Water Allocation Statement

15 November 2018

NSW Murray and Lower Darling

Water allocation update

There has been a small improvement in NSW Murray regulated river resources which has been mostly allocated to the Conveyance licence category, in accordance with the water sharing plan. **Allocations for all other entitlements remain unchanged**.

October has seen continued dry conditions which have persisted for most of the year, with rainfall tracking in the lowest 9 out of 100 years on record. While there was some welcome rainfall in early November, it was brief and produced little resource improvement for NSW.

Of the 25,000 megalitre (ML) improvement, 15,000 ML has been allocated to Conveyance licences and 4,000 ML has been temporarily set aside in anticipation of excessive transmission losses over summer. The remaining 6,000 ML was required for the River Murray Increased Flows (RMIF) commitment due to previously over-estimated RMIF usage.

Remaining shortfalls in the NSW Murray system include 15,000 ML to conveyance licences, and 60,000 ML to environmental water. Of the environmental shortfall, 30,000 ML is the outstanding commitment to RMIF and 30,000 ML is expected to be needed to run the Wakool system after a hot summer. Consideration of high priority commitments in 2019/20 must also begin to be applied to resource improvements. The outlook for all inflow scenarios is therefore that NSW Murray general security allocations are likely to remain low in 2018/19.

Allocations in the Lower Darling remain unchanged. The Menindee Lakes system is at seven per cent of full supply capacity (holding about 120,000 megalitres) and is critically low. Of this volume, about 22,000 ML is stored in Lake Wetherell, 66,000 ML in Lake Pamamaroo and 12,100 ML in Copi Hollow. The balance is inaccessible in Lakes Cawndilla and Tandure.

WaterNSW continues to fill two temporary block banks in the Lower Darling as part of drought contingency measures to extend access for high priority uses as long as possible. Approval to construct two additional block banks between Menindee and Pooncarie has been granted. Flows in the Lower Darling below construction sites will be affected.

In the past, as water availability deteriorated and cease to flow conditions commenced, water restrictions have been used to restrict the take of water from available pools to the highest priority uses including town water supply, domestic, stock, and permanent plantings. The current need for restrictions is being constantly monitored.

Operational updates for the Lower Darling regulated system including water storage volumes and relevant drought measures can be found in WaterNSW's state-wide weekly water availability reports (https://www.waternsw.com.au/supply/regional-nsw/availability).

	High Security	General Security	Average Carryover
Murray	97%	0%	31%
Lower Darling	100%	0%	15%

Murray storage levels (as at 14 November 2018)*

- Dartmouth Dam is 78 per cent full – falling – holding 3,003,000 megalitres (ML).
- Hume Dam is 45 per cent full – falling – holding 1,354,000 ML.
- Lake Victoria is 76 per cent full – rising – holding 515,000 ML.

*** NSW share of this water is approximately 28%, 39% and 37% for these storages respectively.**

State sharing of the Murray resource

The monthly forecast accounts to the end of October indicate 5,210 GL of total Murray resource is available in the very dry (99 percentile) case, of which about 1,580 GL is needed to run the system and therefore 3,630 GL is distributed to NSW and Victoria based on rules in the Murray-Darling Basin Agreement.

The NSW share of this is about 1,190 GL from which commitments to South Australia's entitlement flow and trade adjustments are deducted to leave NSW with 1,035 GL of resource to distribute (99 percentile). This represents an increase of 25 GL from the last assessment.

Climatic outlook

The Bureau of Meteorology seasonal outlook for November to January, issued 25 October 2018, indicates that rainfall conditions are generally likely to be below average in the valley over this period. November has a high chance of being dry, while December shows no clear indications of drier or wetter than average conditions. Above average temperatures experienced so far in 2018 are likely to continue into early 2019.

The Bureau's El Niño-Southern Oscillation (ENSO) Outlook remains at El Niño ALERT, with El Niño likely to develop before January 2019. A positive Indian Ocean Dipole (IOD) event is underway, but may dissipate through November. When combined, an El Niño and positive IOD event increase the chances of dry and warm conditions, particularly during spring.

Trade

In the Murray, trade across the Barmah choke remains restricted to **'no net trade downstream'**. Downstream trade opens to the extent of the volume of any upstream trade. The trade restriction helps to protect existing downstream entitlement holders from an increased risk of delivery shortfall due to the limited physical capacity of the Barmah choke. Water users are encouraged to monitor the Murray-Darling Basin Authority (MDBA) website (www.mdba.gov.au) for information about the trade balance and status of trade.

The Menindee Lakes system is below 480 GL, the threshold at which the Lower Darling becomes administratively separated from the Murray. Temporary trade with the Murray is therefore closed. Trade typically remains closed until the system recovers to above 640GL. Trade within the Lower Darling water source remains unaffected.

Trade **out** and **within** the Murrumbidgee Valley is open, but trade **into** the Murrumbidgee Valley is closed. Trade into the Murrumbidgee Valley will re-open when the Murrumbidgee inter-valley trade (IVT) account balance climbs to 15 GL. 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

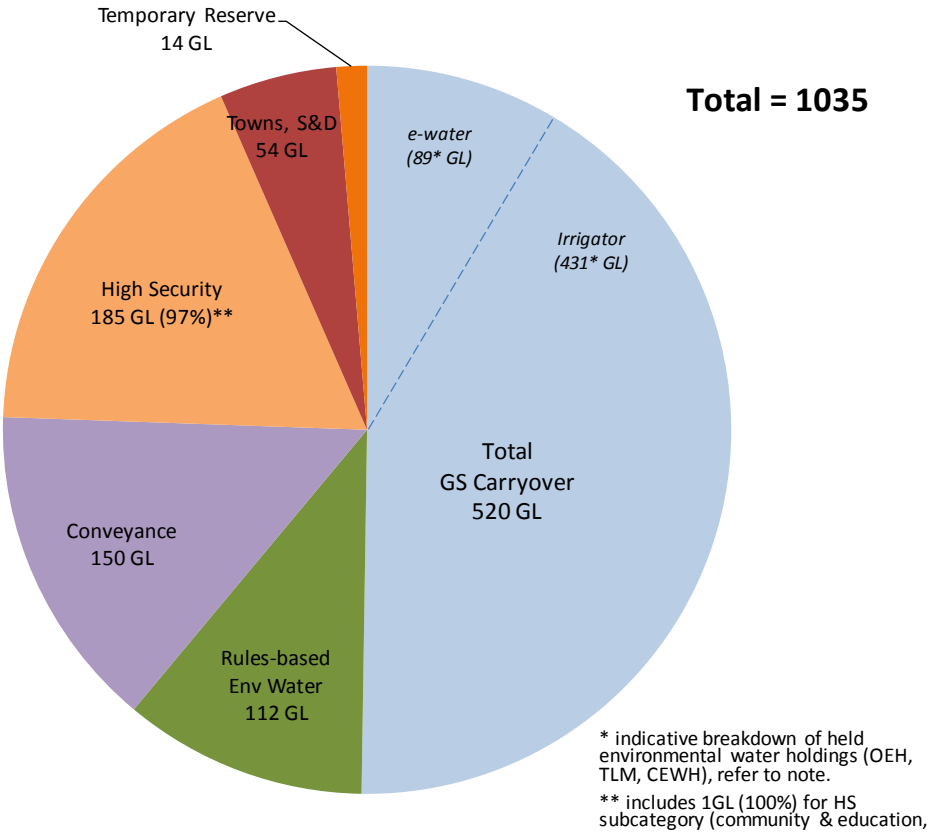
The next water allocation statement for the NSW Murray and Lower Darling valleys will be issued on **Monday 3 December 2018.** Forecast improvements under inflow scenarios, including the rocket diagram, will be included in mid-December water allocation statement.

NSW Murray resource assessment data sheet

Resource Distribution (15 November) for 2018-19	Volume (GL)
Total Available Resource[1]	1,035
less	
Carryover[2], [7]	520
Rules based Environmental Water[3]	112
Towns, Stock, Domestic[4]	54 (100%)
Announced High Security subcategory (education, research)[4]	1 (100%)
Announced High Security[4]	184 (97%)
Conveyance[5]	150 (45%)
Reserves[6]	0
Announced General Security[7]	0 (0%)
Temporary Reserve[8]	14

See notes below.

NSW Murray resource distribution 2018-19 – 15 November 2018



Data sheet notes

(1) Total available resource - NSW's state share of active storage volume (Hume, Dartmouth, Menindee and Lake Victoria) as assessed and accounted for under the Murray-Darling Basin Agreement at the time of the assessment plus any usable flows in transit plus assumed (99%ile) inflows for the 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 M1 releases to date for this water year (2018-19) is estimated to be 602 GL, and 200 GL of flex was pre-released in 2017-18. NSW remains in Special Accounting with South Australia (SA), details of which can be found in the MDB Agreement clauses 123-129. Special accounting is triggered when NSW is forecast unable to meet the required reserve of 1,250 GL by the end of the water year to supply SA with its entitlement in the following year.

(2) Carryover – NSW Murray general security water users can carryover a maximum account balance of 50 per cent of their entitlement into the following water year. The account limit is 110 per cent of entitlement, meaning that account credits from allocation and/or carryover cannot exceed 110% of entitlement in any water year. The limit does not include allocation trade.

(3) Primarily rules-based planned environmental water – water required to be set aside to provide for riverine environments, as per water sharing plan and other interjurisdictional agreements. In the NSW Murray this includes the Murray Additional Allowance (MAA) (about 6 GL), Wakool system requirements (up to 70 GL, currently 40 GL available), and the Barmah-Millewa Allowance (B-MA) (about 258 GL – currently 100% borrowed). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently 66 GL available out of a total commitment of about 96 GL, continuing a 30 GL shortfall. Note this includes a usage reconciliation update from the last assessment). The total commitments to B-MA and RMIF will decrease over the water year as they are released from Hume for use. Excludes 'licence-based' environmental water also known as held environmental water (HEW).

(4) The *Water Sharing Plan for the New South Wales Murray and Lower Darling Regulated Rivers Water Sources 2016* has subcategories of high security licenses in the Murray Water Source. High security subcategory licences under *Part 7 Division 2 Clause 46(2)* that are present in the Murray include community and education, research, and town water supply. At the commencement of each water year, these licences are to receive 100% allocation, while remaining high security licences are to receive 97% allocation. For the purposes of this water allocation statement, the high security town water supply allocation volume has been grouped as "Towns, S&D".

(5) 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 plan and is a function of current high and general security allocation.

(6) Reserves – required primarily under statutory plans, up to 61 GL; set aside for critical human needs in accordance with Clause 11.03 of the Basin Plan.

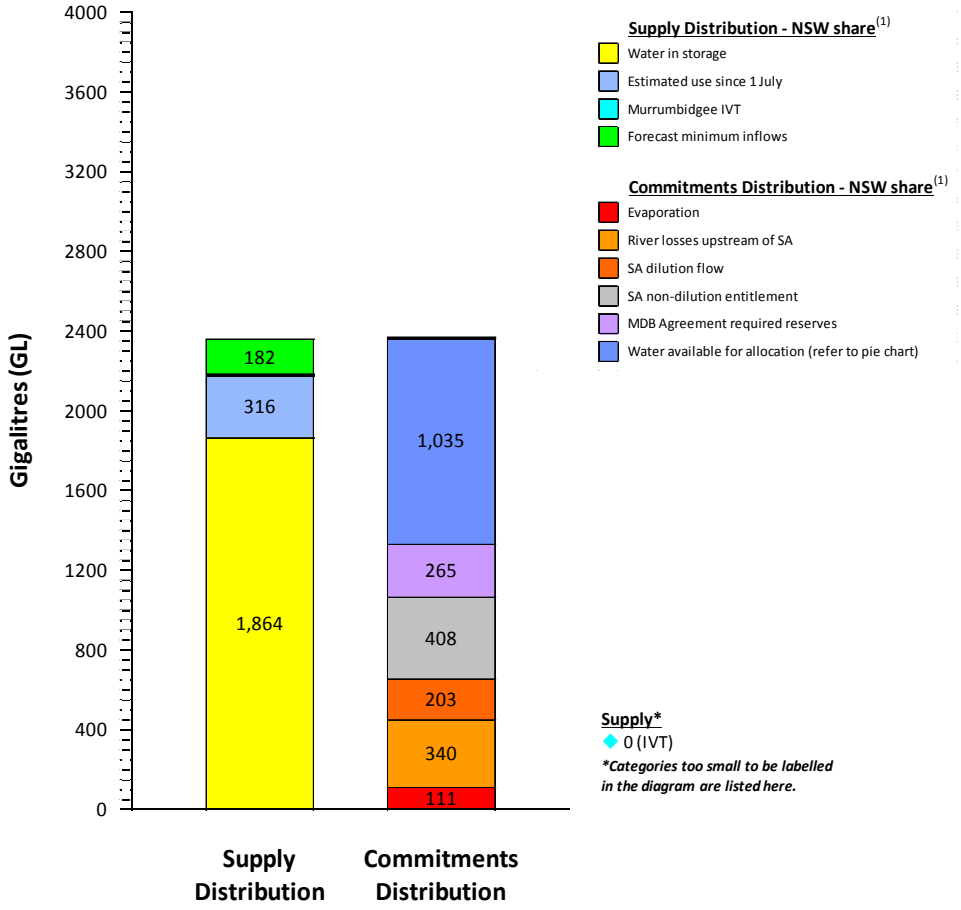
(7) Held environmental water (HEW) – water administered by environmental water holders is reported here, with the associated portions of general security allocation and carryover also identified in the above pie chart. This reporting of held environmental water is limited to only NSW entitlements, reporting of credits to accounts (not usage or trade), and estimated to be 0 GL of GS, 24 GL of HS, 23 GL of conveyance allocation and 89 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.

(8) Temporary reserve – small reserve introduced to buffer against elevated risk of high-than-budgeted losses.

NSW Murray resource assessment – comparison with this time last year

Item	Mid Nov 2017 (GL)	Mid Nov 2018 (GL)	Comments
NSW share of total resources	2,050	1,035	Significantly lower following very dry conditions since summer 17/18
less			
Carryover	730	520	Lower carryover
Environmental	264	112	BMA paid back in 2017.
Towns, Stock, Domestic	54	54	Same
Allocation to Conveyance licences	210	150	Lower due to lower resource
Allocation to High Security	185	185	Same
Allocation to General Security	586	0	Lower due to lower resource

NSW Murray water balance – 15 November 2018



Water balance notes:

(1) Supply Distribution and Remaining Commitments – the distribution of supply and commitments is being provided on a monthly basis. The volumes in the categories shown are only those relating to NSW's share of the resource, at the end of the preceding month. The categories include the following:

Water in storage: Volumes in the dams at the end of the previous month. (Excludes water in storage unavailable to NSW under the water sharing arrangements of the Murray Darling Basin Agreement).

Estimated use since 1 July: Estimated NSW usage to-date, reconciled periodically with hydrographic updates (meter readings).

Forecast inflows: NSW's share of forecast inflows into the River Murray System based on assumed extremely dry future conditions (includes Snowy Hydro's guaranteed inflows for the water year).

Murrumbidgee IVT: Total Murrumbidgee system water bought by Murray system users that is yet to be delivered, as reported in the Murrumbidgee IVT account balance. A negative IVT balance will appear as a commitment of NSW Murray water to the Murrumbidgee, until trades between the two valleys brings the IVT balance up to nil.

Evaporation: Water set aside for evaporation for the remainder of the year. This reduces as the year progresses.

River losses upstream of SA: Water budgeted for transmission losses from the River Murray system upstream of the South Australian border for the remainder of the year. Generally reduces as the water year progresses.

SA non-dilution entitlement: Water to supply South Australia's entitlement flow, as required under the Murray-Darling Basin (MDB) Agreement. Reduces as water year progresses.

SA dilution flow: Water to provide South Australia's dilution and conveyance component of flow, as required under the MDB Agreement. Reduces as the year progresses, unless Additional Dilution Flow (ADF) is triggered.

MDB Agreement required reserves: Includes conveyance reserve and minimum reserve to be set aside for use in the next water year, as required by the MDB Agreement in clause 102D and 103, respectively.

Water available for allocation: NSW's bulk share of the resource that can be assigned to NSW Murray entitlement holders based on the water sharing plan. This volume includes entitlement holder carryover. The allocation of this volume is provided in the above table and pie chart.

Chances of improvement

The chances of improved inflow conditions and indicative allocations are provided in the following table. 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 low under all scenarios. It reflects that significant inflows are statistically less likely to occur over summer and that current shortfalls still need to be met along with high priority commitments for 1 July 2019.

Forecast general security allocation (per cent) – using dry tercile#

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

Potential Inflow Conditions*	1 Dec 2018 General Security Allocation	1 Feb 2019 General Security Allocation
99 chances in 100 (extreme) (99%)	0	0
9 chances in 10 (very dry) (90%)^	0^^	1
3 chances in 4 (dry) (75%)	1	4
1 chance in 2 (mean) (50%)	2	7
1 chance in 4 (wet) (25%)	3	12

Outlook modelling using inflow data for the driest one-third of years only and GS carryover of 31%.

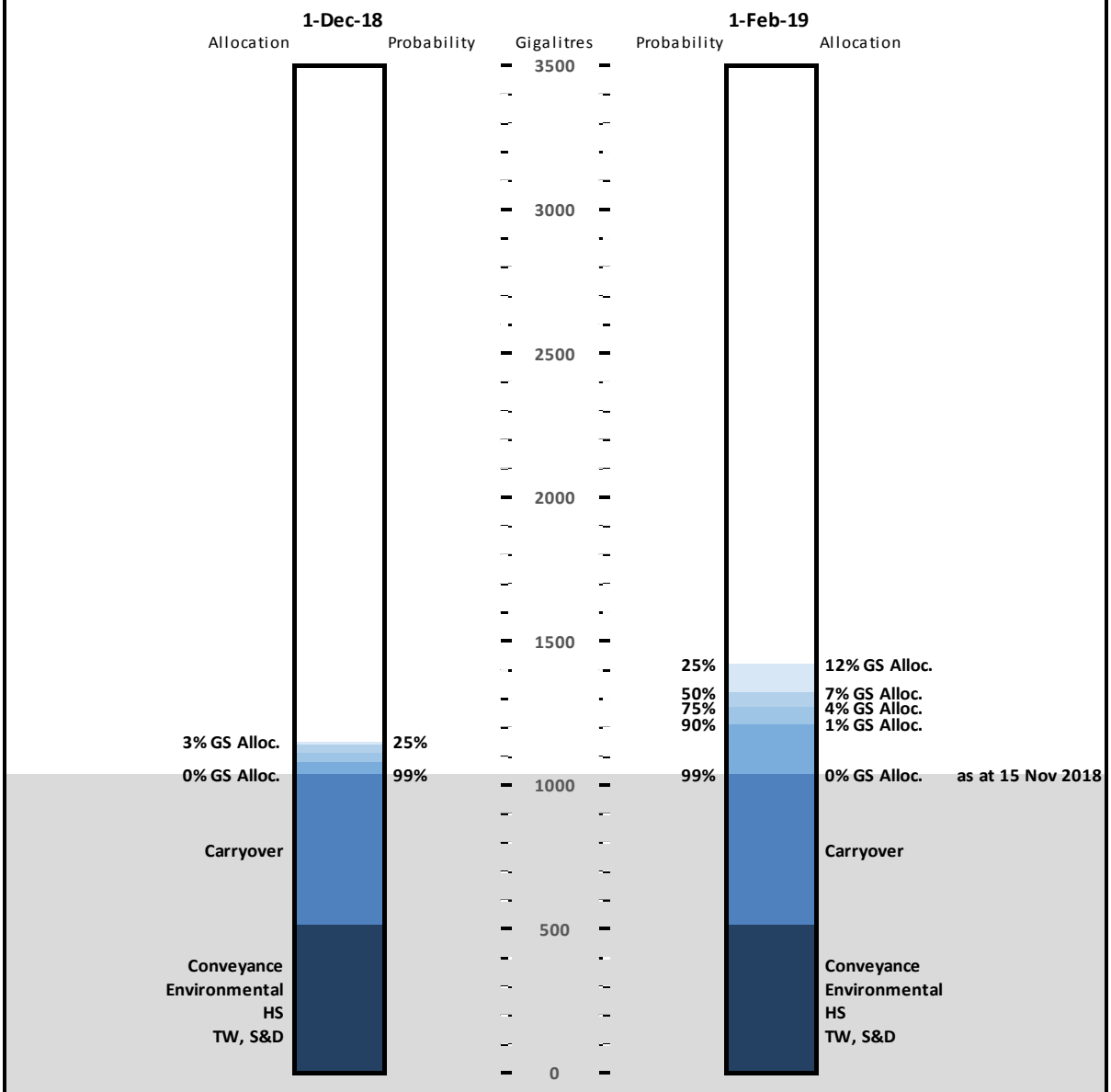
^ July to October 2018 conditions for the system as a whole have been tracking at 91% AEP.

^^ Conveyance estimated to be around 165 GL at 1 December 2018.

B-M Allowance remains borrowed for all scenarios.

NSW Murray Valley Outlook

as at 15 November 2018



This figure provides indicative improvements in general security allocations for two forecast snapshots, 1 December 2018 and 1 February 2019. The allocation improvements are indicative only, and do not constitute guaranteed allocations. As of 15 November 2018, General Security allocation is at 0 per cent, and under 99% inflow conditions, will remain the same for the rest of the water year.