

15 November 2019

## Murrumbidgee Valley

### Water allocation update

There is **no change to water allocations** in the Murrumbidgee regulated water source.

Inflows have been minimal since the last assessment. Rainfall in early November did not yield significant improvements due to reduced runoff from dry antecedent catchment conditions.

Winter and spring are historically the wetter seasons for the southern basin. As the bulk of this period has passed, the chances of substantial water resource improvements are low based on historical data. Statistically, there is now a low likelihood that allocations will improve significantly for summer, but in reality storms can bring heavy rainfall and good inflows at any time.

Water users are advised to consider available weather and climatic information, together with the allocation outlooks, when planning their water needs in 2019-20 and beyond.

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

### Drought stage

The **Murrumbidgee Valley** 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.

A Critical Water Advisory Panel has been formed for southern valleys to provide advice on drought management options and will convene as required. A public drought information session is planned for 28 November at the Northside Griffith Leagues Club from 4pm.

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](http://www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/extreme-events)

### Storage levels (as at 13 November 2019)

- Blowering Dam is 53 per cent full – falling – holding 883,000 megalitres (ML).
- Burrinjuck Dam is 33 per cent full – steady – holding 342,000 ML.

### Climatic outlook

The Bureau of Meteorology seasonal outlook for December 2019 to February 2020 indicates that the Murrumbidgee catchment is likely to experience drier than average conditions in the headwater regions, and slightly better conditions downstream of the major storages. While near average conditions may be expected in some parts, it is important to note that the 'wet' season is over and

that average inflows for the remainder of the water year are likely to be low. Temperatures are likely to be above average.

The Bureau indicates that the El Niño-Southern Oscillation (ENSO) remains neutral. Modelling suggests that the ENSO is likely to remain neutral over the remainder of 2019 and into 2020. Positive Indian Ocean Dipole (IOD) conditions are forecast well into summer, normally suppressing rainfall and increasing temperatures.

For further details: [www.bom.gov.au/climate/outlooks/#/overview/summary](http://www.bom.gov.au/climate/outlooks/#/overview/summary)

### Trade

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

### Next announcement

The next water allocation statement for the Murrumbidgee will be on **Monday 2 December 2019**.

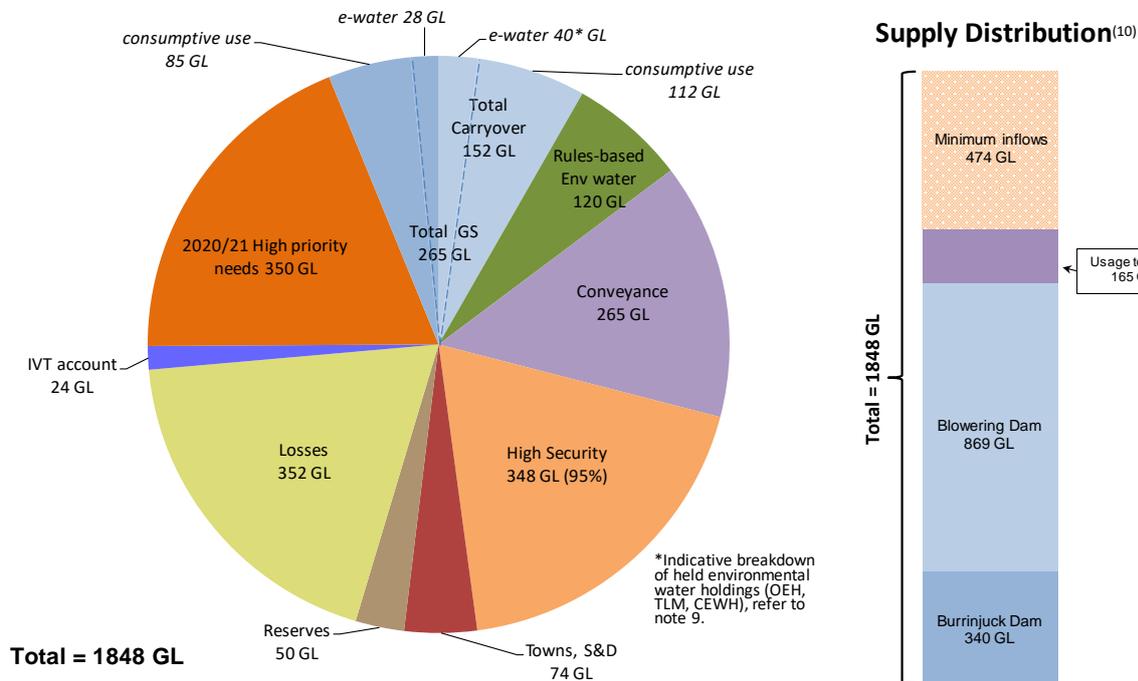
Updated probability analysis showing likely improvement in water availability under different inflow scenarios will be provided in the 16 December 2019 announcement. This will also include the two-year resource assessment, used to ensure future high priority needs can be met prior to further allocations in the current year.

### Murrumbidgee resource assessment data sheet

Resource Distribution (15 November) for 2019-20	
	Volume (GL)
Total Available Resource <sup>(1)</sup>	1,848
<b>less</b>	
Carryover (GS and Conveyance)	152
Rules based Environmental Water <sup>(2)</sup>	120
Towns, Stock, Domestic	74 (100%)
Reserves <sup>(3)</sup>	50
Conveyance <sup>(4)</sup>	265
Announced High Security	348 (95%)
Losses (transmission, evaporation, operational) <sup>(5)</sup>	352
Murrumbidgee IVT account (carryover as of 1 July) <sup>(6)</sup>	24
Late Season Inflows <sup>(7)</sup>	0
Announced General Security	113 (6%)
Future (2020-21) high priority needs <sup>(8)</sup>	350

*\*See notes below.*

### Murrumbidgee resource distribution 2019-20 – 15 November 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 74 GL) and environmental water allowances (EWA1 = 0 GL, EWA2 = 46 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.
- 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) Future high priority needs – it is required to look ahead to next water year (2020-21) to ensure there is sufficient resource available to meet high priority commitments on 1 July 2020. This volume is estimated to be about 350 GL. 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 Nov 2018 (GL)	Mid Nov 2019 (GL)	Comments
Storage Volume (GL)	Burrinjuck	430	343	With dry weather, inflows have reduced
	Blowering	874	993	Reduced natural tributary inflow & Snowy releases
	<b>Total</b>	<b>1,304</b>	<b>1,236</b>	Overall 5% lower compared to last year
Losses (transmission, evaporation, operations)*		392	352	Reduced loss budget, less water to deliver
1 July IVT carryover balance		14	24	Reflects market pressures
Late Season Inflows		18	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 November 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. Allocations are likely to remain at current values under most scenarios (using dry tercile). The likely limited improvements in resource will be used to underpin 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

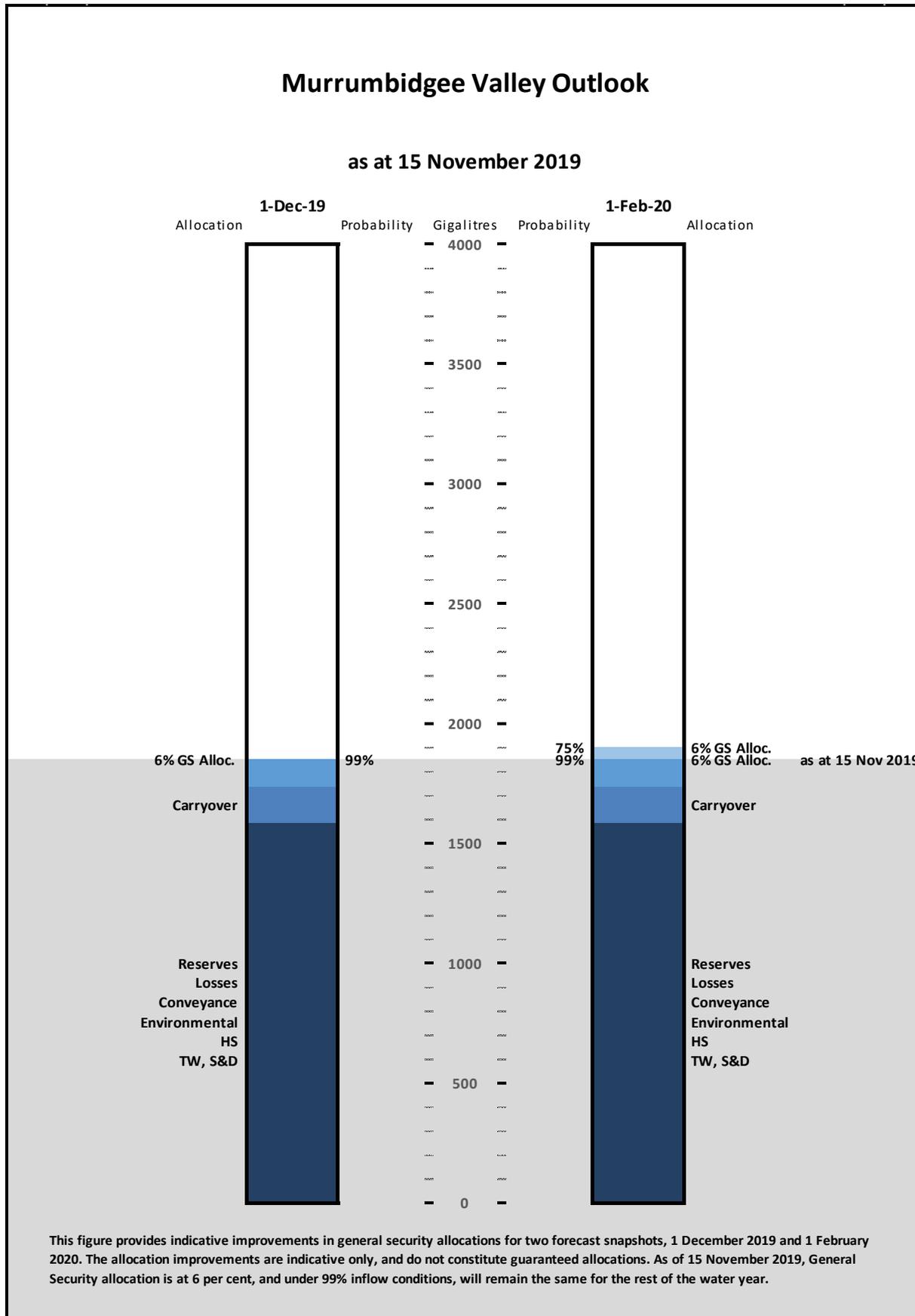
(Any carryover water can be added to these indicative allocations)

Historical Inflow Scenario	1 Dec 2019	1 Feb 2020
99 chances in 100 (extreme) (99%)	6	6
9 chances in 10 (very dry) (90%)	6	6
3 chances in 4 (dry) (75%)	6	6
1 chance in 2 (mean) (50%)	6	6

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 96<sup>th</sup> percentile in the last 4 months (July to October).



## Two year planning horizon

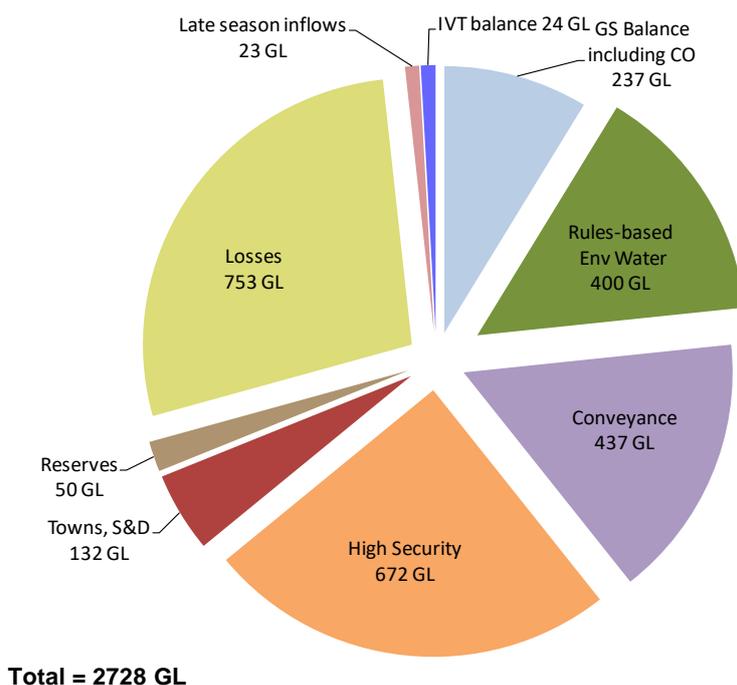
The following table and pie chart provide a volumetric resource breakdown based on a **two year planning horizon**. This is being provided to assist water users in understanding the distribution of resources and inflows across years and the need to reduce the risk of shortfalls for future high priority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

### Murrumbidgee resource assessment data sheet for resources until 30 June 2021

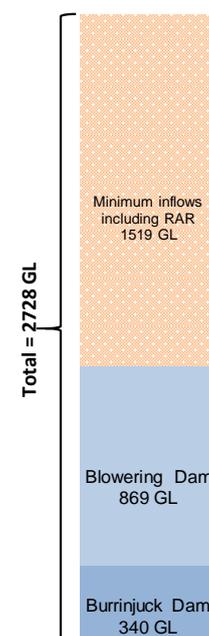
Resource Distribution 2019-21 (estimated as at 15 November 2019)	
	Volume (GL)
Total Available Resource <sup>(1)</sup>	2728
<b>less</b>	
General Security	237
Rules based Environmental Water <sup>(2)</sup>	400
Towns, Stock, Domestic	132
Reserves <sup>(3)</sup>	50
Conveyance <sup>(4)</sup>	437
High Security	672
Losses (transmission, evaporation, operational) <sup>(5)</sup>	753
Murrumbidgee IVT account (carryover as of 1 July) <sup>(6)</sup>	24
Late Season Inflows <sup>(7)</sup>	23

\*See notes below.

### Resource Distribution 2019-21 (estimated as at 15 November 2019)



### Supply Distribution<sup>(8)</sup>



### 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) IVT account – this represents the carryover volume into 2019/20.
- 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, otherwise there could be an expectation that the water is available for use and can be delivered before it is captured in storage.
- 8) 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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