Annual Water Outlook Report
2022/2023

GWMWater

Annual Water Outlook Summary 2022

Released: 1 December 2022

The Annual Water Outlook Summary outlines the key water security information for all GWMWater supplied towns and rural pipeline customers.

An outlook for licensed surface water diverters and licensed groundwater users is also provided.

A full listing of towns and rural pipelines can be found on GWMWater's website, along with information on the supply source and any current water restrictions. Please visit the GWMWater website for more information.

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All Systems Summary

Water resources are in a very favourable position across all GWMWater's supply sources this season. Water available in all GWMWater supply systems is greater than anticipated demand.

Therefore, regardless of climatic conditions over the coming months, no restrictions to urban or rural pipeline customers are anticipated under normal operating conditions.

Water Resource Overview

Rainfall and inflows were well below average across the Grampians reservoir catchments in June and July. However, a large rainfall event in late August saturated the catchment allowing subsequent events to generate substantial inflow totals. Reservoir inflows were 141% of average for the month of September and 465% of the monthly average in October. Between 1 October and 2 November, storages had increased by over 130,000 ML. Actual inflows for October were even larger as this volume is net of spills and operational releases from storages. Storage increases and spill volumes in November meant monthly inflows are also expected to be well above average.

The system is currently spilling large volumes of water with all storages, except Rocklands Reservoir and Toolondo Reservoir, at or above their maximum operating levels. The Grampians reservoir system held 29.5 percent of its operating capacity heading into winter, and at 23 November this had risen to over 78 percent. With most storages at full capacity, further system increases are reliant on inflows being received at Rocklands Reservoir. Rocklands Reservoir has continued to rise in response to sustained inflows throughout November. Releases to Toolondo Reservoir commenced in accordance with the System Management Rules.

Above average inflows have already yielded full allocation to GWMWater's Wimmera Mallee Pipeline and recreation entitlements. With full allocation achieved, there is a multi-year reserve for supplies to GWMWater customers. Lake Bellfield and Lake Wartook are the key reservoirs which directly supply GWMWater's urban and rural network. These reservoirs have filled and spilled, and current water levels far exceed the expected volume of demand in the coming year.

The Resource Manager for Northern Victoria determines Murray River and Goulburn River water allocations. GWMWater's bulk water entitlements have reached 100 percent allocation in both of these systems, providing certainty for the year ahead. The current flooding event in the Murray system may present some risks to supply due to poor water quality in the river but restrictions are not expected.

Urban water storages for Eastern Grampians and Pyrenees towns were holding between 86 and 100 percent of capacity in late October. Projected demand for the remainder of the 2022-23 season remains below the available volume.

Regional groundwater resources remain secure, with regular water level monitoring conducted across all of our groundwater resource areas.

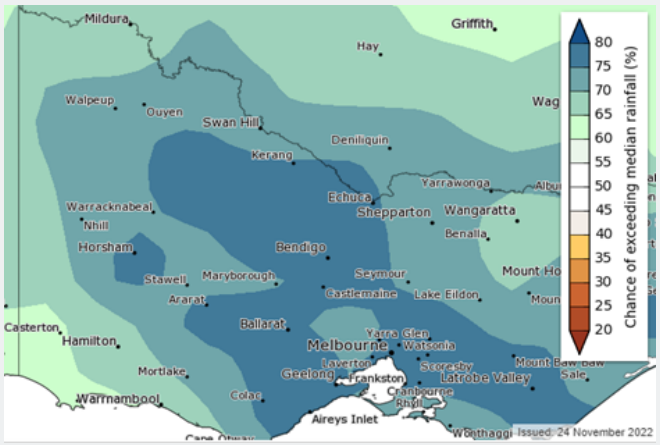
Despite the strong water resource position GWMWater customers are reminded that Permanent Water Saving Rules remain in place across the service area. Customers seeking advice on how to save water are directed to the Smart Watermark Victoria website.

Climate Outlook

The Bureau of Meteorology Climate Outlook for the period between December 2022 and January 2023 suggests a 70 to 75 percent chance of exceeding the median rainfall across the Grampians catchments and much of GWMWater's operating area.

Temperature outlooks indicate a 35 to 40 percent chance of warmer than normal daily temperatures during the November to January period.

While we typically see inflows to reservoirs plateau in October, the current wet conditions, saturated catchments and the relatively wetter climate outlook means GWMWater is planning for the possibility of a wet summer. Further rainfall events will sustain the saturation in the catchments with the prospect of inflows continuing into summer. It is noted that the high inflows observed in 2010-11 were from a combination of good winter and spring inflows and then a flooding event in summer.



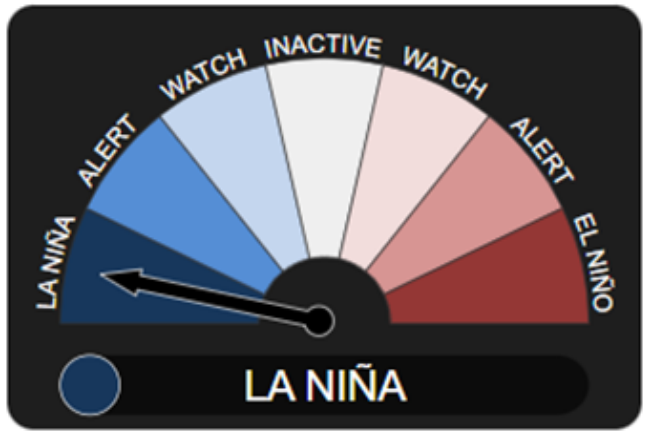
Chance of exceeding median rainfall: December 2022 to January 2023
Image courtesy of Bureau of Meteorology

El Nino Southern Oscillation (ENSO) and Indian Ocean Dipole (IOD)

The Bureau of Meteorology climate driver update issued on 25 October 2022 indicates the current La Niña is continuing and most models indicate that a return to neutral ENSO condition is not expected until early 2023. The presence of La Niña conditions increases the chance of above-average rainfall for eastern Australia during summer.

The Bureau of Meteorology outlooks indicate that the current negative Indian Ocean Dipole (IOD) is continuing and likely to return to natural conditions in late spring. The very wet winter and spring conditions our region has experienced are typical of a negative IOD event. While it is a key driver of Australia's climate, the IOD is not anticipated to have a strong influence over the summer and autumn period in 2023.

It is noted that in 2010-11 there was a combination of La Niña and negative IOD events. This is not a guarantee of wet conditions as there is still the possibility; as experienced in the 2021-22 season which also had a combination of La Niña and negative IOD events; of receiving well below average inflows.



ENSO outlook at 25 October 2022
Image courtesy of the Bureau of Meteorology

Grampians Supplied Systems Water Security Outlook

As of 23 November 2022, the total volume in Grampians reservoirs was at 78.9 percent (441,870 megalitres) and yet to peak. With most storages full, storage increases are reliant on inflows to Rocklands Reservoir which is continuing to rise, with high chances of exceeding median rainfall forecast for the months ahead.

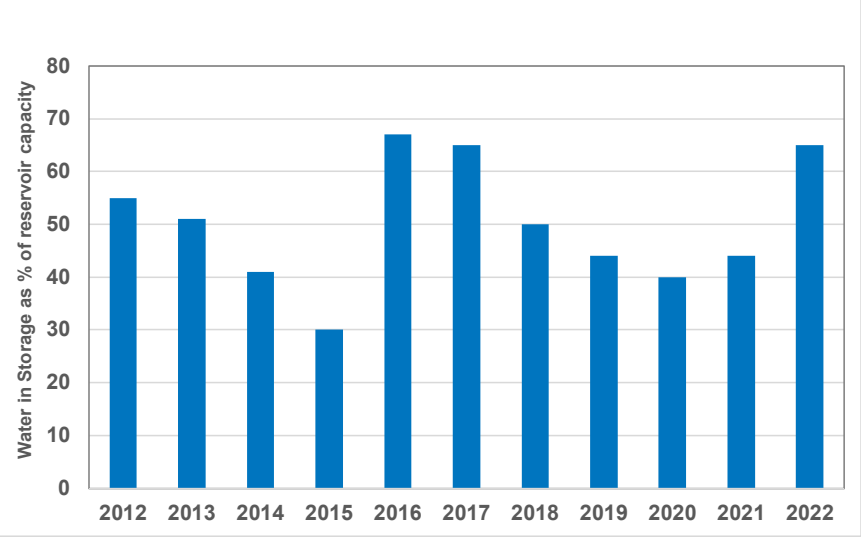
Projected demand from the Grampians reservoir system for the Wimmera-Mallee Pipeline Supply Systems 1, 2, 3, 4, 6, 7; South West Loddon Pipeline; and towns supplied from Grampians reservoirs is approximately 15,500 megalitres for the 2022-23 season. It is possible that demands may be lower than typically observed due to wetter conditions. In comparison, GWMWater currently holds more than 109,000 megalitres of water allocation to service this demand. The balance of water held in reservoirs belongs to other entitlement holders, or is held in reserve by the Storage Manager for losses such as reservoir evaporation.

There is sufficient volume available to GWMWater from all key reservoirs to meet the projected volume of demand under Permanent Water Saving Rules throughout 2022 and 2023 under all climate scenarios.

More information on entitlement holders supplied from the Grampians reservoir system and reservoir operations is available from the Wimmera-Glenelg Storage Manager website.

Permanent Water Saving Rules remain in place across all towns supplied from the Grampians reservoir system. Rural users are also asked to abide by Permanent Water Savings Rules for domestic use. GWMWater does not anticipate the introduction of water restrictions to any town during the remainder of the water year under normal operating conditions.

GRAMPIANS RESERVOIRS: WATER IN STORAGE AT 1 NOVEMBER



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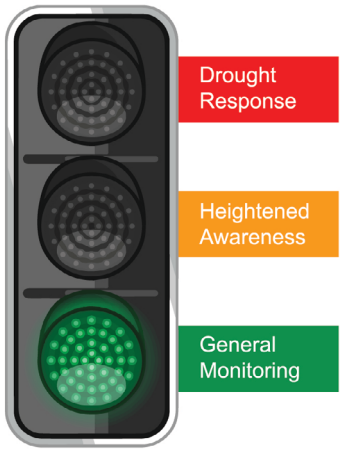


Permanent Water Saving Rules Apply

Murray and Goulburn Supplied Systems Water Security Outlook

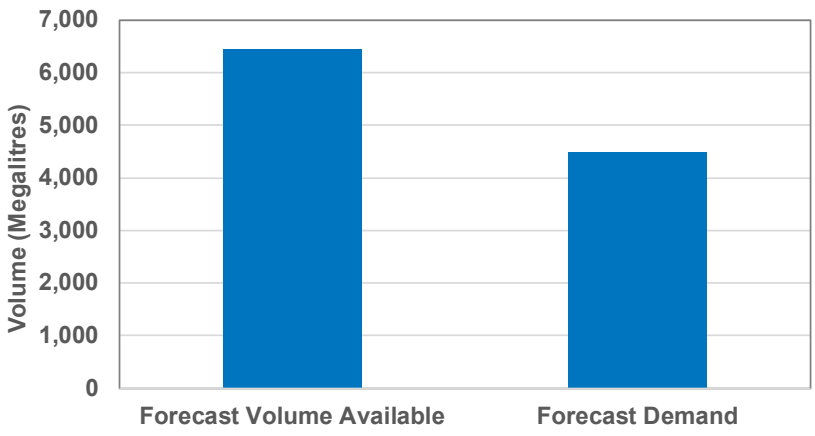
GWMWater has received 100 percent of its possible allocation in both the Murray and Goulburn systems, with more than 6,600 megalitres available. This is a reduction relative to last year as GWMWater sold carryover in the Murray system due to high confidence in allocations reaching 100% this season and that carryover would spill. Despite the reduction in water available relative to last year, the available volume is sufficient to service the projected 4,500-megalitre combined demand from the Northern Mallee Pipeline, Wimmera-Mallee Pipeline Supply System 5 and Goulburn supplied area of the South West Loddon Pipeline (including recreational lakes). The volume of bulk water available to GWMWater to service these supply systems can be supplemented with purchases from the water market if and when required. This provides a further mechanism to manage and maintain security for these systems, even during times of reduced bulk water allocations.

Given this resource position, GWMWater is considered to have sufficient water available in the Murray and Goulburn systems to meet the anticipated level of demand under Permanent Water Saving Rules under all climate scenarios. GWMWater assessed its water resource position by estimating the anticipated carryover at the end of the 2022-23 season and using the method prescribed in GWMWater's 2022 Drought Preparedness Plan. The assessment indicated that the water security status for Murray and Goulburn supplied systems is considered to be in 'General Monitoring'. High allocations can be expected in the 2023-24 season which will further bolster GWMWater's water resource security in the Murray and Goulburn systems.

Permanent Water Saving Rules remain in place across all GWMWater towns supplied from Murray River via the Northern Mallee Pipeline and Wimmera-Mallee Pipeline Supply System 5. Rural users are also asked to abide by Permanent Water Savings Rules for domestic use. GWMWater does not anticipate the introduction of water restrictions to any town during the remainder of the water year under normal operating conditions.

Despite restrictions being considered unlikely, there is always the potential that they may be required to manage demand in response to extreme events. The risks of flooding, blue-green algae (BGA) and blackwater events on Murray River supplied customers are considered to be elevated for the coming summer. GWMWater routinely monitors water quality, and issues alerts when GWMWater rural pipeline supplies may be affected. Where possible, GWMWater employs a number of operational actions to minimise the impact of BGA and blackwater on supplies to customers. These actions include the isolation of our Murray River pump stations, supplying unaffected water from in-system storages, and the use of pipeline network cross-connections.

WATER AVAILABLE TO GWMWATER IN MURRAY & GOULBURN SYSTEMS



Note: Volume Available includes GWMWater's Goulburn system allocation (accessed via water trading).

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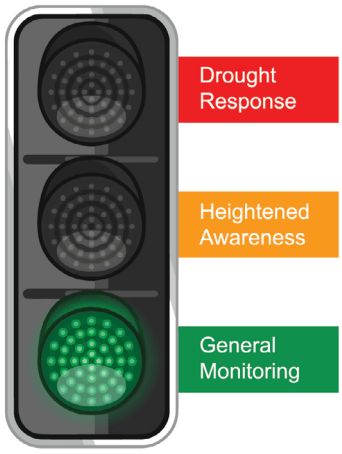


Permanent Water Saving Rules Apply

Eastern Grampians and Pyrenees Water Security Outlook

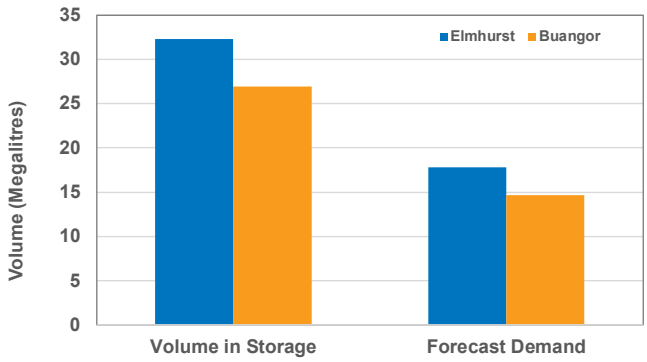
The Eastern Grampians and Pyrenees systems are considered ‘annual systems’; meaning they rely on winter and spring streamflow to replenish town supply reservoirs each year.

Winter and spring streamflow were sufficient to fill Elmhurst and Buangor reservoirs and maintain them above 90% capacity into November. In most years, this amount of water is enough to satisfy demand until the storages refill the following winter. Under hot and dry summer conditions with high demand, GWMWater may conduct supplementary water carting to maintain adequate reserve volumes in town supply reservoirs. In this event, standpipe access may be temporarily limited to essential use.

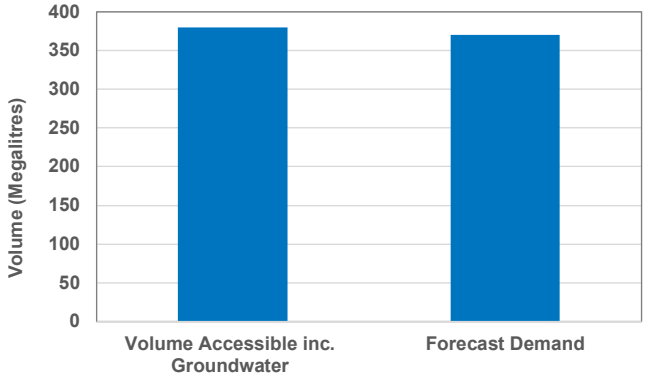
Key Eastern Grampians town supply reservoirs were near full leading into November. The groundwater supply is brought on-line as streamflow recedes heading into summer. While there are known capacity limitations in this system, the current system status indicates that restrictions are unlikely to be required during 2022-23. GWMWater may conduct supplementary water carting to maintain adequate reserve volumes in town supply reservoirs if required. In this event, standpipe access in Willaura, Lake Bolac, Moyston and Wickliffe may be temporarily limited to essential uses. Once completed, the East Grampians Rural Pipeline Project will bolster water security for these towns by providing access to supplementary water from the Grampians reservoir system.

Permanent Water Saving Rules remain in place across all Eastern Grampians and Pyrenees towns. GWMWater does not anticipate the introduction of water restrictions during the remainder of the water year under normal operating conditions. Due to the nature of these supply systems, close monitoring is conducted during the summer months. At the time of this outlook, these supply systems had a water security status of ‘General Monitoring’.

WATER AVAILABLE FOR PYRENEES TOWNS



WATER AVAILABLE FOR EASTERN GRAMPIANS TOWNS



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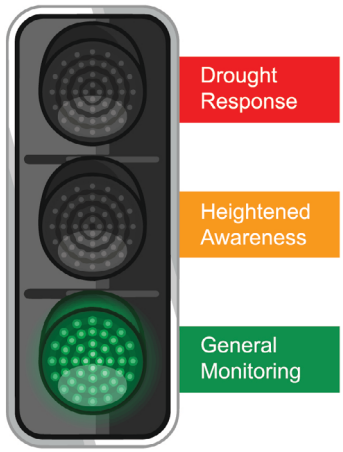


Permanent Water Saving Rules Apply

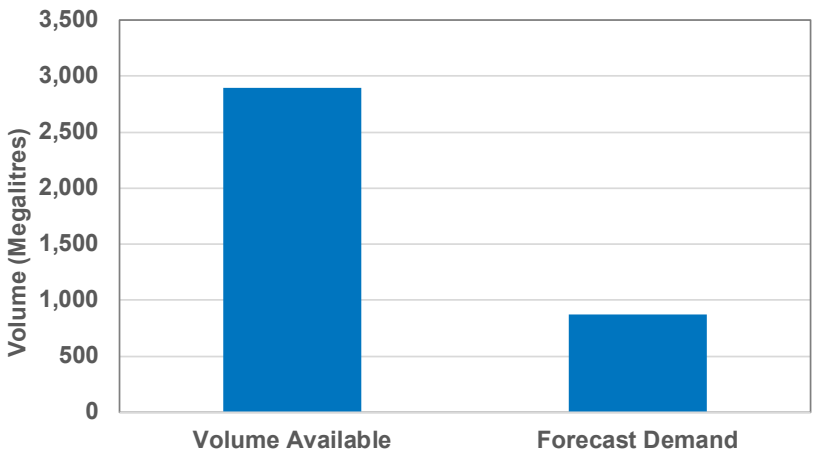
Groundwater Towns Water Security Outlook

Groundwater towns in GWMWater's operational area have reliable access to water under their entitlements by virtue of the sheer volume of groundwater reserves in these areas. As a result, groundwater allocations are largely independent of short-term climatic conditions, and GWMWater is able to meet the anticipated level of demand under Permanent Water Saving Rules under all climate scenarios.

Regional groundwater resources remain secure, with regular water level monitoring conducted across groundwater resource areas.

Permanent Water Saving Rules remain in place across all towns with groundwater as their primary supply source. GWMWater does not anticipate the introduction of water restrictions to any groundwater town during the remainder of the water year under normal operating conditions.

WATER AVAILABLE FOR GWMWATER GROUNDWATER TOWNS



Note: Volume Available is an aggregation of GWMWater's urban groundwater licences.

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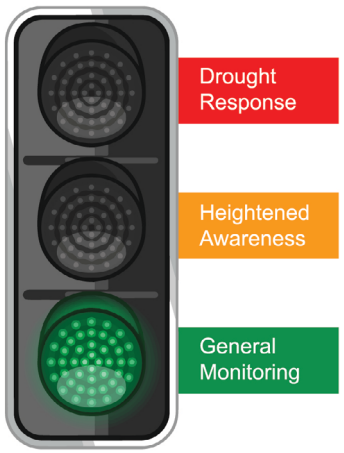


Permanent Water Saving Rules Apply

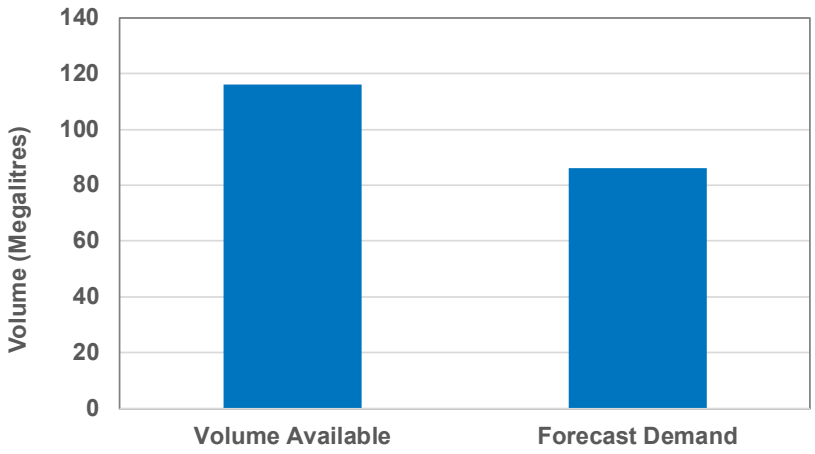
Quambatook Water Security Outlook

Quambatook's raw water supply comes from the Normanville Pipeline and is considered part of the Goulburn River system but is serviced from its own 100 ML, very high security entitlement, separate to GWMWater's High Reliability Water Shares in the Goulburn System.

GWMWater has received 100 percent of its possible bulk water allocation for Quambatook this season, in addition to carryover allocation. A total of 116 ML is available to service the projected 80-90 ML demand from Quambatook township, meaning the anticipated level of demand under Permanent Water Saving Rules can be met under all climate scenarios. The volume of bulk water available to GWMWater to service Quambatook can also be supplemented by water trading from GWMWater's Murray and Goulburn water entitlements, or purchases of temporary allocation from the water market, if and when required. This provides a further mechanism by which security for Quambatook can be managed and maintained, even during times of reduced bulk water allocations.

Permanent Water Saving Rules remain in place for Quambatook township. GWMWater does not anticipate the introduction of water restrictions during 2022-2023 under normal operating conditions.

WATER AVAILABLE TO GWMWATER FOR QUAMBATOOK



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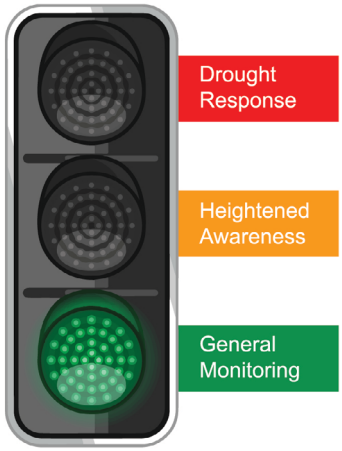

Permanent Water Saving Rules Apply

Unregulated and Groundwater Licensed Users Water Security Outlook

Rivers and streams in the Wimmera-Mallee region generally only flow in response to good winter-spring rainfall, as seen during the winter and spring of 2022, and sporadically at other times.

Good rainfall during the winter months resulted in irrigation diversion triggers being satisfied for both the Wimmera River and Avoca River. This means more than 10,000 ML has been recorded flowing through the Glenorchy flow gauge on the Wimmera River, and flows exceeding 100 ML per day were recorded at the Quambatook South flow gauge on the Avoca River. The extraction of water for irrigation and commercial uses remains subject to all licence conditions and local management rules. River diverters are asked to notify GWMWater prior to taking water for irrigation purposes. As these triggers have been met for the year, supply is permitted regardless of climatic conditions over the coming months.

Groundwater users throughout GWMWater's operational area have reliable access to water under their entitlements by virtue of the sheer volume of groundwater reserves in these areas. As a result, groundwater allocations are largely independent of short-term climatic conditions.

All groundwater licence holders in GWMWater's area of management have been permitted to access 100 percent of their entitlement for the 2022-23 season, with the exception of Neuarpur Zone 1. Allocations in Neuarpur Zone 1 are restricted to 80 percent as part of a long-term management plan to address declining groundwater levels, as detailed in the West Wimmera Groundwater Local Management Plan.

GWMWater does not anticipate the introduction of any restriction to groundwater allocations during 2022-23 or 2023-24, with the exception of Neuarpur Zone 1 which will remain at 80 percent.

Surface water diverters and groundwater licensed users are reminded that their volume of take must remain within the permitted volume, unless a trade or transfer has been secured. Any trade or transfer must be approved by GWMWater prior to taking additional water volumes. Victoria has a zero-tolerance policy on unauthorised water take.

Short-term Action Plan

GWMWater's Urban and Rural Water Strategy was completed in 2022 and identifies a mix of measures to provide water services in our towns and cities now and into the future. The Urban and Rural Water Strategy takes a detailed look at projected future water demands and future water availability under a range of possible future climates.

GWMWater continues to pursue opportunities for system cross-connections and expansion of Victoria's Water Grid in order to maximise water security for urban and rural pipeline customers. Augmentation of the Eastern Grampians and Pyrenees supply systems is being progressed through the East Grampians Rural Pipeline Project. Future water security for the Edenhope township is also a consideration within the West Grampians Rural Pipeline Project business case.

The table below summarises the progress of the key Urban Water Strategy actions.

Action	Progress
Working with DELWP and other key agencies on defining equitable water sharing rules for Lake Wartook.	Operational experience has demonstrated that supply from Lake Wartook can become at risk after two years of poor inflows, while GWMWater holds very significant volumes of water available in the collective Grampians System. A modelling project is underway to evaluate the environmental impacts of changes to rules.
Investigating the continued use of the Edenhope borefield and planning of augmentation to secure supply, including short term works.	Augmentation is proposed for implementation within the upcoming pricing period (2023-28).
Reviewing the operational management of the Murray and Goulburn entitlements and carryover, and update this for changes in inter-valley trade rules and limits.	The current resource position has mitigated the immediate need. Potential options are still be evaluated, with market conditions a significant factor.
Confirming the volume of new Growth Water commitments which can be supported by the projected future yield of existing entitlement over the next 20 years.	To be further considered when there is greater certainty regarding the volume and timing of growth demands.
Implementing upgrades to wastewater treatment plants at Donald, Ararat, Horsham and Dimboola.	Upgrades will commence at Horsham and Donald wastewater treatment plants this financial year and have proposed implementation at the other sites within the upcoming pricing period (2023-28).