

16 July 2018

NSW Murray and Lower Darling

Water allocation update and outlook

There has been **no increase** in NSW Murray regulated river water availability meaning there is no increase to allocations. June inflows have been low (in the lowest 10 percent of historical record) and dry conditions have persisted for most of this year. Rainfall was around average over the Upper Murray catchment in June, but yielded very little runoff following a hot and dry autumn.

This assessment is based on an average carryover estimate of about 31 per cent. A final carryover volume will be available at the end of July, after provisional account balances are finalised, though no great change is expected. Future inflows will accrue as a priority to conveyance and environmental commitments, and then to general security entitlements.

Allocations in the Lower Darling also remain unchanged. The Menindee Lakes system is at 12 per cent of full supply capacity (holding about 201,000 megalitres) and critically low.

	High Security	General Security	Average Carryover
Murray	97%	0%	31%^
Lower Darling	100%	0%	16%^

^ Estimated, as account processing has not been finalised.

Upper Murray storage levels (as at 13 July 2018)

- Dartmouth Dam is 89 per cent full – steady – currently at 3,433,000 megalitres (ML).
- Hume Dam is 46 per cent full – rising slowly – currently at 1,378,000 ML.

Climatic outlook

The Bureau of Meteorology outlook for August to October indicates likely dry conditions and temperatures most likely to be above average for the region.

The Bureau's climate models show that the El Nino-Southern Oscillation and Indian Ocean Dipole indicators are likely to remain neutral over the forecast period, but having a greater than usual chance of an El Nino event forming later in the year.

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 information about the current IVT account balance and status of trade.

Next announcements

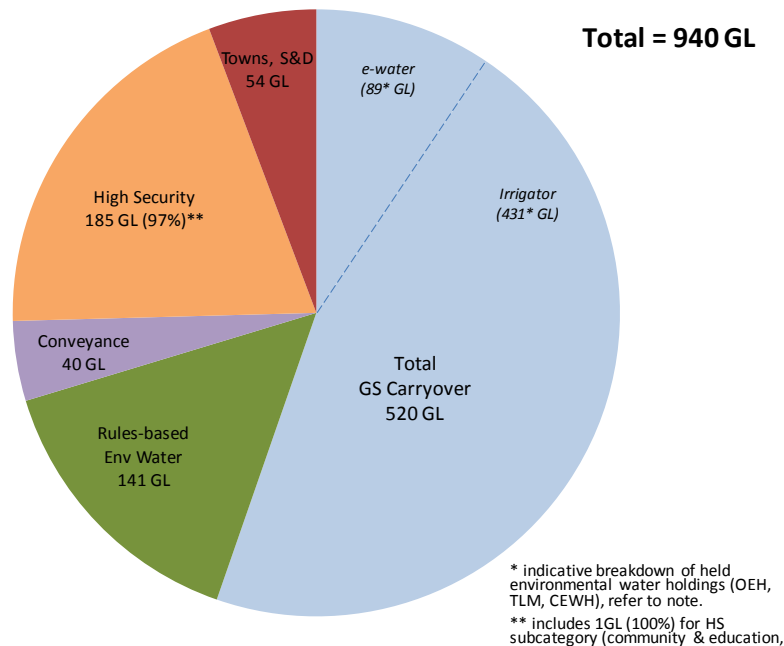
The next water allocation statement for the NSW Murray and Lower Darling valleys will be on **Wednesday 1 August 2018**.

The next updated probability analysis showing likely improvement in water availability under different inflow scenarios, including the rocket diagram, will be issued on Wednesday 15 August 2018.

NSW Murray Resource Assessment Data Sheet

Resource Distribution (16 July) for 2018-19	Volume (GL)
Total Available Resource ⁽¹⁾	940
less	
Carryover ^{(2), (7)}	520
Rules based Environmental Water ⁽³⁾	141
Towns, Stock, Domestic ⁽⁴⁾	54 (100%)
Announced High Security subcategory (education, research) ⁽⁴⁾	1 (100%)
Announced High Security ⁽⁴⁾	184 (97%)
Conveyance ⁽⁵⁾	40
Reserves ⁽⁶⁾	0
Announced General Security ⁽⁷⁾	0 (0%)

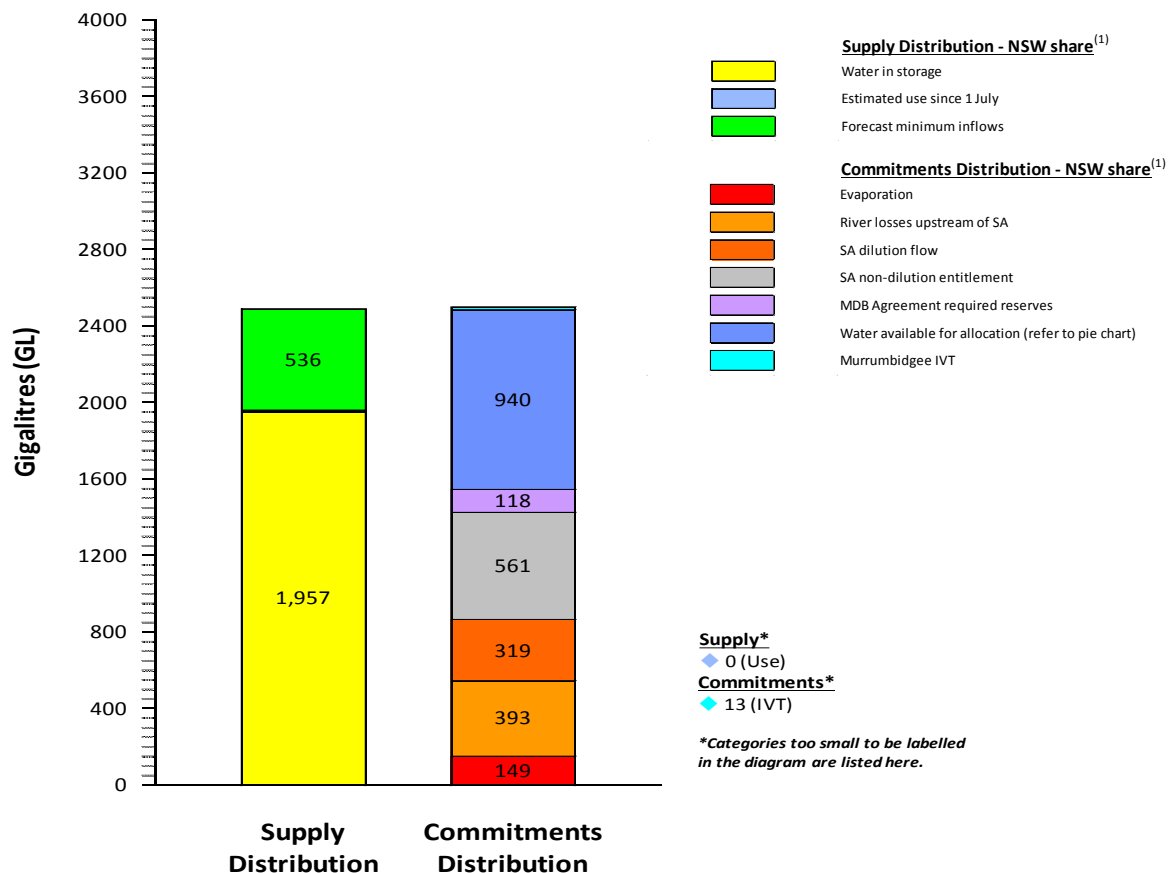
NSW Murray Resource Distribution 2018-19 – 16 July 2018



Resource Assessment 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 325 GL, and 200 GL of flex was pre-released in 2017-18.
- (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) (231 GL – currently 100% borrowed). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently about 95 GL available out of a total commitment of 131 GL). 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 licences 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; set aside for emergency purposes and critical needs.
- (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, 6 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.

NSW Murray Water Balance – 16 July 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 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.

NSW Murray Resource Assessment – Comparison with this time last year

Item	Mid Jul 2017 (GL)	Mid Jul 2018 (GL)	Comments
NSW share of total resources	1430	940	Significantly lower following a dry first half of 2018
less			
Carryover	710	520	Lower carryover
Environmental	76	141	Primarily due to RMIF
Towns, Stock, Domestic	54	54	Same
Conveyance	182	40	Lower due to lower resource
High Security	185	185	Same
General Security	217	0	Lower due to lower resource

Chances of improvement

The chances of improved inflows conditions and increased allocations are as follows:

Forecast General Security allocation (per cent)

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

Potential Inflow Conditions	1 Sept 2018 General Security Allocation	1 Nov 2018 General Security Allocation
99 chances in 100 (extreme) (99%)	0	0
9 chances in 10 (very dry) (90%) [^]	0 ^{^^}	4
3 chances in 4 (dry) (75%)	0	27
1 chance in 2 (mean) (50%)	11	43 ^{**}
1 chance in 4 (wet) (25%)	30 [*]	65 ^{**}

Storage behaviour modelling using data for all years and general security carryover of 31%.

[^] June conditions were 90% AEP.

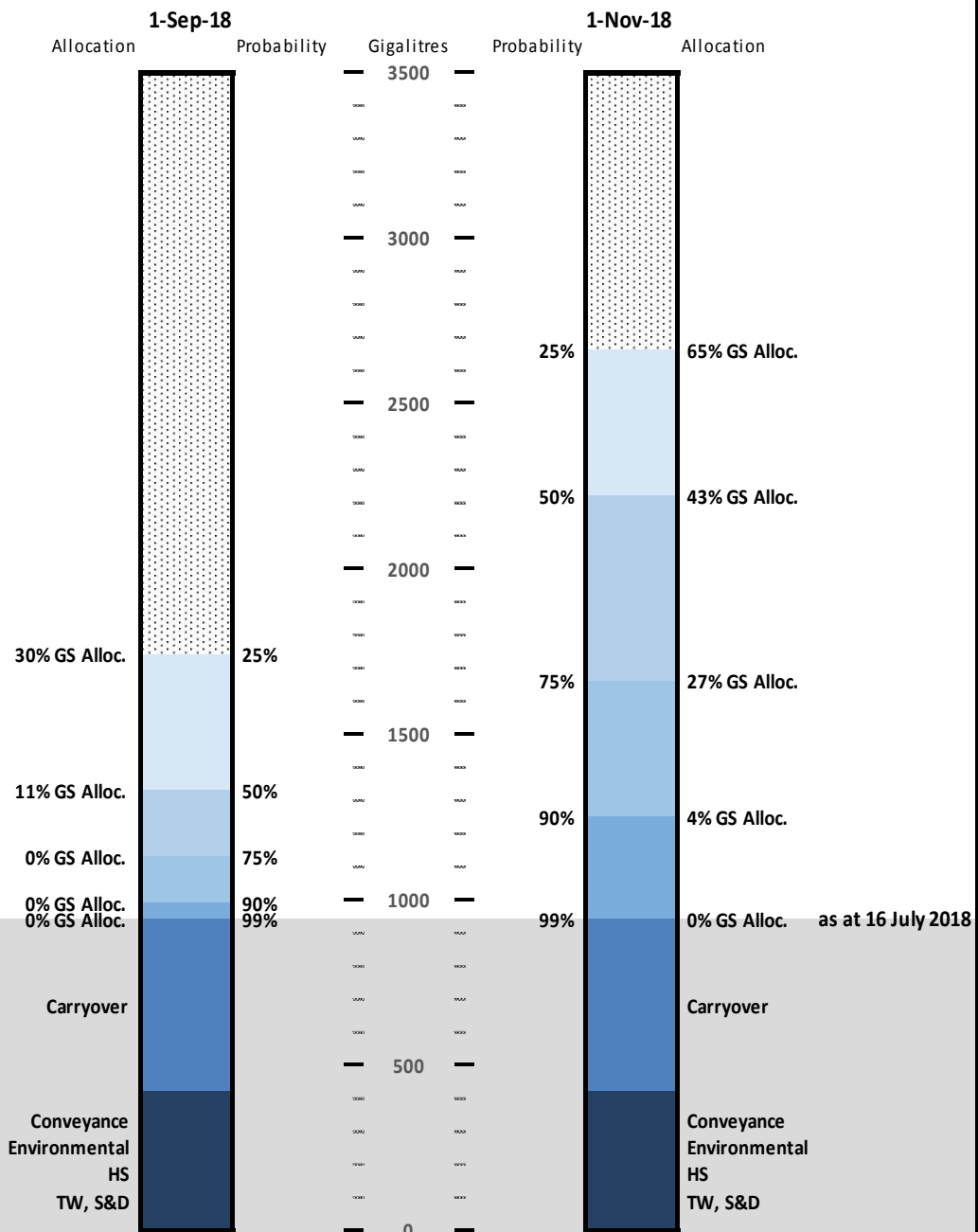
^{^^} Conveyance estimated to be at least 90 GL at 1 September 2018 in the very dry scenario (90%).

^{*} Borrow from B-M Allowance is partially repaid.

^{**} Borrow from B-M Allowance is fully repaid.

NSW Murray Valley Outlook

as at 16 July 2018



This figure provides indicative improvements in general security allocations for two forecast snapshots, the 1st of September 2018 and 1st of November 2018. The allocation improvements are indicative only, and do not constitute guaranteed allocations. As of 16 July 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.