

16 April 2018

NSW Murray and Lower Darling

Water allocation update and outlook

Allocations

There is **no increase** in NSW Murray regulated river general security allocation at this time.

The Murray system has experienced a very dry March with little inflow. Based on historical records, inflows have been in the lowest 4 per cent for this time of year.

This statement also provides an updated outlook for the start of the 2018-19 water year assuming very dry (95th percentile) conditions for the remainder of the year, as well as possible improvement in water availability in 2018-19 under a range of inflow scenarios.

	High Security	General Security	Average Carryover
Murray	97%	51%	44%
Lower Darling	100%	100%	

Upper Murray storage levels (as at 13 April 2018)

- Dartmouth Dam is 89 per cent full – falling slowly – holding 3,416,000 megalitres (ML).
- Hume Dam is 35 per cent full – falling – holding 1,062,000 megalitres (ML).

Climatic outlook

The Bureau of Meteorology’s seasonal outlook indicates that over May to July there is mostly an even chance of median rainfall conditions in the mid and lower Murray, with slightly better prospects in the upper Murray. Warm days and nights are likely in May, with warm nights likely to continue over the three months to July.

The El Niño–Southern Oscillation (ENSO) outlook remains neutral, and is expected to remain so through autumn and winter. The Indian Ocean Dipole (IOD) is also neutral, with the possibility of a negative IOD event from June. With mostly neutral climate drivers, there is no strong push towards overall wetter or drier conditions. However, the Bureau warns that ENSO and IOD climate model outlooks have low accuracy during autumn and hence should be viewed with caution.

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 caused by 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. Water users are encouraged to monitor the WaterNSW website (www.waternsw.com.au) for information about the Murrumbidgee inter-valley trade (IVT) account balance and status of trade and important end of season Murrumbidgee trade closure dates.

Next announcements

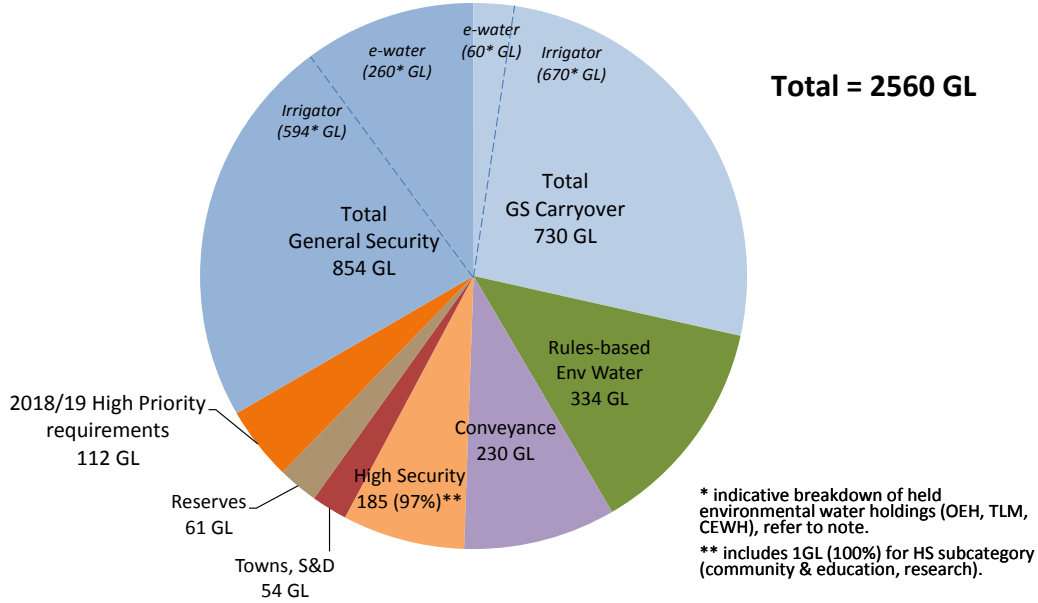
The next allocation update will be on **Tuesday 15 May 2018**. It will be the last update issued this water year and will also provide the latest estimates of expected opening (1 July) allocations and the likelihood of improvement under different inflow scenarios.

NSW Murray Resource Assessment Data Sheet

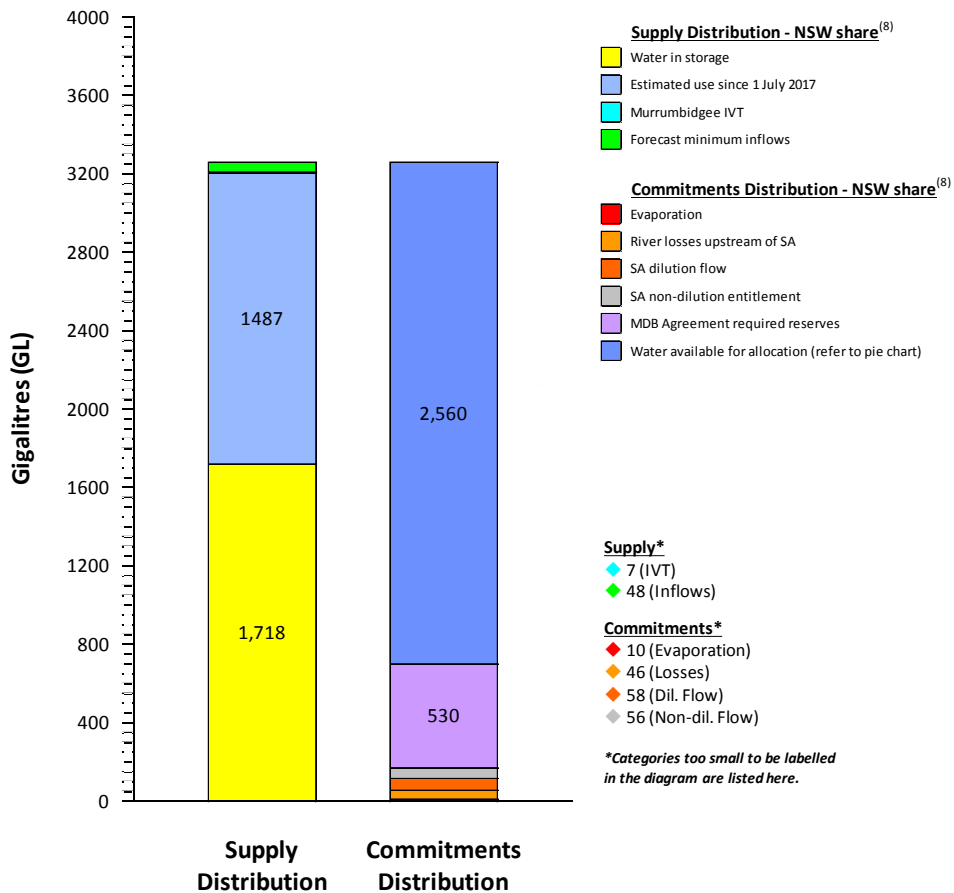
Resource Distribution (16 April) for 2017-18	Volume (GL)
Total Available Resource ⁽¹⁾	2,560
less	
Carryover ^{(2), (7)}	730
Rules based Environmental Water ⁽³⁾	334
Towns, Stock, Domestic ⁽⁴⁾	54 (100%)
Announced High Security subcategory (education, research) ⁽⁴⁾	1 (100%)
Announced High Security ⁽⁴⁾	184 (97%)
Conveyance ⁽⁵⁾	230
Reserves ⁽⁶⁾	61
Announced General Security ⁽⁷⁾	854 (51%)
2018/19 High Priority requirements commencing 1 July 2018 ⁽⁸⁾	112

*See notes below.

Resource Distribution 2017-18 NSW Murray - 16 April 2018



NSW Murray Water Balance – 16 April 2018



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 drought inflows for the rest of the year plus Snowy Hydro's assured Required Annual Release (RAR), as well as estimated usage to date.

- (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 doesn't 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), and the Barmah-Millewa Allowance (B-MA) (186 GL). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently about 72 GL). This commitment will increase as RMIF is released from the Snowy Scheme and decrease as it is released from Hume for use. Excludes 'licence-based' environmental water also called 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; set aside for emergency purposes and critical needs.
- (7) Held environmental water (HEW) – As a trial, reporting of held environmental water administered by environmental water holders is being 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 246 GL of GS, 24 GL of HS, 30 GL of conveyance allocation and 60 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) 2018/19 high priority needs on 1 July 2018 - at this time of year, it is necessary to look ahead to ensure there is sufficient resource set aside to meet high priority needs on 1 July 2018. This additional volume has been assessed as needed to guarantee 1 July commitments, including potential carryover. This value will change from month to month as estimates of end of year usage and carryover become more certain, and as weather conditions unfold in coming months.
- (9) Supply Distribution and Remaining Commitments – as a trial, 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 time of the assessment. 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).

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).

Estimated use since 1 July 2017: Estimated NSW usage to-date, reconciled periodically with hydrographic updates (meter readings).

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.

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

River losses upstream of SA: Water needed to account for losses from the River Murray 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 required as per Agreement.

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 outlook for 2018/19 – 16 April update

Key information

- This preliminary outlook for the likely 1 July 2018 water allocation is based on assumed very dry (95th percentile) inflows for the remainder of the water year – meaning that 95 years in 100 will provide more water than this outlook.
- The River Murray system has experienced very dry conditions this water year, with inflows for the year tracking around the 82nd percentile.
- Storage in Hume and Dartmouth dams combined is about 340,000 megalitres (ML) lower than this time last year.
- It is difficult to reliably predict end-of-year carryover, as it is highly dependent on many factors including weather conditions that drive individual commercial decisions by water users.
- At this stage, the forecast is based on an estimated carryover of up to 35 per cent (about 580,000 ML). Maximum general security carryover in the valley is 50 per cent of entitlement.
- Once the commencing allocations are announced on 1 July 2018, regular assessments will be undertaken and allocation announcements made fortnightly on the 1st and 15th of each month, or next working day following, until full allocations are achieved.
- As usual, the Barmah Choke trade balance will be re-set on 1 July and reflect the volume of annual Snowy Savings above the choke that will not need to be delivered downstream.
- The Menindee Lakes System (MLS) is currently holding about 250,000 ML (14 per cent capacity) and is being managed to meet local needs only. In the absence of significant inflows, surface water supplies will be managed adaptively to ensure that available water is prioritised for critical purposes.
- Water will be conserved in the most efficient storages of the Menindee system using earth works and pumping, to maximise water availability and minimise losses.
- This preliminary forecast of water availability for 2018-19 will be updated in mid-May, which will be the last announcement for this water year.

Indicative allocations on 1 July 2018 – Lower Darling

- In the absence of significant inflows the management focus in 2018/19 will be to preserve the longevity of water supply through next summer, and to ensure town water supply for Broken Hill while the Wentworth to Broken Hill pipeline project is completed.
- Full allocation can be expected on 1 July for towns, domestic, stock and high security water licences and access to carryover will be available.
- It is expected that opening general security allocation will be zero, but this will continue to be reviewed moving forward based on updated forecasts of inflows.
- In the event of low or no inflows to the Menindee system, there will be difficulty delivering resources in the latter part of 2018-19.
- In such dry conditions in the past, access to water has been regulated through statutory water restrictions, meaning that only those water-use purposes (like domestic, stock and town water supply) that meet exemption criteria will be allowed to pump and use raw water. This may not become necessary, but the need for such actions will be constantly reviewed during the year.
- WaterNSW is responsible for implementing drought contingency measures, in line with the drought operations planning provided in WaterNSW's Lower Darling Annual Operations Plan available on their website (www.waternsw.com.au). Such contingency measures will be undertaken in consultation with affected water users.

Indicative allocations on 1 July 2018 – NSW Murray

- Full allocation can be expected for towns, domestic and stock access licences, and sub-category high security entitlements.
- NSW Murray high security access licences will receive an allocation of 97 per cent of entitlement in accordance with the water sharing plan.
- Full allocations will be made for supplementary access licence holders. However, use of this entitlement is only available subject to announced periods of supplementary flow.
- It is likely that general security allocation will commence at zero (0) per cent of entitlement unless there is rainfall and storage improvement before the end of this water year.
- Full access to carryover water in private accounts will be available on 1 July 2018.
- Water will be set aside for environmental requirements in accordance with the rules of the NSW Murray and Lower Darling regulated rivers water sharing plan.
- Under the water sharing plan, the NSW share of the Barmah-Millewa Forest account water may be borrowed for allocations when general security is less than 30 per cent. This account will therefore likely be borrowed in 2018/19 as required.
- Conveyance water will be allocated in accordance with the water sharing plan.

Chances of improvement

The chances of improved general security allocation in the NSW Murray after 1 July 2018, based on different inflow conditions is provided in the following table under a variety of conditions.

Forecast General Security allocation (per cent) – assumes very dry inflows (95%) to 30 June 2018 [#]

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

Potential Inflow Conditions	1 Sept 2018	1 Nov 2018
99 chances in 100 (extreme) (99%)	0	0
9 chances in 10 (very dry) (90%)	0	12
3 chances in 4 (dry) (75%) [^]	6	30*
1 chance in 2 (mean) (50%)	14	42**

[^] Currently tracking in 2017/18 between the dry and very dry vicinity, at about 82th percentile, with March 2018 about 96th percentile.

[#] Multi-history modelling using all years

Assumes very dry (95%) inflows for the rest of the current 2017/18 water year and general security carryover for 2018/19 of 35%

* Commence pay-back of borrow from B-M Allowance.

** Borrow from B-M Allowance is fully repaid.