

## Murrumbidgee Valley

### Water allocation update

Water allocations in the Murrumbidgee regulated river water source **remain unchanged**.

End of year accounting reconciliation plus limited rainfall in the past month has helped meet demand and system losses. At this early stage next year's high priority needs have also been met meaning that currently there is no deficit to be met before allocation can accrue to general security entitlement holders. However, a new deficit could grow if inflows are poor.

This assessment is based on an estimated average carryover of 8 per cent of entitlement. A final carryover volume will be available by the end of July, after provisional account balances are finalised, however no significant change is expected.

As a trial to improve transparency, the two year resource assessment, used to ensure future high priority needs can be met before further allocating in the current year, is shown at the end of this statement. See Attachment A for further details.

2019-20	High Security	General Security	Average Carryover	Drought Stage
Murrumbidgee	95%	0%	8%	 Stage 2

### Storage levels (as at 12 July 2019)

- Blowering Dam is 44 per cent full – steady – holding 734,000 ML.
- Burrinjuck Dam is 30 per cent full – steady – holding 315,000 ML.

### Climatic outlook

The Bureau of Meteorology seasonal outlook for August to October shows that upper Murrumbidgee catchment is likely to experience drier than average conditions, while there is no clear indication of drier or wetter conditions for the lower Murrumbidgee. Temperatures over this period are very likely to be above average.

The Bureau indicates that the main climate drivers remain neutral. Modelling suggests that the El Niño-Southern Oscillation (ENSO) is likely to remain neutral over the coming months however a positive Indian Ocean Dipole (IOD) is likely to develop and be the dominant climate driver for the remainder of 2019. A positive IOD will likely mean below average winter-spring rainfall and above average temperatures.

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

### Drought stage

The **Murrumbidgee Valley** regulated river water source is in Stage 2 drought criticality, meaning drought operational planning has commenced in preparation for extreme dry conditions that may continue through 2019-20. Accordingly a Critical Water Advisory Panel will soon be formed for southern valleys to advise on drought management options.

Further information on the 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)

## Trade

Water allocation can currently be traded **into** and **out** of the Murrumbidgee Valley. Water users are encouraged to monitor the website for information about trade opportunities and processes, and particularly the upcoming seasonal closing dates for trade:  
[www.waternsw.com.au/customer-service/trading](http://www.waternsw.com.au/customer-service/trading)

## Next announcement

The next water allocation statement for the Murrumbidgee valley will be on **Thursday 1 August 2019**.

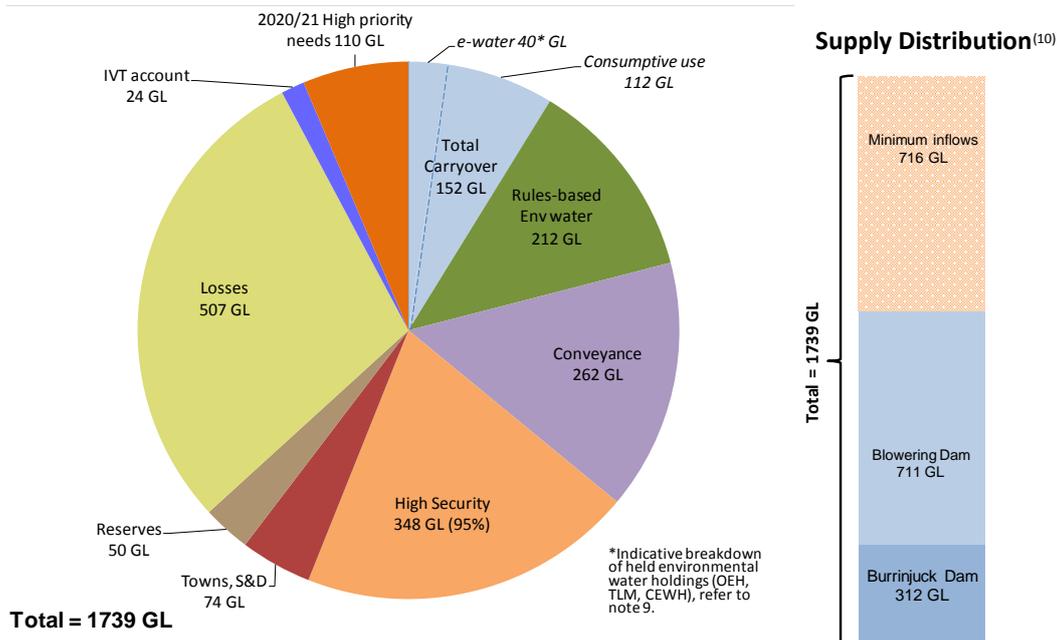
The next updated probability analysis showing likely improvement in water availability under different inflow scenarios, including the rocket diagram, will be issued on Thursday 15 August 2019.

## Murrumbidgee resource assessment data sheet

<b>Resource Distribution 2019-20 (at 15 July 2019)</b>	
	Volume (GL)
Total Available Resource <sup>(1)</sup>	1,739
<b>less</b>	
Carryover (GS and Conveyance)	152
Rules based Environmental Water <sup>(2)</sup>	212
Towns, Stock, Domestic	74 (100%)
Reserves <sup>(3)</sup>	50
Conveyance <sup>(4)</sup>	262
Announced High Security	348 (95%)
Losses (transmission, evaporation, operational) <sup>(5)</sup>	507
Murrumbidgee IVT account (carryover as of 1 July) <sup>(6)</sup>	24
Late Season Inflows <sup>(7)</sup>	0
Announced General Security	0 (0%)
Future (2020-21) high priority needs <sup>(8)</sup>	110

*\*See notes below.*

## Murrumbidgee resource distribution 2019-20 – 15 July 2019



### 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 759GL.
- 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 199 GL) and environmental water allowances (EWA1 = 0 GL, EWA2 = 13 GL, EWA3 = 0 GL). Excludes 'licence-based' environmental water also known as held environmental water (HEW). This total volume typically reduces as commitments are met and 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. (This category of licence in the Murrumbidgee valley, like general security, can carry over up to 30% of 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 regularly updated as the year unfolds.
- 6) IVT account – this is the carryover value into 2019-20. There is currently a positive balance (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, otherwise there could be an expectation that the water is available for delivery and use 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. This volume is currently estimated to be about 110GL. 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, 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 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 environmental 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).

## Water availability outlook for 2019-20

### Murrumbidgee Resource Assessment – Comparison with this time last year

Item		Mid Jul 2018 (GL)	Mid Jul 2019 (GL)	Comments
Storage Volume (GL)	Burrinjuck	413	315	With dry weather, inflows have reduced
	Blowering	1,126	734	Reduced tributary inflow & Snowy releases
	<b>Total</b>	<b>1,539</b>	<b>1049</b>	Overall 18% lower storage volume compared to last year
Losses (transmission, evaporation, operations)*		579	506	Reduced budget, less water to deliver
1 July IVT carryover balance		-14	24	Reflects market pressures
Late Season Inflows		38	0	Useful for 2020-21 high priority
GS Available		5%	0%	Reduced water availability
Average GS Carryover		22%	8%	Much lower this year

\* 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 is based on all available historical data. Note that this gives a better outlook than using just the driest one-third of years on record (dry tercile).

It is important to note 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 that water users should use this information with caution and at their own risk, as it projects many months ahead. The reliability of the outlook is expected to improve as the forecast period reduces.

### Forecast General Security allocation (per cent)

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

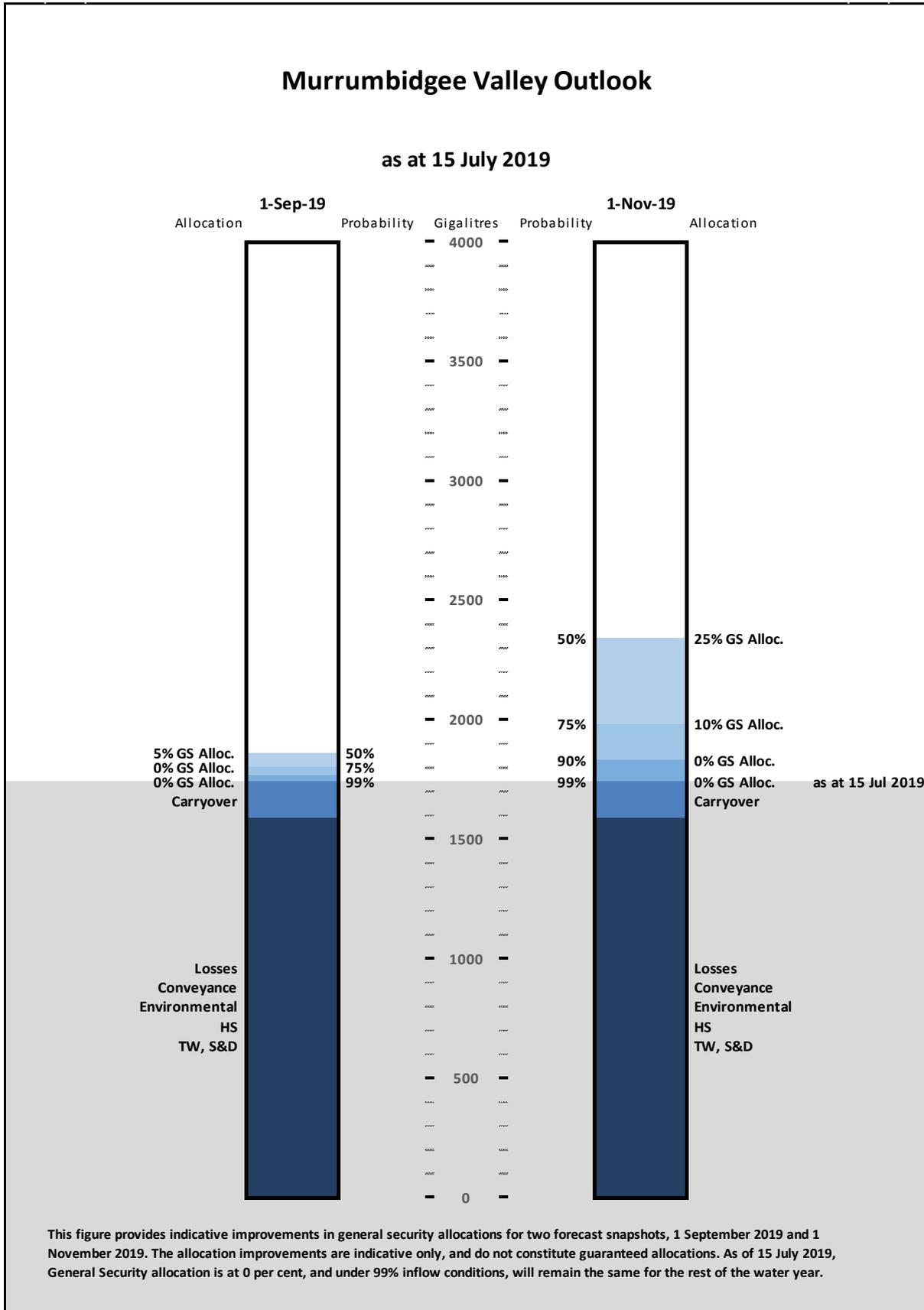
Historical Inflow Scenario	1 Sep 2019	1 Nov 2019
99 chances in 100 (extreme) (99%)	0	0
9 chances in 10 (very dry) (90%)	0	0
3 chances in 4 (dry) (75%)	0	10
1 chance in 2 (median) (50%)	5	25

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

Note 2: Storage behaviour modelling using all years and general security carryover of 8%.

Note 3: Currently tracking about 85<sup>th</sup> percentile in the last 3 months (April to June).

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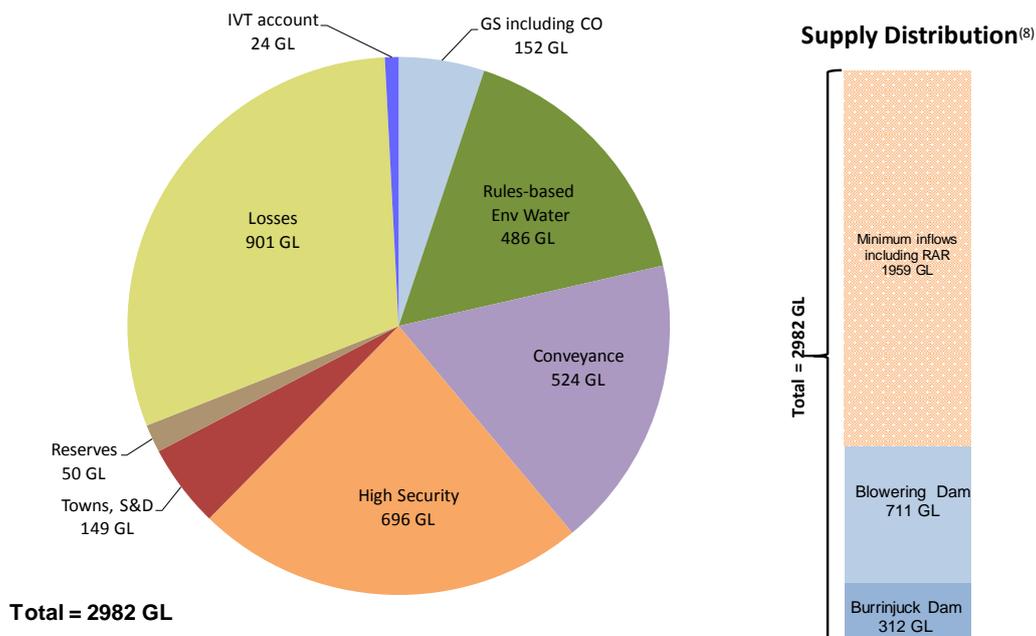
## Attachment A

The following table and pie chart provide a volumetric resource breakdown based on a two year planning horizon. This is being provided as a trial product to assist water users in understanding the distribution of resources and inflows over the next two years and 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 July 2019)	
	Volume (GL)
Total Available Resource <sup>(1)</sup>	2982
<b>less</b>	
Carryover (GS and Conveyance)	152
Rules based Environmental Water <sup>(2)</sup>	486
Towns, Stock, Domestic	149
Reserves <sup>(3)</sup>	50
Conveyance <sup>(4)</sup>	524
High Security	696
Losses (transmission, evaporation, operational) <sup>(5)</sup>	901
Murrumbidgee IVT account (carryover as of 1 July) <sup>(6)</sup>	24
Late Season Inflows <sup>(7)</sup>	0
Announced General Security	0 (0%)

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



## 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) (including flex (pre-release) from the prior year) to April 2021, plus estimated usage to date. Snowy Hydro's net Jounama Release for this year (2019-20) is 759 GL.
- 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 (currently 218GL per year) and environmental water allowances (EWA1=0 GL (current), EWA2= 13 GL and EWA3 = 0 GL). Excludes 'licence-based' environmental water also known as held environmental water (HEW). This total volume typically reduces as commitments are met and 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 per year 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. (This category of licence in the Murrumbidgee valley, like general security, can carry over up to 30% of entitlement).
- 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), indicative usage to-date (may be estimates prior to reconciliation with hydrographic updates) and assumed minimum future inflows from now to June 2021 (includes Snowy Hydro's guaranteed inflows through April 2021, and late season inflows).