

16 December 2019

Murrumbidgee Valley

Water allocation update

General security allocations in the Murrumbidgee regulated river water source **remains unchanged** at six per cent of entitlement.

Scattered intermittent rainfall in early December provided minimal system inflows, which were offset by high transmission losses due to the hot and dry conditions. Any resource improvements must be prioritised to underpin next year's high priority commitments before further allocations to general security users this year. The estimated requirements for 2020-21 high priority opening allocations is complex and varies with each assessment depending on water usage, operational requirements, climate and inflows.

Conditions will continue to be closely monitored, ensuring that any water that does become available is safely and promptly allocated in accordance with statutory water sharing plans.

2019-20	High Security	General Security	Average Carryover	Drought Stage
Murrumbidgee	95%	6%	8%	 Stage 1

Drought stage

The **Murrumbidgee** regulated river water source is in Stage 1 drought criticality, meaning all allocated water can be delivered under normal regulated river operations. Drought conditions across NSW continue to persist and the resource situation is being monitored closely to ensure Murrumbidgee high priority needs can remain secure for 2020-21.

More information on NSW's Extreme Events Policy and related drought stages can be found at: www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/extreme-events

Storage levels (as at 11 December 2019)

- Blowering Dam is 44 per cent full – falling – holding 735,000 megalitres (ML).
- Burrinjuck Dam is 32 per cent full – steady – holding 336,000 ML.

Climatic outlook

The Bureau of Meteorology seasonal outlook for January 2020 to March 2020 indicates that the Murrumbidgee catchment is likely to experience below average to average rainfall conditions and hotter than average temperatures.

The Bureau indicates that the El Niño-Southern Oscillation (ENSO) remains neutral. Modelling suggests that the ENSO is likely to remain neutral well into 2020. Positive Indian Ocean Dipole (IOD) conditions are forecast well into summer, suppressing likely rainfall and increasing temperatures.

For further details: www.bom.gov.au/climate/outlooks/#/overview/summary

Trade

Trade **out** of the Murrumbidgee Valley is closed (as of 13 December 2019); however, trade **into** and **within** the valley is open. Water users are encouraged to monitor the WaterNSW website (www.waternsw.com.au) for daily information about the IVT account balance and status of trade. Trade **out** of the valley will open again when the IVT balance falls to 85 GL, but will then close again should it rise to 100 GL.

Next announcement

There will be no statement on 2 January 2020. Fortnightly assessment and statements for the Murrumbidgee regulated river will resume in the New Year on **Wednesday 15 January 2020**.

If significant changes in weather patterns or water availability are observed, interim allocation announcements will be provided.

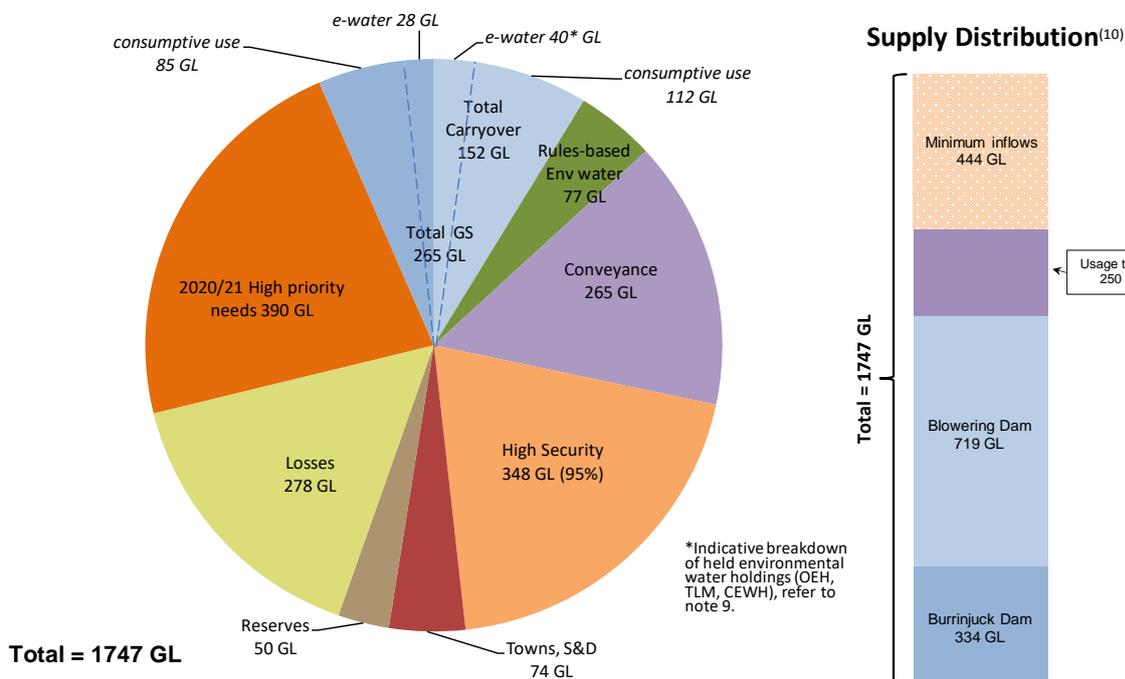
The seasonal outlooks (rocket diagrams) will now cease for this water year. From mid-February 2020 onward, the forecasts will focus on the indicative starting allocations for 1 July 2020 and the water for next (2020-21) water year. This aims to help water users with their end of year water management decision.

Murrumbidgee resource assessment data sheet

Resource Distribution (16 December) for 2019-20	Volume (GL)
Total Available Resource ⁽¹⁾	1,747
less	
Carryover (GS and Conveyance)	152
Rules based Environmental Water ⁽²⁾	77
Towns, Stock, Domestic	74 (100%)
Reserves ⁽³⁾	50
Conveyance ⁽⁴⁾	265
Announced High Security	348 (95%)
Losses (transmission, evaporation, operational) ⁽⁵⁾	278
Murrumbidgee IVT account (carryover as of 1 July 2019) ⁽⁶⁾	24
Murrumbidgee IVT Carry Over account - Delivered	-24
Late Season Inflows ⁽⁷⁾	0
Announced General Security	113 (6%)
Future (2020-21) high priority needs ⁽⁸⁾	390

**See notes below.*

Murrumbidgee resource distribution 2019-20 – 16 December 2019



Data sheet notes

- 1) Total available resource – total active storage volume (Blowering & Burrinjuck Dams) at the day of assessment plus any usable flows in transit plus drought inflows for rest of the year plus Snowy Hydro’s assured Required Annual Release (RAR) (including any flex (pre-release) from the prior year), as well as estimated usage to date. Snowy Hydro’s net Jounama Release for this year (2019-20) is estimated to be about 880GL (includes montane release). Net Jounama release from 1 May 2019 to date has been around 615 GL.
- 2) Rules-based environmental water – water required to be set aside under water sharing plans to provide for riverine environments. Includes end-of-system flow requirements (currently 57 GL) and environmental water allowances (EWA1 = 0 GL, EWA2 = 20 GL, EWA3 = 0 GL). Excludes ‘licence-based’ environmental water also known as held environmental water (HEW). This total volume typically reduces as water is used during the year.
- 3) Reserves – required primarily under statutory plans, and mainly used for emergency purposes and critical needs. Includes 25GL per dam as an operational reserve, and Provisional Storage Volumes (PSV1 = nil, PSV2 = nil).
- 4) Conveyance entitlement – a category of access licence originally issued to Irrigation Corporations to facilitate delivery of water through their channel systems. Allocation to this category is prescribed in the water sharing plans and is a function of high and general security allocations. Conveyance licences in the Murrumbidgee valley can also carryover 30% of their entitlement.
- 5) Losses – is the best estimate of the volume required to run the river under dry conditions to meet demands for the remainder of the water year. This includes storage evaporation, transmission losses and operational loss. This estimate is updated monthly.
- 6) IVT account – this is the carryover value into 2019-20, a positive balance of 24 GL. This carry over account has been delivered.
- 7) Late Season Inflows – is the estimated inflow volume that will arrive into storage late in the year, after the peak irrigation demand season (usually post-February). This water cannot be allocated to water users at the start of the water-year, as it can create an expectation that the water is available for delivery before it is captured in storage.
- 8) 2020-2021 high priority needs on 1 July 2020 - volume set aside to cover high priority needs on 1 July 2020, for ‘Year 2’, including potential carryover. This value changes from month to month based on the complex interaction of climatic factors, projected historical inflow sequence including Snowy Hydro Required Annual Releases forecast, usage/potential carryover, and actual transmission and operational losses as the water year unfolds.
- 9) Held environmental water (HEW) – licenced water administered by environmental water holders is reported here, with the associated portions of general security allocation and carryover also identified in the above pie chart. This reporting of held environmental water is the total credited to accounts (not usage) and is estimated to be 28GL of GS, 15 GL of HS, 43 GL of conveyance allocation and 40 GL of GS carryover. These entitlements are held and/or managed either singly or jointly by various environmental holder groups, including the NSW Office of Environment and Heritage (OEH), The Living Murray (TLM) and the Commonwealth Environmental Water Holder (CEWH). Details on e-water holdings can be found on individual agency websites.
- 10) Supply Distribution – the distribution of supply includes volumes at the time of the assessment for the following categories: active volumes in the dams, indicative usage to-date (may be estimates prior to reconciliation with hydrographic updates) and assumed minimum future inflows (includes Snowy Hydro’s guaranteed inflows for the water year, and late season inflows).

Murrumbidgee Resource Assessment – Comparison with this time last year

Item		Mid Dec 2018 (GL)	Mid Dec 2019 (GL)	Comments
Storage Volume (GL)	Burrinjuck	428	337	With dry weather, inflows have reduced
	Blowering	758	743	Reduced natural tributary inflow & Snowy releases
	Total	1,186	1,080	Overall 10% lower compared to last year
Losses (transmission, evaporation, operations)*		323	278	Reduced loss budget, less water to deliver
1 July IVT carryover balance		14	24	Reflects market pressures
Late Season Inflows		0	0	Available for next year water needs
GS Available		7%	6%	Reduced water availability
Average GS Carryover		22%	8%	Lower carryover.

* Includes assumed loss from downstream of storages along the entire river length.

Chances of improvement

The chances of improved general security allocation in the Murrumbidgee, based on a repeat of historical inflows, are provided in the following table under a variety of conditions.

The forecast from December is based on the driest one-third of years on record (dry tercile). The change from using all available data to using the driest third of all years (dry tercile) was made on the back of failed winter inflows and forecasts of a hot and dry spring and summer. Statistically, the likelihood of good inflows before next autumn/winter has reduced significantly. Allocations are likely to remain at current values under most scenarios (using dry tercile). Limited improvements in resource will be set aside to support high priority commitments for 2020-21 as a priority.

It is important to note that these estimates are indicative improvements only and are not guaranteed allocations. Estimates may change based on weather variability, water management decisions and other events. This means water users should use this information with caution and at their own risk, as it projects many months ahead.

Forecast General Security allocation (per cent) – using dry tercile

(Any carryover water can be added to these indicative allocations)

Historical Inflow Scenario	1 Feb 2020
99 chances in 100 (extreme) (99%)	6
9 chances in 10 (very dry) (90%)	6
3 chances in 4 (dry) (75%)	6
1 chance in 2 (mean) (50%)	6

Water Allocation Statement

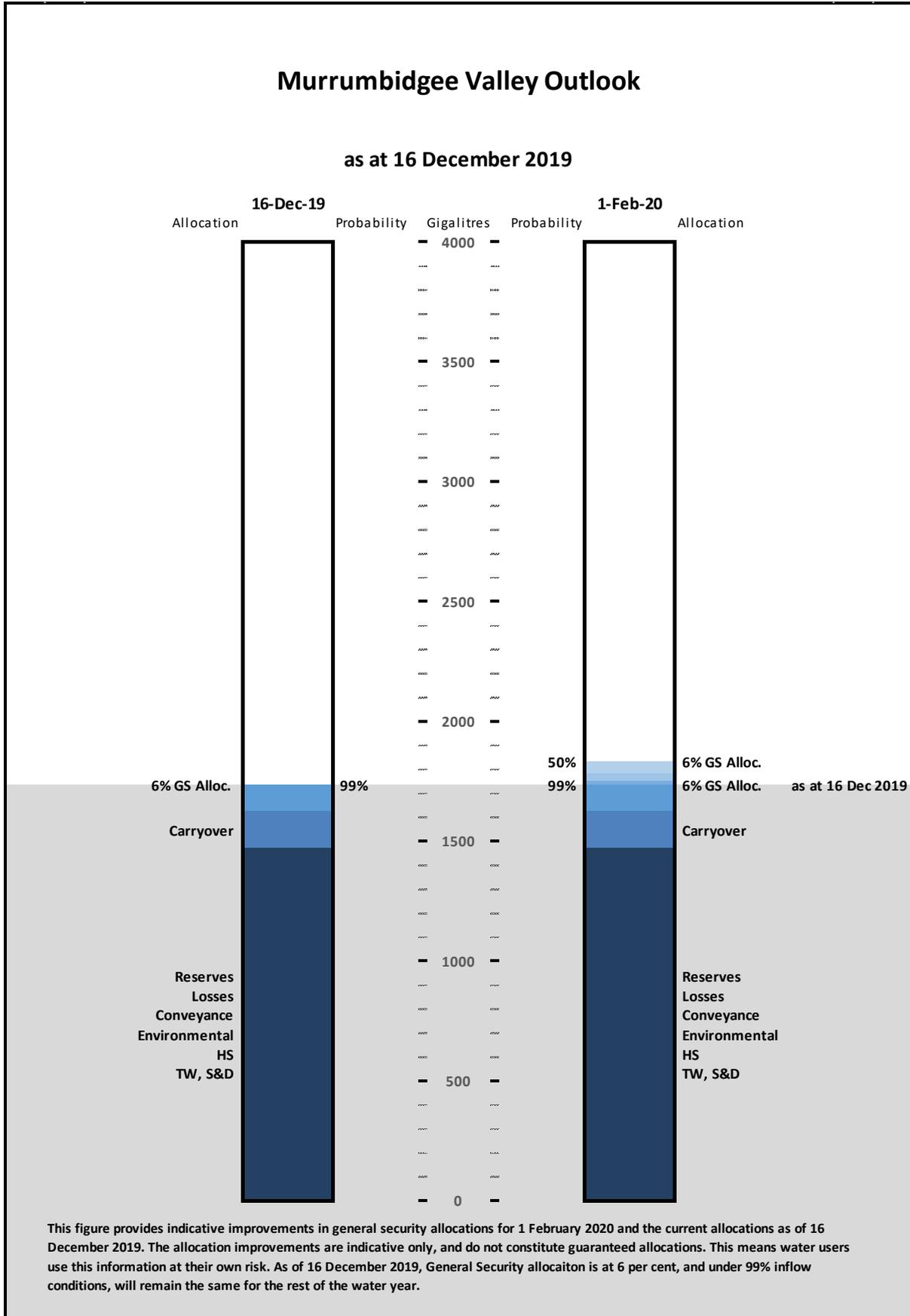


Water availability and allocation update

Note 1: Estimated values indicative only, not guaranteed and subject to change based on actual events unfolding.

Note 2: Storage behaviour modelling using driest one-third years. Assumes GS carryover of 8%.

Note 3: Currently tracking about 95th percentile in the last 6 months (July to December).



Two Year Planning Horizon

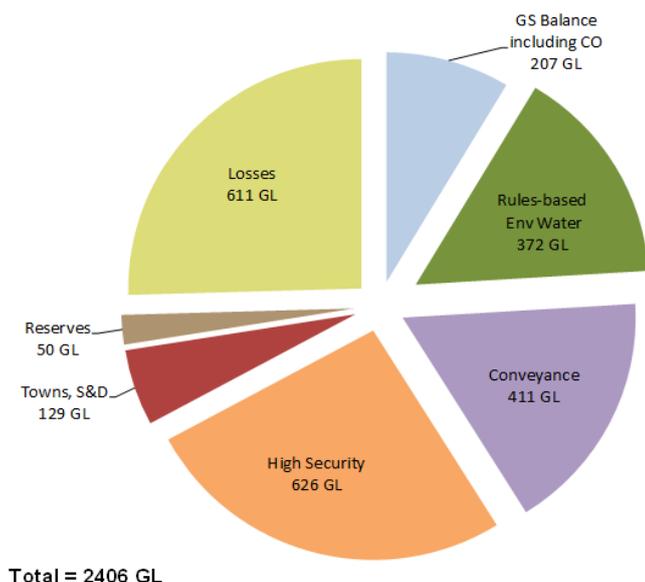
The following table and pie chart provide a volumetric resource breakdown based on a **two year planning horizon**. This is being provided to assist water users in understanding the distribution of resources and inflows across years and the need to reduce the risk of shortfalls for future high priority needs by considering second year commitments early in the current water year.

Murrumbidgee resource assessment data sheet for resources until 30 June 2021

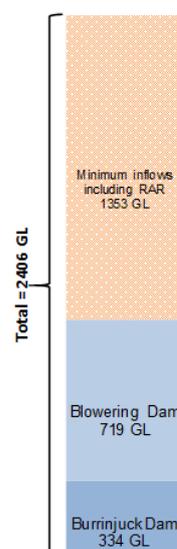
Resource Distribution 2019-21 (estimated as at 16 December 2019)	
	Volume (GL)
Total Available Resource ⁽¹⁾	2406
less	
General Security	207
Rules based Environmental Water ⁽²⁾	372
Towns, Stock, Domestic	129
Reserves ⁽³⁾	50
Conveyance ⁽⁴⁾	411
High Security	626
Losses (transmission, evaporation, operational) ⁽⁵⁾	611
Late Season Inflows ⁽⁶⁾	0

*See notes below.

Resource Distribution 2019-21 (estimated as at 16 December 2019)



Supply Distribution⁽⁷⁾



Notes

- 1) Total available resource – total active storage volume (Blowering & Burrinjuck Dams) at the day of assessment plus any usable flows in transit plus drought forecast inflows from now to June 2021 plus Snowy Hydro's assured Required Annual Release (RAR) for the remaining part of the current year (2019-20) plus forecast RAR for the next water year (2020-21)
- 2) Rules-based environmental water – water required to be set aside under water sharing plans to provide for riverine environments to 30 June 2021. Includes end-of-system flow requirements from now to June 2020 plus end of system requirement (218 GL) for the next year (2020-21) and environmental water allowances estimated over two years. Excludes 'licence-based' environmental water also known as held environmental water (HEW). This total volume typically reduces as water is used for environmental purposes during the year.
- 3) Reserves – required primarily under statutory plans, and mainly used for emergency purposes and critical needs. Includes 25GL per dam per year operational reserve, and Provisional Storage Volumes (PSV1 = nil, PSV2 = nil).
- 4) Conveyance entitlement – water required to be set aside under water sharing plan rules to provide for category of access licences originally issued to Irrigation Corporations to facilitate delivery of water through their channel systems. Includes conveyance entitlement requirements estimated over two years. This entitlement volume reduces as commitments are met and water is used during the year.
- 5) Losses – is the best estimate of the volume required to run the river under dry conditions to meet demands through June 2021. This includes storage evaporation, transmission losses and operational loss. This estimate is regularly updated as the year unfolds.
- 6) Late Season Inflows – is the estimated inflow volume that will arrive into storage late in the year, after the peak irrigation demand season (usually post-February). This water cannot be allocated to water users at the start of the water-year, otherwise there could be an expectation that the water is available for use and can be delivered before it is captured in storage.
- 7) Supply Distribution – the distribution of supply includes volumes at the time of the assessment for the following categories: active volumes in the dams (excludes early release volumes of next year's Snowy Hydro commitments), and assumed minimum future inflows from now to June 2021 (includes forecast Snowy Hydro's guaranteed inflows through April 2021, and late season inflows).

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