

16 September 2019

Murrumbidgee Valley

Water allocation update

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

Scattered intermittent rainfall since the last assessment has contributed little to Murrumbidgee resources. About 100 gigalitres (GL) of inflow was received during August 2019, which represents less than one-third of the long-term median inflow.

Conditions for the valley have been dry and are forecast to remain hot and dry which will reduce the chance of resource improvements for the remainder of the year.

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 advise on drought management options and is ready to convene again later this year if required.

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

Storage levels (as at 13 September 2019)

- Blowering Dam is 55 per cent full – rising – holding 914,000 megalitres (ML).
- Burrinjuck Dam is 33 per cent full – steady – holding 339,000 ML.

Climatic outlook

The Bureau of Meteorology seasonal outlook for October to December indicates that the Murrumbidgee catchment is very likely to experience drier than average conditions across the entire catchment. Temperatures over this period are also very 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. Positive Indian Ocean Dipole (IOD) conditions are forecast for spring. A positive IOD will likely mean below average spring rainfall and above average temperatures.

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

Trade

Trade out of the Murrumbidgee Valley is closed; however, trade into 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.

Next announcement

The next water allocation statement for the NSW Murray and Lower Darling valleys will be on **Tuesday 1 October 2019**.

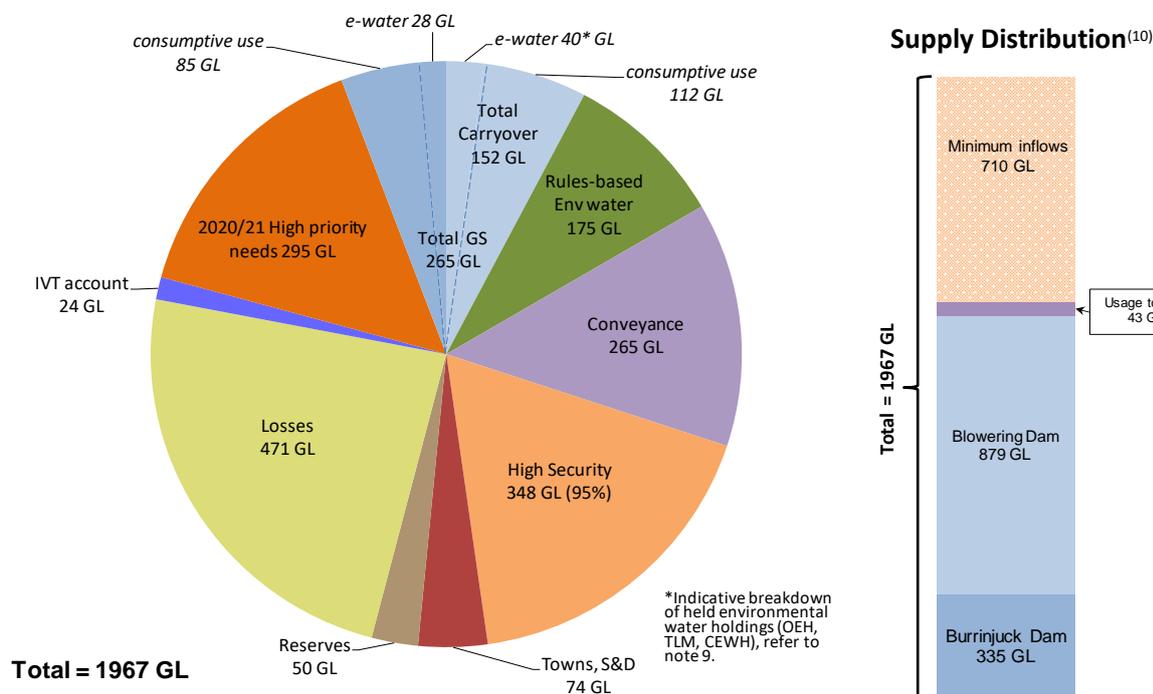
The next updated probability analysis showing likely improvement in water availability under different inflow scenarios will be given in the 15 October 2019 statement.

Murrumbidgee resource assessment data sheet

Resource Distribution (16 September) for 2019-20	
	Volume (GL)
Total Available Resource ⁽¹⁾	1,967
less	
Carryover (GS and Conveyance)	152
Rules based Environmental Water ⁽²⁾	175
Towns, Stock, Domestic	74 (100%)
Reserves ⁽³⁾	50
Conveyance ⁽⁴⁾	265
Announced High Security	348 (95%)
Losses (transmission, evaporation, operational) ⁽⁵⁾	471
Murrumbidgee IVT account (carryover as of 1 July) ⁽⁶⁾	24
Late Season Inflows ⁽⁷⁾	0
Announced General Security	113 (6%)
Future (2020-21) high priority needs ⁽⁸⁾	295

**See notes below.*

Murrumbidgee resource distribution 2019-20 – 16 September 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).
- 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 143 GL) and environmental water allowances (EWA1 = 0 GL, EWA2 = 31 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, 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, 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 2020. This volume is currently estimated to be about 295GL. 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 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 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 Sep 2018 (GL)	Mid Sep 2019 (GL)	Comments
Storage Volume (GL)	Burrinjuck	430	335	With dry weather, inflows have reduced
	Blowering	1,244	879	Reduced natural tributary inflow & Snowy releases
	Total	1,674	1,214	Overall 30% lower storage volume compared to last year
Losses (transmission, evaporation, operations)*		543	471	Reduced loss budget, less water to deliver
1 July IVT carryover balance		-14	24	Reflects market pressures
Late Season Inflows		0	0	
GS Available		7%	6%	Low due to dry conditions.
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 September 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) has been 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.

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

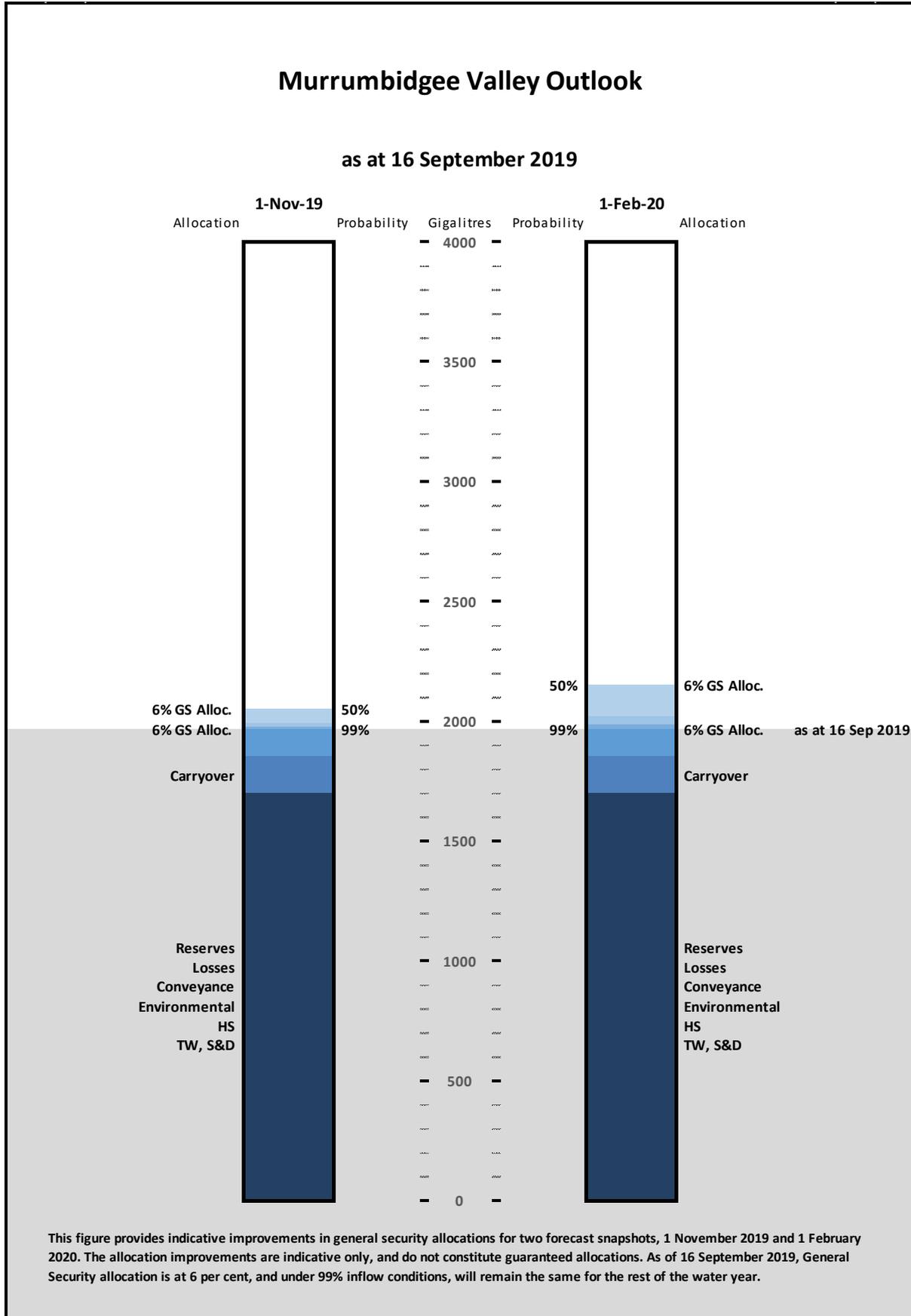
(Any carryover water can be added to these indicative allocations)

Historical Inflow Scenario	1 Nov 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 92nd percentile in the last 3 months (June to August).



Attachment A

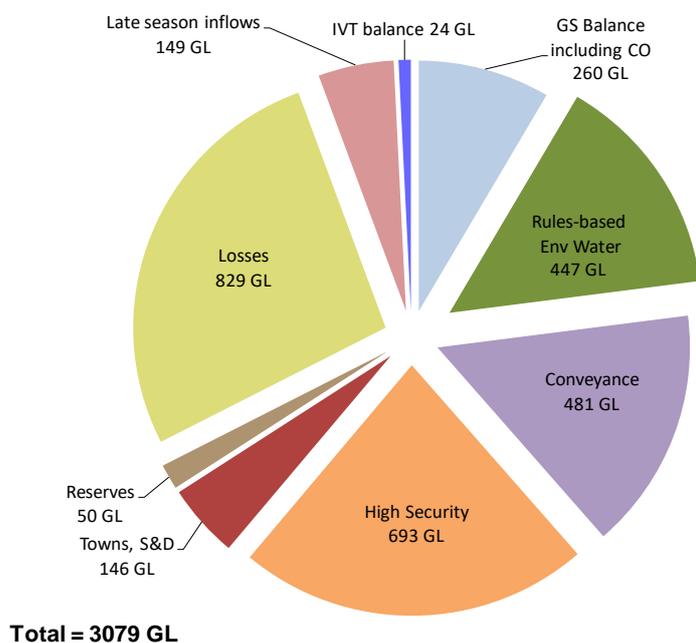
The following table and pie chart provide a volumetric resource breakdown based on a **two year planning horizon**. This is being provided to assist water users in understanding the distribution of resources and inflows across years and the need to reduce the risk of shortfalls for future high priority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

Murrumbidgee resource assessment data sheet for resources until 30 June 2021

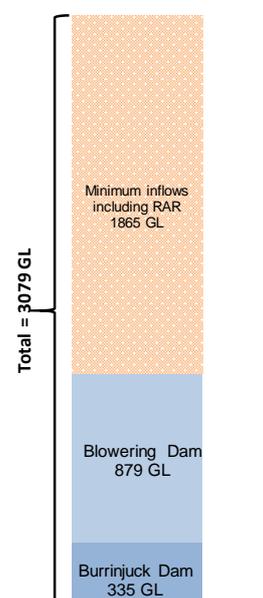
Resource Distribution 2019-21 (estimated as at 16 September 2019)	
	Volume (GL)
Total Available Resource ⁽¹⁾	3079
less	
General Security	260
Rules based Environmental Water ⁽²⁾	447
Towns, Stock, Domestic	146
Reserves ⁽³⁾	50
Conveyance ⁽⁴⁾	481
High Security	693
Losses (transmission, evaporation, operational) ⁽⁵⁾	829
Murrumbidgee IVT account (carryover as of 1 July) ⁽⁶⁾	24
Late Season Inflows ⁽⁷⁾	149

*See notes below.

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



Supply Distribution⁽⁸⁾



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 as an 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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