

17 December 2018

Murrumbidgee Valley

Water allocation update

The Murrumbidgee regulated river general security water allocation **remains unchanged at seven per cent of entitlement.**

Rainfall in the last few days is not included in this assessment, however; it is unlikely to produce any general security allocation improvement at this stage given the current need to first build resource for the 1 July 2019 high priority commitments.

The shortfall for delivery of next year's high priority needs is currently around 300,000 ML, but this will reduce in coming months due to the projected design inflow sequence. Once these commitments are met, further resource improvement can be allocated to general security entitlement holders.

2018-19	High Security	General Security	Average Carryover	Drought Stage
Murrumbidgee	95%	7%	22%	 Stage 1

Storage levels (as at 14 December 2018)

- Blowering Dam is 47 per cent full – rising – holding 784,000 megalitres (ML).
- Burrinjuck Dam is 42 per cent full – rising – holding 436,000 ML.

Drought stage

The NSW Extreme Events Policy has been released for all surface and ground water sources in the NSW Murray Darling Basin. This introduces a staged approach to managing extreme events such as severe droughts or poor water quality events. Incident Response Guides (IRGs) are being developed for each valley as part of water resource plans to identify triggers and types of actions taken in each stage.

The Murrumbidgee regulated river water source is assessed to be in Stage 1. There are no account restrictions in force in the valley and water supplies are being managed according to the water sharing plan rules. As mentioned above there is currently a shortfall in meeting next year's (2019/20) high priority commitments, but recovery is expected with summer and autumn inflows.

An explanatory section on drought stages has been provided at the end of this statement.

Climatic outlook

The Bureau of Meteorology seasonal outlook for December 2018 to February 2019 gives no clear indication of drier or wetter conditions for the catchment. Temperatures are very likely to remain above average.

The Bureau's El Niño-Southern Oscillation (ENSO) Outlook remains at El Niño ALERT and a positive Indian Ocean Dipole (IOD) event persists, but is weakening. El Niño conditions continue to develop with some indicators reaching El Niño thresholds. El Niño conditions are likely to bring warmer than average temperatures for large parts of the continent, while a positive IOD typically has very little influence on Australia from December to April.

Trade

Water allocation can currently be traded **within** and **out** of the Murrumbidgee Valley, but trade **into** the Murrumbidgee Valley remains closed. Water users should monitor the WaterNSW website (www.watarnsw.com.au) for information about the Murrumbidgee inter-valley trade (IVT) account balance and the status of trade.

Next announcement

There will be no statement on 2 January 2019. Fortnightly assessments and statements for the Murrumbidgee regulated river will resume in the New Year on **Tuesday 15 January 2019**.

Nevertheless, if weather systems bring significant change in resource availability beforehand, an interim announcement will be provided.

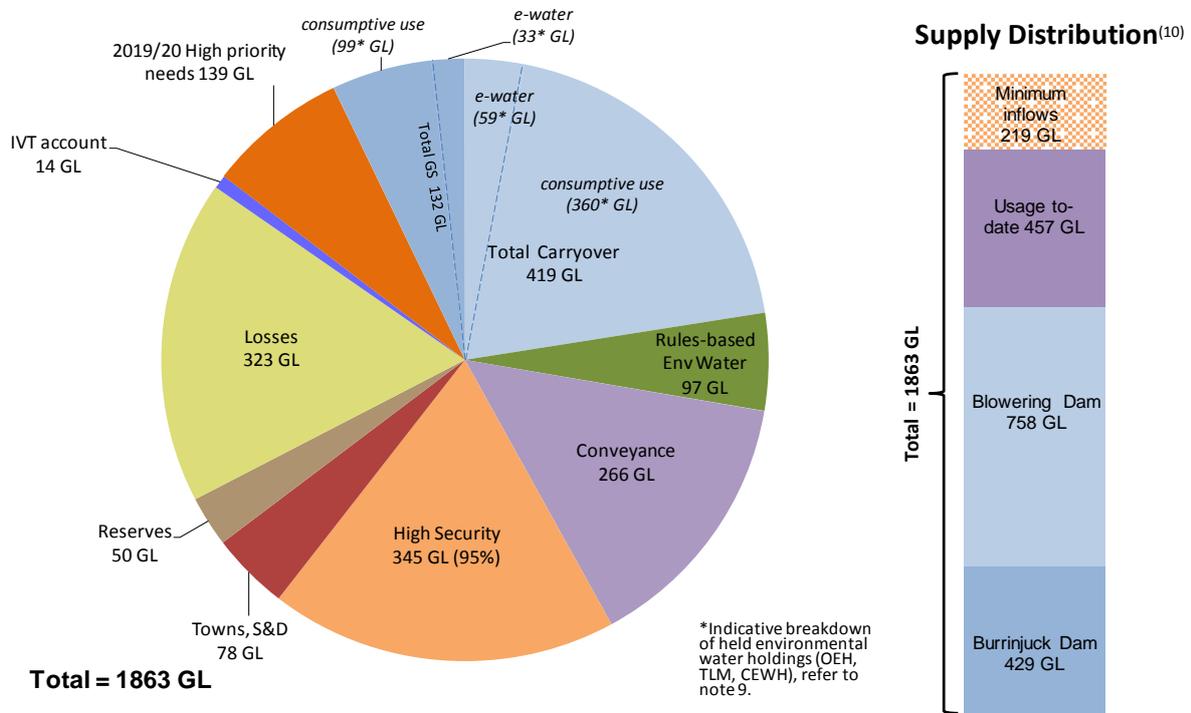
The seasonal outlooks (rocket diagrams) will now cease for this water year. Instead, from mid-February, mid-monthly statements will provide indicative 1 July 2019 allocations as the new water year approaches. This aims to help water users with their end of year water management decisions – whether to use, trade or carryover their account balances.

Murrumbidgee resource assessment data sheet

Resource Distribution 2018-19 (at 17 December 2018)	
	Volume (GL)
Total Available Resource ⁽¹⁾	1,863
less	
Carryover (GS and Conveyance)	419
Rules based Environmental Water ⁽²⁾	97
Towns, Stock, Domestic	78 (100%)
Reserves ⁽³⁾	50
Conveyance ⁽⁴⁾	266
Announced High Security	345 (95%)
Losses (transmission, evaporation, operational) ⁽⁵⁾	323
Murrumbidgee IVT account (carryover as of 1 July) ⁽⁶⁾	14
Late Season Inflows ⁽⁷⁾	0
Announced General Security	132 (7%)
Future (including 2019/20) high priority needs ⁽⁸⁾	139

**See notes below.*

Murrumbidgee resource distribution 2018-19 – 17 December 2018



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 (2018-19) to date is estimated to be about 677GL, and 200GL of flex release was pre-released in 2017-18.
- 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 59GL) and environmental water allowances (EWA1 = 38GL, EWA2 = 0GL, EWA3 = nil). 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 represents the carryover value into 2018/19. As the account status was negative on 1 July 2018, meaning Murray water was 'owed' to the Murrumbidgee that could not be delivered, this volume of 14GL was set aside from allocation in the Murrumbidgee. As the IVT balance at the time of the assessment has increased to a positive value of 2.2GL, it means that about 16GL has been traded out of Murrumbidgee valley since the beginning of the water year negating the adverse impact on Murrumbidgee water users. Effectively the impact on all Murrumbidgee water users has been resolved by those choosing to trade out of the valley thereby eliminating the negative IVT balance.
- 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 – we are required to look ahead to next water year (2019/20) to ensure there is sufficient resource set aside to meet high priority commitments on 1 July. This volume is currently estimated to be about 300GL of which 139GL has been met. This value changes from month to month based on the complex interaction of climatic factors, projected historical inflow sequence, 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 33GL of GS, 12GL of HS, 37GL of conveyance allocation and 51GL of GS carryover and 8GL conveyance 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 (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 (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 2017 (GL)	Mid Dec 2018 (GL)	Comments
Storage Volume (GL)	Burrinjuck	718	428	Inflows into storage are lower this year
	Blowering	906	758	
	Total	1,624	1,186	Overall 27% lower storage volume compared to last year
Losses (transmission, evaporation, operations)*		390	323	Low due to low allocation
Late Season Inflows		0	0	
GS Available		33%	7%	Reduced overall water availability
Average GS Carryover		27%	22%	Lower this year

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

Chances of improvement

The chances of improved inflows and increased general security allocations are given in the table below. Remember, these are based statistically on the historical record. In reality, rainfall and inflows can occur at any time and allocations will be made on actual conditions.

The table shows that allocations are likely to remain at current values under most scenarios and reflects that significant inflows are statistically less likely to occur over summer and that high priority commitments for 1 July 2019 need to be met.

Forecast general security allocation (per cent)#

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

Potential Inflow Conditions	1 Feb 2019 General Security Allocation^^
99 chances in 100 (extreme) (99%)^	7
9 chances in 10 (very dry) (90%)^	7
3 chances in 4 (dry) (75%)	7
1 chance in 2 (mean) (50%)	7
1 chance in 4 (wet) (25%)	9

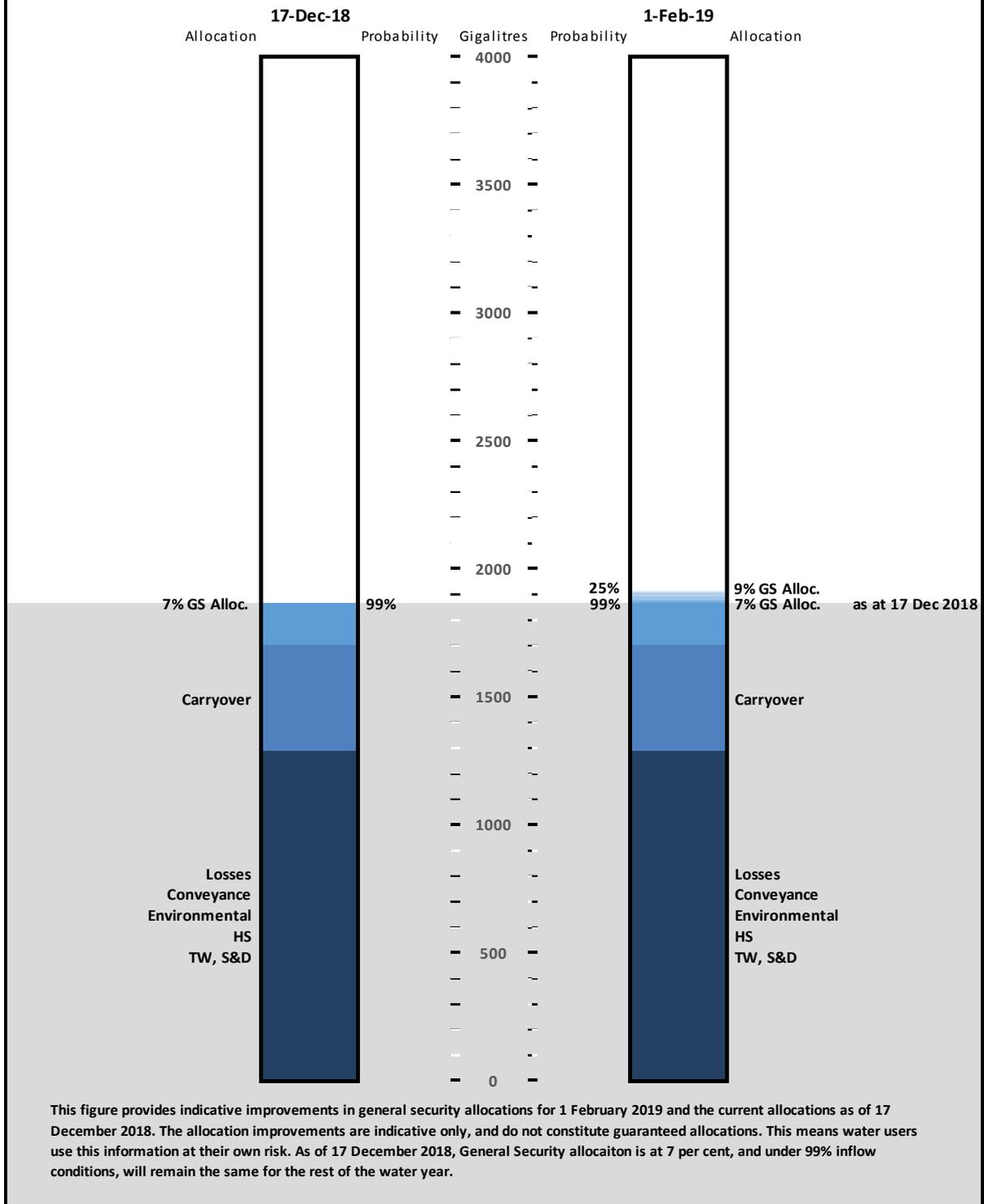
Storage behaviour modelling using data for all years of record and average general security carryover of 22%.

^ November conditions were 85% AEP, while July to November conditions are tracking about 95% AEP.

^^ This forecast is indicative only and not guaranteed allocation. This means water users use this information at their own risk.

Murrumbidgee Valley Outlook

as at 17 December 2018



Drought stage trigger levels

The drought stage is determined in accordance with critical trigger levels for this valley as outlined in the Murrumbidgee Incident Response Guide developed by NSW Department of Industry-Water. A drought stage can range from Stage 1 (normal operations) to Stage 4 (critical drought). It is informed by routine water resource assessment results and is triggered by the degree to which water use priorities can be met within the water source. A summary of each drought stage is provided in the table below.

These drought stages are focused on the ability of the regulated river to deliver existing and high priority commitments within the valley. This is distinct from the drought phases determined by the NSW Department of Primary Industries in their Combined Drought Indicator, which is focused on categorising seasonal conditions based on rainfall, soil water, plant growth and drought direction for individual parishes in NSW.

For further details: www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/extreme-events

Drought stage trigger levels for surface water – general principles

Criticality	Evidence base for surface water	Broad intent of measures
Stage 1 Normal management 	Can deliver all account water under normal river operations practices.	Provide certainty for water use planning. Long term water security and emergency/drought contingency planning.
Stage 2 Drought management 	Unable to deliver 100% of high priority account water and maximum expected use of general security under normal river operations practices.	Operational measures in the current water year to reduce transmission losses and prevent potential future failure to supply water in accounts. Drought response readiness Local Water Utilities (LWUs).
Stage 3 Severe drought/water shortage 	Only able to deliver restricted high priority demands and restricted remaining general security account water.	Restricting access to account water, restricting trade, and suspending some Water Sharing Plan (WSP) rules in addition to increased operational measures to prevent potential future failure to supply water in accounts. Drought management/restrictions (LWUs).

Criticality	Evidence base for surface water	Broad intent of measures
<p>Stage 4</p> <p>Critical drought/water shortage</p> 	<p>Only able to deliver restricted town water supply, stock and domestic and other restricted high priority demands.</p>	<p>Suspension of some WSP rules. Severe restrictions required to prioritise remaining supplies for critical human water needs.</p> <p>Emergency drought management measures/restrictions (LWUs).</p>