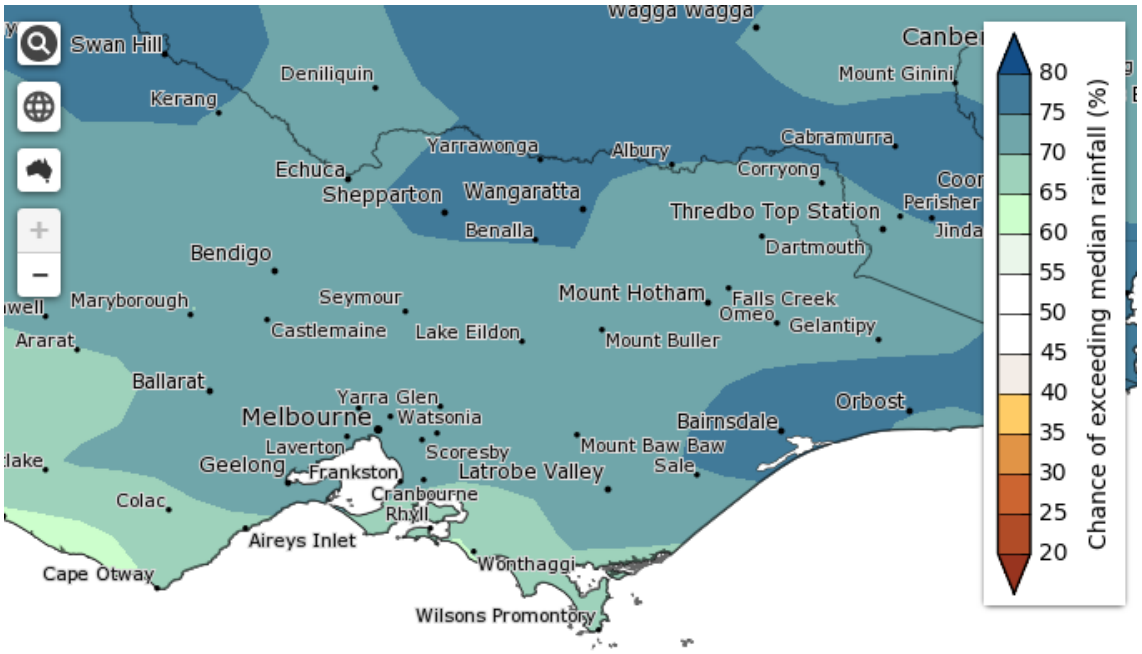
Chance of above median rainfall

November – January (issued 8 October 2020)



Chance of above median rainfall

December – February (issued 8 October 2020)

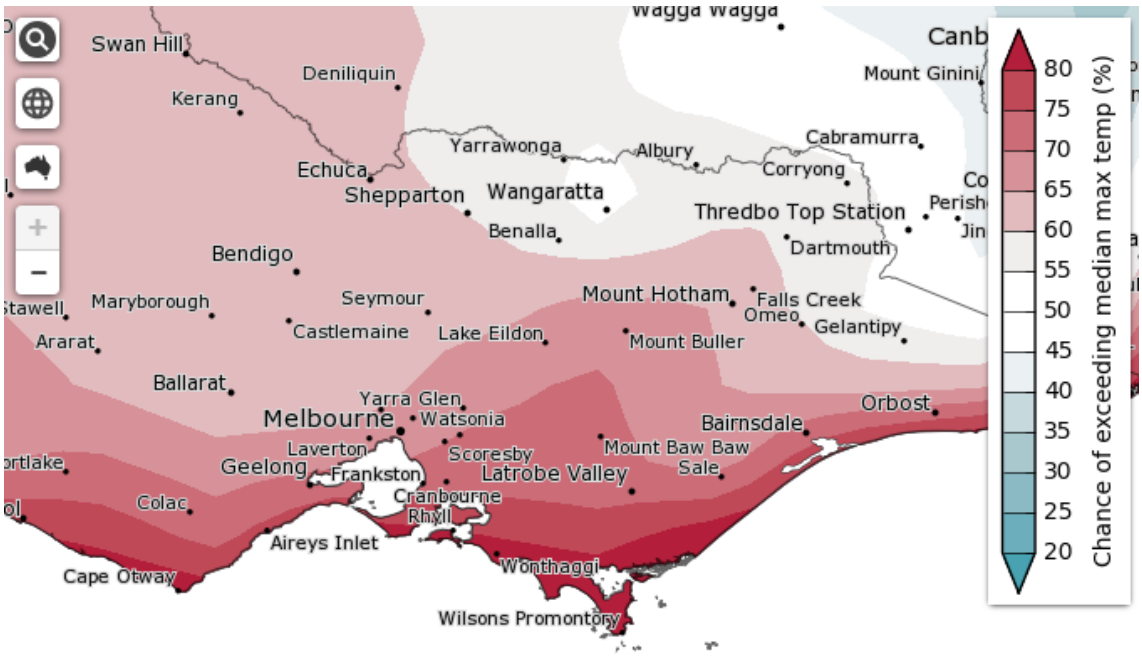


4.2 BOM temperature outlook

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.

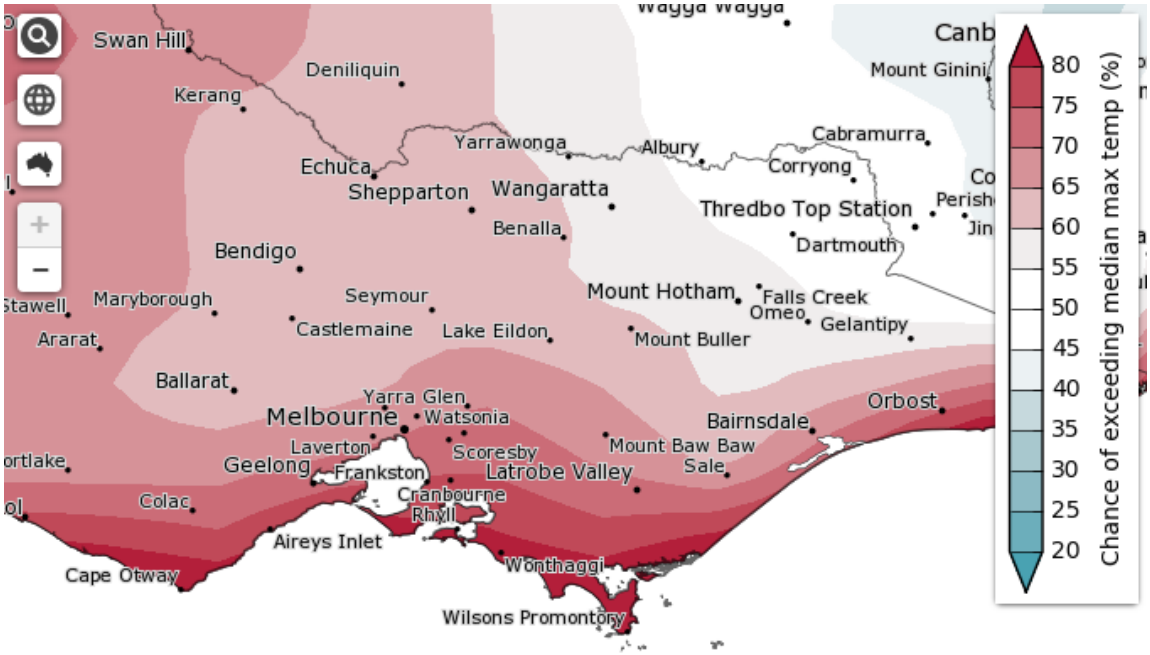
Chance of above median maximum temperature

November – January (issued 8 October 2020)



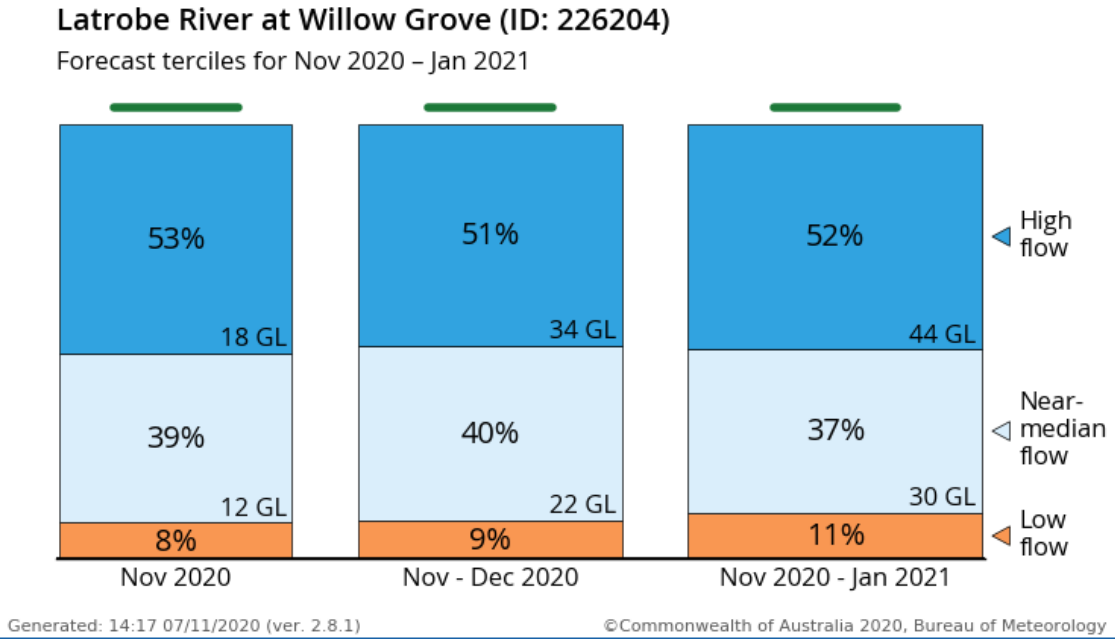
Chance of above median maximum temperature

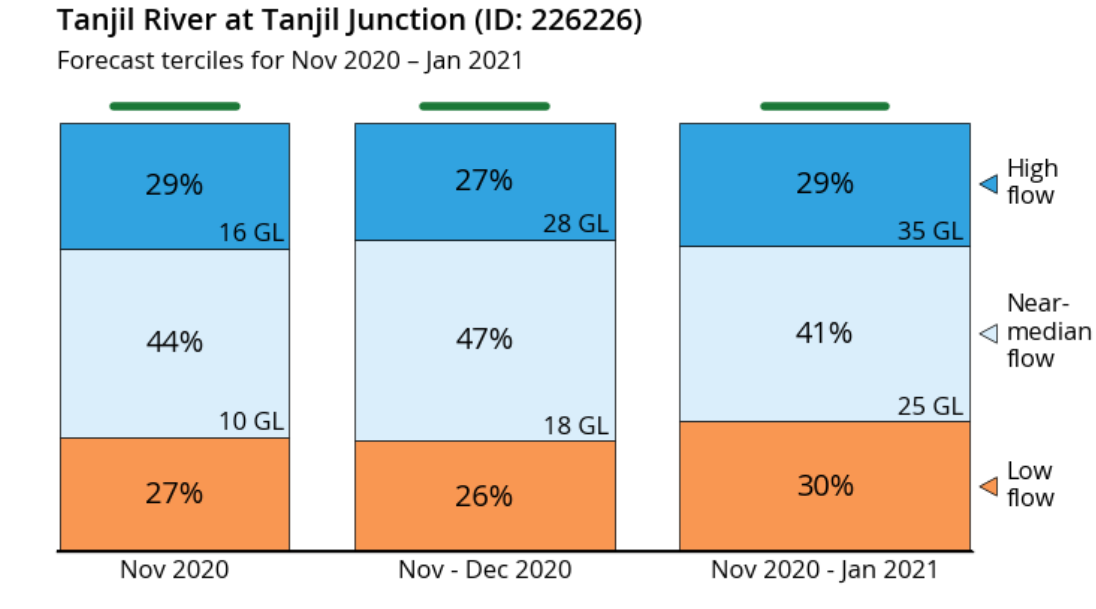
December – February (issued 8 October 2020)



4.3 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 to January. This is as expected given the outlook of above average rainfall and the currently wetter than average catchments.





4.4 BOM ENSO outlook

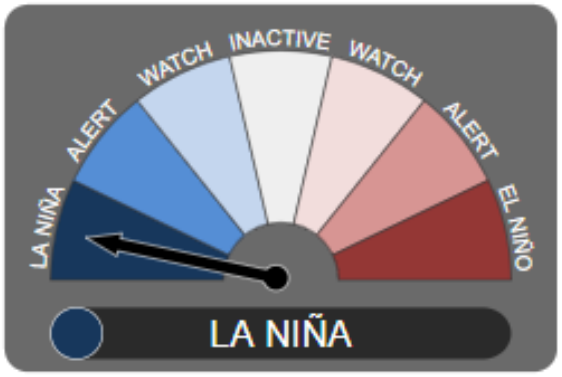
Summary of ENSO Outlook 29 September 2020

Climate in our region is influenced by several cyclical weather patterns, in particular the El Nino 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.

Currently a La Niña is underway in the Pacific Ocean, this being the wet phase of ENSO for our region. This event is confirmed by both ocean and atmospheric indicators. It is predicted that this La Niña will persist until at least January 2021. The strength of this event is not certain with just under half of the climate models surveyed by the BOM predicting a strong event, the remainder suggest moderate strength. There is good agreement that this event will not be as strong as the La Niña of 2010–12.

In the Indian Ocean, the IOD index was negative in early spring, this being the wet phase for our region, however it has recently returned to neutral and is forecast to remain neutral over summer.

The SAM is expected to be positive over much of the remainder of 2020 with La Niña tending to favour a positive SAM during spring and summer. A positive SAM in summer can bring wetter conditions to our region and during spring the effect of SAM on rainfall resembles a weak summer pattern.



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.

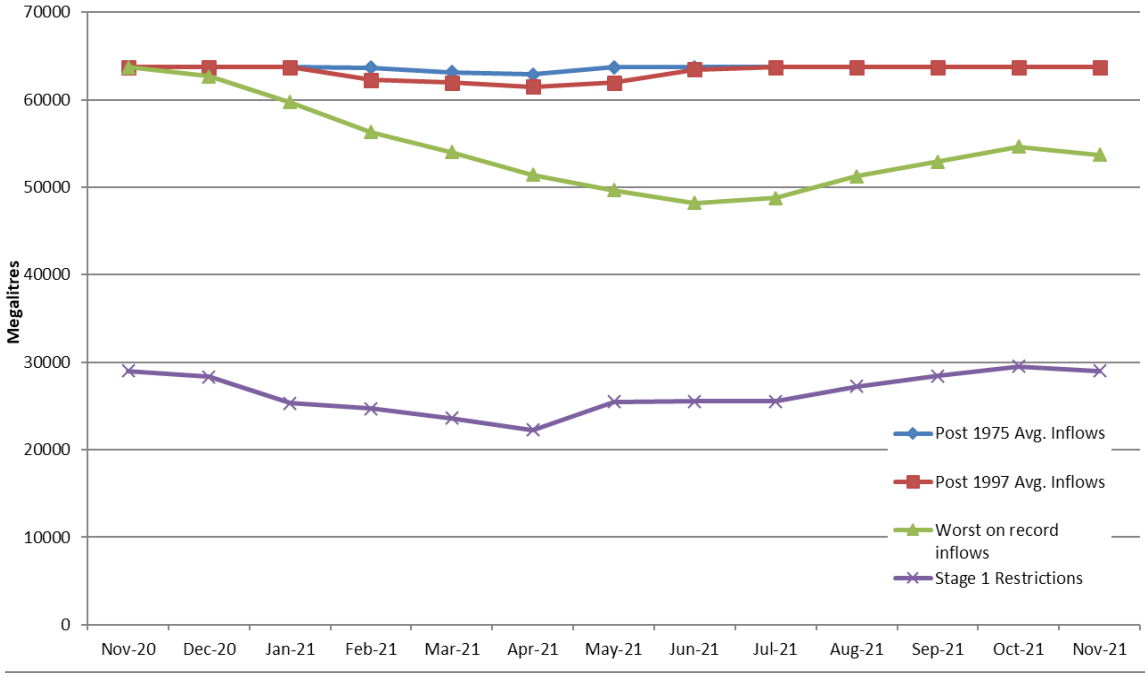
4.5 Summary

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

5 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 three climate scenarios. The chart shows a significant buffer between 'worst on record' streamflow draw down and the stage 1 restriction trigger.

Combined Moondarra and Blue Rock (GW Share) Storage Scenarios



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

System	Supply – Demand outlook and water restriction likelihood
Briagolong	Groundwater levels in the Wa De Lock aquifer reached their lowest on record last January, after three years of record drought during which time only one significant aquifer recharge occurred. Late January and February 2020 saw significant rainfall at Briagolong and in the Freestone Creek catchment. One event in January provided the aquifer with the largest recovery seen since the 2017-19 drought commenced. The remainder of 2020 has provided several smaller recharges, maintaining the aquifer at a level that 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. Furthermore, the closure of Hazelwood Power Station has significantly reduced demand. The chance of water restrictions during the next year is deemed unlikely.
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.
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 be available for use this summer and 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, such as the 2017-19 east Gippsland drought that affected the north east of our region including the Briagolong supply system last year. 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.

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 AWO, 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.

5.1 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. 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.

6 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.**

   This assessment has now been completed. Short, medium and long-term options have been recommended and prioritised and we have commenced work on implementation of some immediate and short-term actions. For some of these we are working closely with DELWP and other stakeholders of the Melbourne supply system to which this system is connected.

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 Use program.**

   A number of initiatives have been progressed including support for community water efficiency projects such as rainwater tanks, comparative consumption on bills, website messaging, school and community education and water efficiency programs such as water efficient showerheads and hose nozzles.

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.**

   No technical work has begun. The Victorian Government has commenced the Central and Gippsland Region Sustainable Water Strategy (SWS) and we have already advocated for the inclusion in the SWS of a deliverable action for a detailed sustainability study to be undertaken for this aquifer.

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 IWM 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 has endorsed a Strategic Directions Statement 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 and continue to actively support this process. We are also progressing with 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 put pressure on the Briagolong supply system to a degree not seen before. We were fortunate to experience significant rain at just the right time. However, we have adapted our water resource planning to bring forward a review of the Briagolong water resource system that considers both the recent record low rainfall and aquifer conditions, as well as new climate science. We've explored a range of augmentation options including a detailed desktop assessment of deeper groundwater resources. We are continuing with more detailed assessments as part of our strategy to secure Briagolong's water supply.

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