

JANUARY 2023

Goulburn water allocation market update

Prepared December 16, 2022 – January 9, 2023

Report version 1.0 FINAL

Prepared for the Commonwealth Environmental Water Office,
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1 Goulburn system Overview

As of 8 February 2022, Goulburn Valley irrigators are experiencing an excellent season, with well above average storage levels in Eildon.

The Goulburn regulated supply system in Northern Victoria is managed by Goulburn Murray Water (GMW), and most irrigation water is used within the Goulburn Murray Irrigation District (GMID), supplied from the Goulburn (and Murray) Rivers through a gravity driven channel network covering more than 600,000Ha of irrigated farmland.

The Victorian Water Registry confirms more than 16,000 water entitlement holders or shareholders hold more than 1,114,151 ML of Goulburn High Reliability Water Shares (HRWS), mostly classified as Goulburn 1A (1,010,146 ML). There are also 487,196 ML of Goulburn Low Reliability Water Share (LRWS).

The current allocation on 29 December 2022 is at 100% for both Goulburn HRWS and LRWS, with above average carry over from 2021/22 adding to available water for entitlement holders and other users. There has been an extended period of flooding in the Goulburn system with Eildon Dam effectively still full at the end of the 2022 calendar year.

Seasonal conditions: On 29 December 2022 seasonal conditions remain favourable, although for many irrigators in the Goulburn Valley, recovery from recent flooding is the current priority after near record spring rainfall in 2022. Allocations throughout the connected southern Murray Darling Basin (sMDB) are at 100% or better in almost all key systems, and irrigated agricultural production in key sectors is buoyant relative to recent years, particularly in the irrigated dairy sector. For the first time in many years, the Goulburn LRWS allocation is also 100%. The benefits of this extra LRWS allocation are limited not only as conditions have been wet, with low irrigation demand but also because the LRWS product is now valued mainly for its capacity to hold secure water carried over from previous seasons and almost all accounts were already full (of unused 2021/22 allocation) at the commencement of the 2022/23 water year.

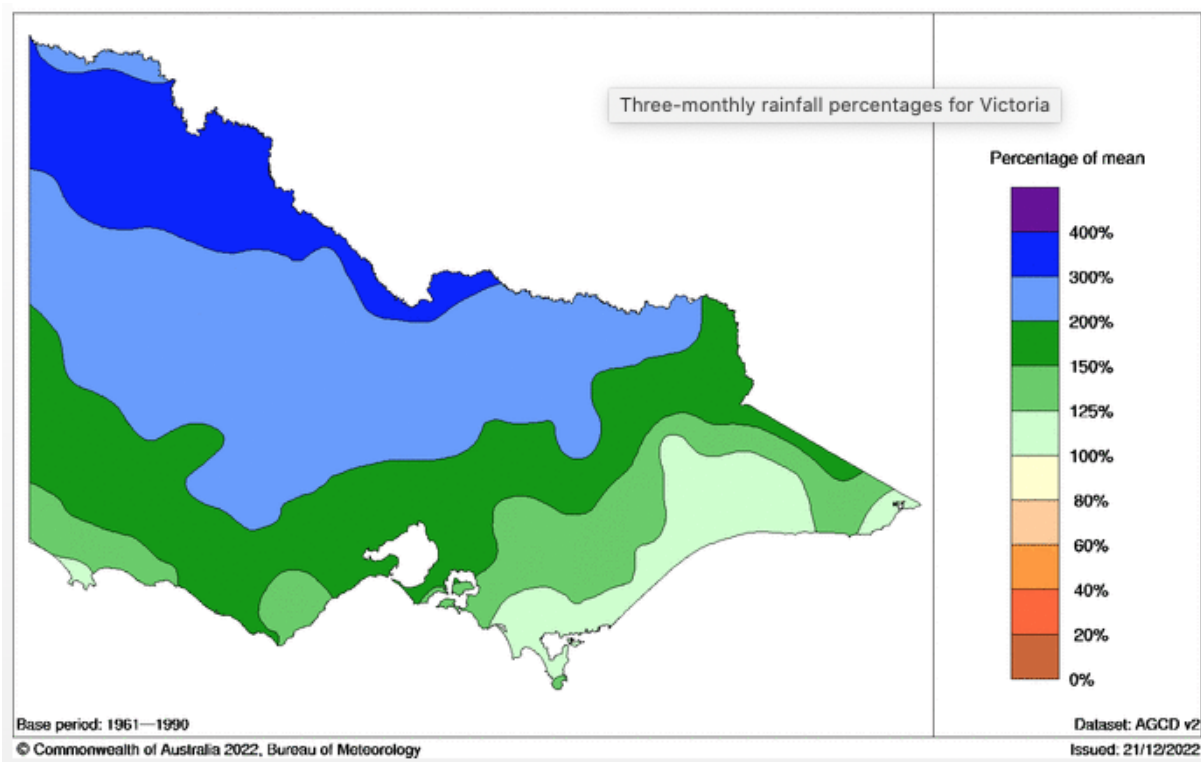


Figure 1-1: Three month rainfall: Commonwealth BOM three month rainfall as a percentage of mean rainfall, confirming rainfall relative to long term average of 200-300% throughout the Goulburn Valley during spring 2022, issued 21/12/22.

On 29 December 2022, the *Northern Victorian Resource Manager* “Goulburn System Current Water Ownership” record confirmed that on 15 December 2022, 1,687 GL of allocation (923 GL on 15 October 2021) were available in private allocation accounts and 651 GL were held in environmental water holder accounts. Some use of allocation water by irrigators and environmental agencies is likely to have occurred since 15 December 2022.

1.1 GOULBURN VALLEY WATER ALLOCATION MARKETS: YEAR TO DATE: DECEMBER 2022/JANUARY 2023

- **Prices for allocation water in the Goulburn system have been falling:** The market price for Goulburn allocation water is \$36/ML on 29 December 2022¹. This is lower than prices paid earlier in the 2021/22 water year and significantly lower than prices paid in the extended drier season experienced between May 2018 to early 2021.
- **Goulburn storages are at historically high levels for this time of year:** Based on the volume already held in Eildon Dam on 29 December 2022 (3,354 GL or 99.8% full) including a significant volume as a 2023/24 reserve, irrigators have a greater level of confidence that allocations will be at normal levels at the commencement of 2023/24 than they have during any other season during the last decade (since 2011).
- **Trade out of the Goulburn remains constrained:** The rules governing the transfer of allocation water out of the Goulburn system introduced by the Victorian Government since the 2017 water year are now well settled. The rules restrict the net volume of allocation water transferred from the Goulburn system to other reaches of the connected river system.
- **A full LRWS allocation is a positive indicator for 2023/24:** As the ability to supply all HRWS commitments in 2023/24 is required before a LRWS allocation can be made, Victorian water managers have established opening Goulburn HRWS for 2023/24 will be at 100%.

1.2 WATER ALLOCATION PRICE MONITORING

After several drier seasons prior to 2021, water availability is better than at any time since spring 2017.

The water price data for Goulburn and other key valley allocation or annual trades has been screened to remove data likely to be incorrectly recorded (zero, very low or very high prices) and has been graphed. The one-year and multiple year records of allocation prices paid up to mid-December 2022 are shown below in Figure 1-2 and Figure 1-3.

The connected nature of the water allocation market, and the similarity of seasonal conditions and irrigated crop water demand between the large irrigation areas within the southern MDB has led to very similar prices per ML being paid for allocation water throughout the southern basin. A strong price alignment has continued even when actual trade and transfer of water between the regions has been limited by restrictions. However, despite this historic alignment, in recent seasons the demand for water in the key horticultural areas downstream of the choke on the Murray River has led to quite significant periods when a premium is paid for allocation water able to be delivered into this Murray River supplied irrigation area.

¹ Ruralco water market 29 December 2022 2:00pm, 4:00pm

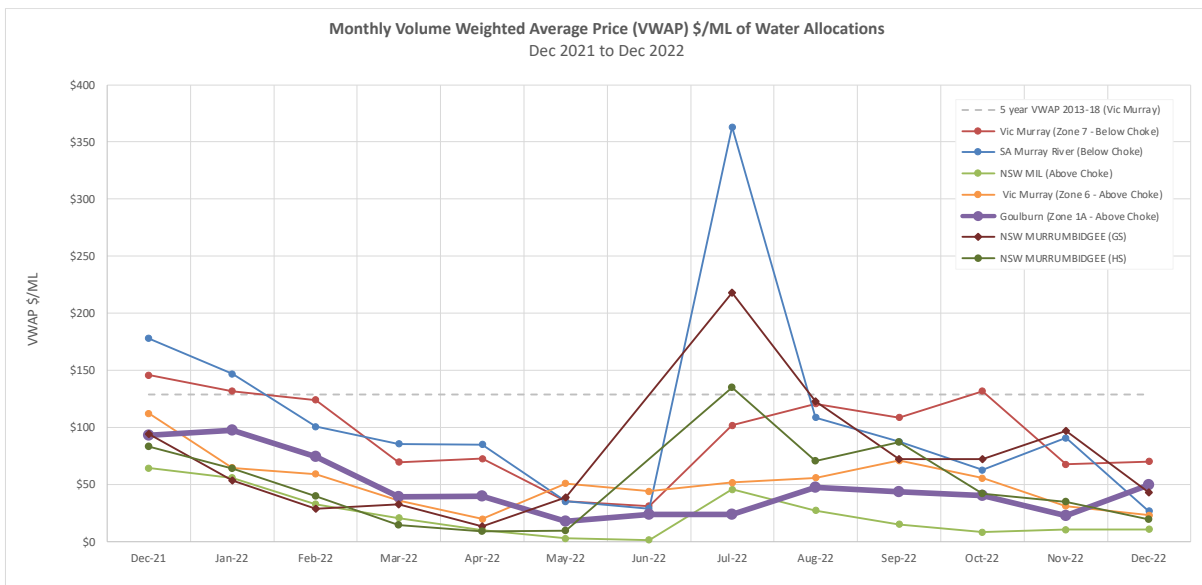


Figure 1-2: Water allocation prices paid (12 months to mid-December 2022) – Goulburn allocation trade prices in purple (bold)

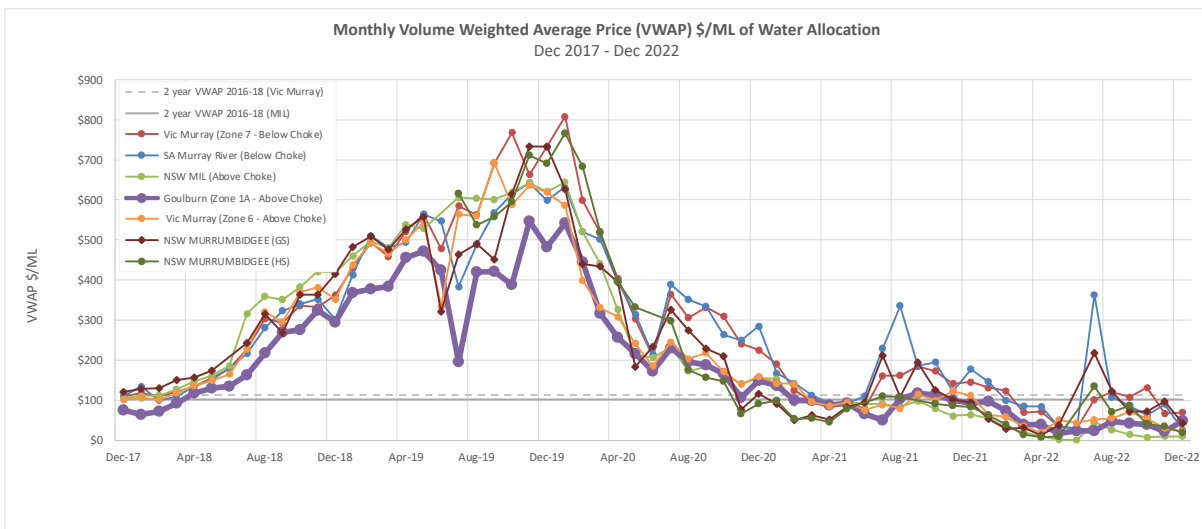


Figure 1-3: Water allocation prices paid (5-year period) –volume weighted average price paid 2016–Mid December 2022 – Goulburn allocation water prices per ML in Purple and bold.

1.3 MARKET LIQUIDITY FOR GOULBURN ALLOCATION WATER

There is significant annual and monthly liquidity in all water markets, including the Goulburn. January 2022 recorded lower than average water sales.

The records provided in state registries record all transfers and trades and therefore cannot be considered a completely accurate record of the price paid in the water market place. This is because the total registered as trades/transfers include water *transferred* but not *traded* between properties within a single business or entity, water transferred between systems by government (environmental) agencies, water transferred to honour multi-year leases of water entitlements as well as water allocations purchased on annual water markets.

However, the records that do include a credible price per ML recorded provide a high level of confidence that annual or temporary water markets are well supported in terms of volumes transferred between water owners. The data confirms market liquidity is high relative to the total volume of water allocated each year.

A total of more than 1,518,000 ML was transferred and traded from 1 July 2021 to 30 June 2022 within, into and out of the Goulburn region. This is significantly more than the entire annual allocation at 100% availability. In the first six months of the current 2022/23 water year, (i.e., up to 31 December 2022), 653 GL have been transferred and traded.

In terms of the breakdown of internal and inter valley trade in the Goulburn system:

- On 31 December 2022 more than 67,000 ML of annual allocation has been transferred and traded into in the Goulburn system, with 12,650 ML of that traded with a dollar value.
- On 31 December 2022 more than 165,000 ML of annual allocation has been transferred and traded out of the Goulburn system. Of that amount 14,679 ML was traded with a dollar value.
- Within the Goulburn system there were transfers and trades of 420,699 ML up until 31 December of the 2022/23 water-year. 92,252 ML was traded with a dollar value within the Goulburn system.

Table 1-1: All Goulburn water allocation transfer and trade (trades for a value) ML by month 2021/22 and 2022/23 (year to date) ²

| MONTH | 2021/22 – IRRIGATION SEASON | | 2022/23 – IRRIGATION SEASON | |
|------------------|-----------------------------|----------------------|-----------------------------|----------------------|
| | TOTAL TRADES(ML) | EXCLUDING \$0 TRADES | TOTAL TRADES(ML) | EXCLUDING \$0 TRADES |
| July | 88,922 | 7,062 | 405,781 | 9,647 |
| August | 197,921 | 16,670 | 28,126 | 20,198 |
| September | 51,045 | 29,971 | 45,061 | 19,135 |
| October | 63,679 | 22,652 | 22,604 | 10,202 |
| November | 136,688 | 27,286 | 32,301 | 26,989 |
| December | 99,036 | 39,011 | 119,709 | 33,410 |
| January | 38,657 | 29,079 | | |
| February | 138,978 | 38,835 | | |
| March | 78,573 | 40,091 | | |
| April | 37,030 | 25,632 | | |
| May | 52,249 | 35,836 | | |
| June | 535,671 | 161,476 | | |
| Total YTD | 1,518,448 | 473,600 | 653,582 | 119,581 |

1.4 GOULBURN NET ALLOCATION TRANSFER LIMITS

Allocation water trade rules for the Goulburn introduced since 2017, which limit the (net) volume of net trade out of the Goulburn valley, are reasonably settled.

A number of rules have been implemented limiting the annual net trade from the Goulburn to the Murray and other connected systems³. Although the rule is not an absolute ban, and a balance of 190 GL net outflows is allowable at any time, buyers of Goulburn water recognise that constraints on annual water transfers are

² Noting that transfers at zero dollars per ML can be recorded for a variety of legitimate reasons, but may also include water traded at market prices, where the price has been incorrectly recorded.

³ Victorian Premiers press release 30 June 2021. [Interim Trade Rules for the Goulburn](#)

possible and as a result, offers to buy Goulburn allocation are usually discounted relative to products not subject to restrictions related to transfer and use below *The Choke*.

In recent seasons, the highest prices paid for allocation water have been for water that can be transferred to or used within the Victorian Murray (Zone 7), below the Barmah Choke. Although opportunities to trade water from the Goulburn into the Murray do open periodically in almost every season, this constraint has led to the Goulburn system allocations trading at lower prices that for other (Murray and Murrumbidgee) allocation water trades during most months since 2017 (as illustrated in Figure 1-2 above).

1.5 RAINFALL OUTLOOK

Despite flood impacts in spring 2022, in January 2023, it is becoming a more 'normal' season in the irrigation areas within the Goulburn Valley. Spring rainfall frustrated summer crop preparation and suppressed demand for irrigation water in the second half of 2022.

The season to end of December 2022 in the Goulburn Valley has been characterised by well above average rainfall with high rainfall in key irrigation areas and flood level flows both into and out of Eildon Dam. The nation-wide forecast provided by Bureau of Meteorology (BOM) in late December 2022 for rainfall in the coming three months is for rainfall to be at average-slightly above average levels throughout SE Australia (including the Goulburn catchment and Goulburn irrigation areas). Longer term outlooks announced by BOM in early January 2023 indicate a dryer 2023/24.

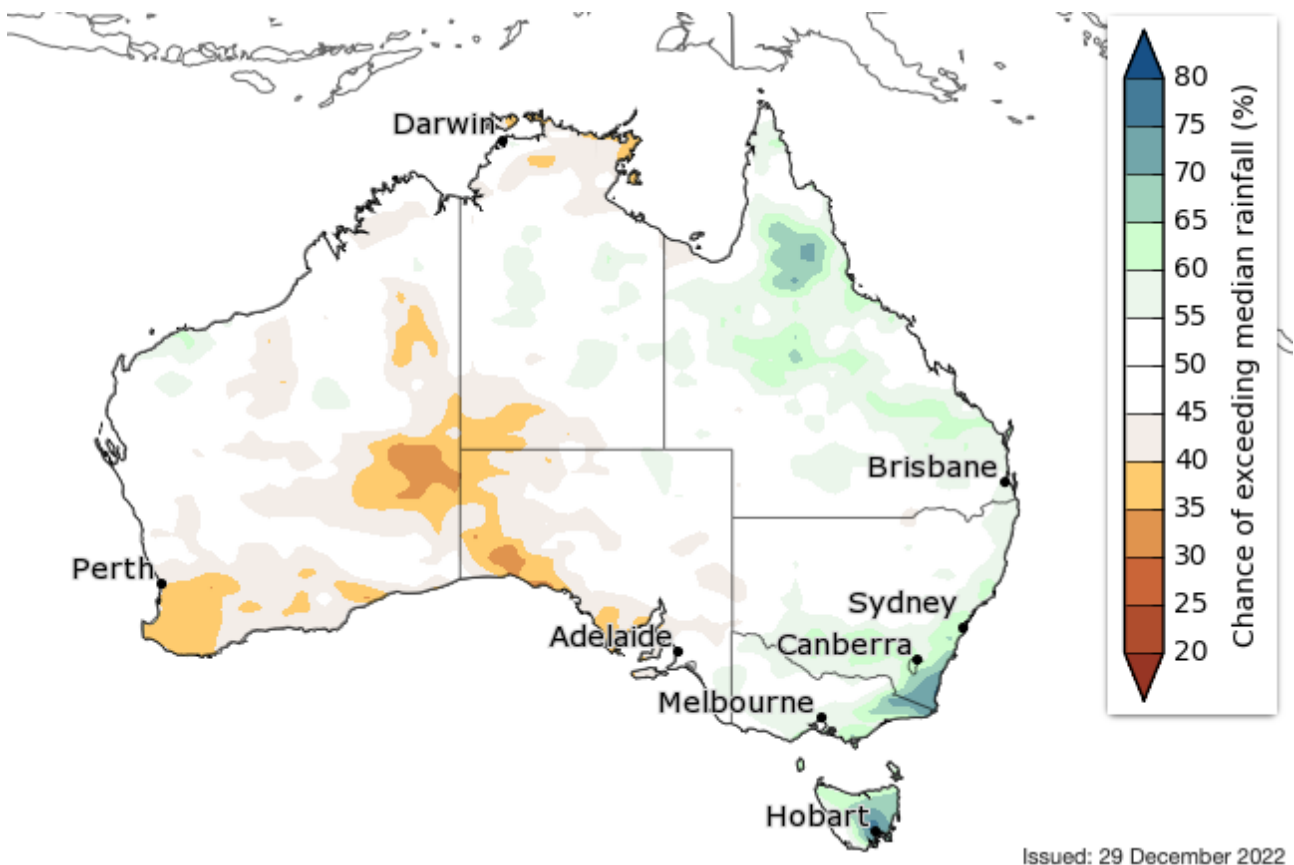


Figure 1-4: Commonwealth BOM: three-month rainfall prediction 29 December 2022; chance of exceeding median rainfall January-March 2023.

The BOM outlook for the next three months remains largely neutral in terms of expected rainfall in SE Australia:

- For January, most of the country has close to equal chance of above or below median rainfall.

- Most of the country has close to equal chance of above or below median rainfall for the period January to March. Above median rainfall is likely (around 60% chance) for eastern parts of the eastern states, especially in South-eastern New South Wales into eastern Victoria.

1.6 CARRY OVER, STORAGE LEVELS, RISK OF SPILL

KEY MESSAGE

Carry over levels into the 2021/22 water year are historically high. Outlooks for 2023 Goulburn HRWS allocation levels are positive.

Goulburn HRWS and LRWS water allocation levels are now at 100%. Rainfall and water allocations in the NSW, Victorian and SA Murray System, and the Murrumbidgee, are also favourable in terms of water availability for irrigated agriculture. Extended periods of flooding have hampered crop planting for a number of summer crops.

The other key factors for water use planning in January 2023 for all participants in water markets is the expectation of high starting allocations again in July 2023, the above-average chance of a repeat spill of Lake Eildon, and the limited capacity for irrigators and other water allocation owners to carry over unused water allocations into the 2023/24 water year. This indicates Irrigators seeking to buy allocation water will be more likely use it in the 2022/23 water year.

The introduction of private carry over for unused allocation has become an important tool for water users since its near-universal introduction in Victorian (Murray and Goulburn) and NSW (Murray and Murrumbidgee) catchments in 2007.

In the Goulburn system, water carried over against the 489,000 ML of Goulburn LRWS on issue are correctly perceived as 'very secure', although the current wet conditions may lead some large users to question the value of securing extra water to carry over, with such a high risk of HRWS accounts spilling in the 2023/24 water year.

However, the current Lake Eildon level (effectively full in late December 2022) presents a much higher chance of a physical spill during winter and spring 2023 than at any time since the filling of Eildon in 2011.

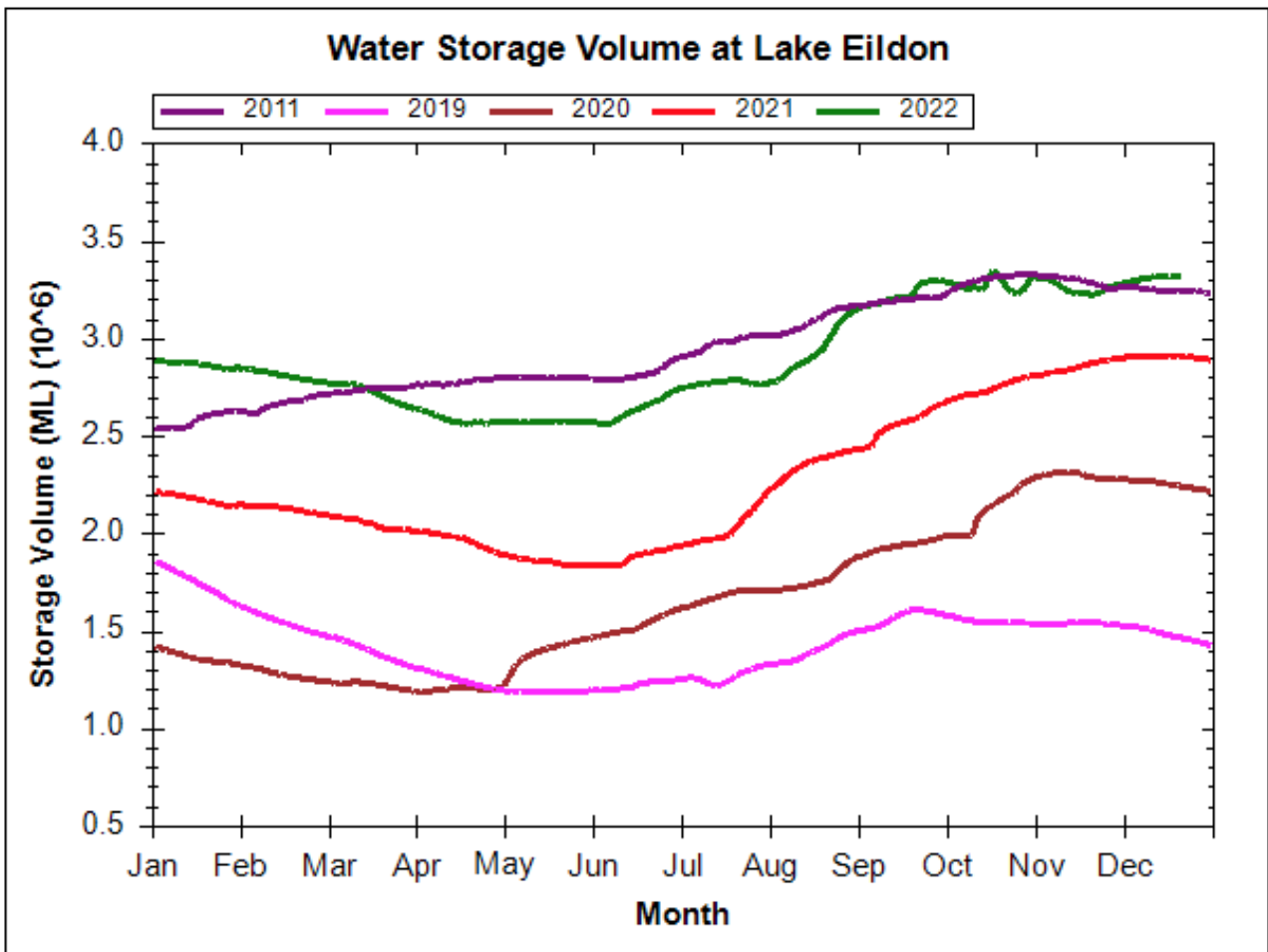


Figure 1-5: Eildon water storage levels during the last 4 years and in 2011, accessed December 2022 (noting that Eildon’s maximum capacity is 3,334 GL)⁴.

⁴ Goulburn Murray Water [Lake Eildon](#) Accessed on Feb 8th, 2022

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Document review and authorisation

Project Number: #1274

| Doc Version | Final/Draft | Date | Authors | Project Director review | BST QA review | Release approved by | Issued to |
|-------------|-------------------------|---|----------------------|-------------------------|---------------|---------------------|-----------------------------|
| 1.1 | Draft for client review | 29 th Dec 2022 to 4 th January 2023 | L. Jones G. Warne | George Warne | B. Gravenor | George Warne | CEWO – DAWE F Horacek |