

15 January 2019

NSW Murray and Lower Darling

Water allocation update

Current allocations in the NSW Murray and Lower Darling regulated river water sources remain unchanged.

The minor resource improvement in the Murray since the last assessment has been required to build for high priority commitments, including critical human needs, in 2019/20.

The improvement came from some December rainfall plus a slight improvement in Snowy system resources.

System inflows over the last six months of this water year (July to December) have been tracking in the lowest nine percent of historical record. However, the NSW share of these system inflows has been even lower, with Victorian tributaries on average providing three times greater inflows this year than NSW tributaries.

At this time of year, resource improvements must first be used to secure next year's (2019/20) high priority commitments before further allocating to general security users.

NSW currently needs a relatively large event, boosting resources by over 200 GL, before allocation to general security entitlements this year is likely. Based on historical long term patterns, Murray system inflows are most likely in winter and spring however in reality, large flow events can occur at any time of year.

Conditions will continue to be monitored fortnightly and the resource availability updated. A preliminary outlook for water availability in 2019/20 (at 1 July 2019) will be provided in mid-February, and updated mid-month thereafter. However, given the considerable uncertainties and necessary assumptions about inflows and water user behaviours in coming months, the first forecast or two should be treated with caution. Reliability will be better from about April.

This water year has seen exceptionally hot and dry winter-spring conditions, resulting in the rare need for large bulk water transfers including some use of the more efficient channels of the Barmah Millewa forest. The alternative was to risk delivery shortfalls over summer and the need to transfer large volumes under hotter, drier summer conditions, thereby reducing water availability even further.

The bulk transfer transitioned to normal regulated water delivery, including environmental water delivery, in December 2018. A report is currently being prepared on River Murray operations through spring and summer to document storage volumes, water demands, system inflows and operational losses, and how this has impacted water allocations. The findings will be summarised in a subsequent water allocation statement.

Allocations in the **Lower Darling** remain unchanged. The Menindee Lakes system is critical; just 3.2 per cent full, holding 54,900 ML. Of this volume, about 17,400 ML is stored in Lake Wetherell, 25,100 ML in Lake Pamamaroo and 9,700 ML in Copi Hollow. Lake Menindee and Lake Cawndilla are dry, while the balance in Lake Tandure is inaccessible.

Additional information on Lower Darling drought contingency measures is provided in the Drought stage section below.

2018-19	High Security	General Security	Average Carryover	Drought Stage
Murray	97%	0%	31%	 Stage 1
Lower Darling	100%	0%	15%	 Stage 4

Drought stage

The NSW extreme events policy introduces a staged approach to managing extreme events, such as severe droughts or poor water quality events.

The **NSW Murray** regulated river water source is assessed to be in Stage 1, meaning it can deliver all account water under normal river operations. Although there is currently a shortfall in meeting next year's (2019/20) high priority commitments, recovery is highly likely through autumn and winter inflows.

The **Lower Darling** regulated river water source is assessed to be in Stage 4, as restrictions limit access to water for critical needs only.

A temporary water restriction took effect on 4 December 2018 which restricts use to town water supply, domestic use, stock watering, permanent plantings and some limited high security access to Copi Hollow. This restriction will remain until resources improve in the Menindee system. For further details on the reasons for the temporary restriction: <https://www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions>

More information on NSW's extreme events policy and related drought stages can be found at: www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/extreme-events

Murray storage levels (as at 14 January 2019)*

- Dartmouth Dam is 69 per cent full – falling – holding 2,671,000 megalitres (ML).
- Hume Dam is 36 per cent full – falling – holding 1,067,000 ML.
- Lake Victoria is 70 per cent full – falling – holding 476,000 ML.

* NSW share of this water is approximately 23%, 49% and 47% for these storages respectively.

State sharing of the Murray resource

The monthly end of December accounts indicate 4,550 GL of total Murray resource is available in the very dry (99 percentile) case, of which about 1,130 GL is needed to run the system and therefore 3,420 GL is distributed to NSW and Victoria based on rules in the Murray-Darling Basin Agreement.

The NSW share of this is about 1,160 GL from which commitments to South Australia's entitlement flow and trade adjustments are deducted to leave NSW with 1,120 GL of resource to distribute (99 percentile). This is an increase of 35 GL from the last assessment.

Climatic outlook

The Bureau of Meteorology seasonal outlook for January to March, issued on 20 December 2018, shows no clear indication of wetter or drier than average conditions for a majority of the catchment, however parts of the upper and mid-Murray are likely to experience drier than average conditions. Temperatures are very likely to be above average.

The Bureau's El Niño-Southern Oscillation (ENSO) Outlook remains at El Niño ALERT and a positive Indian Ocean Dipole (IOD) event, which was present late in 2018, has ended. Ocean surface temperatures have reduced to neutral ENSO levels but remain above average. Atmospheric ENSO indicators continue to remain neutral.

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 **Friday 1 February 2019**.

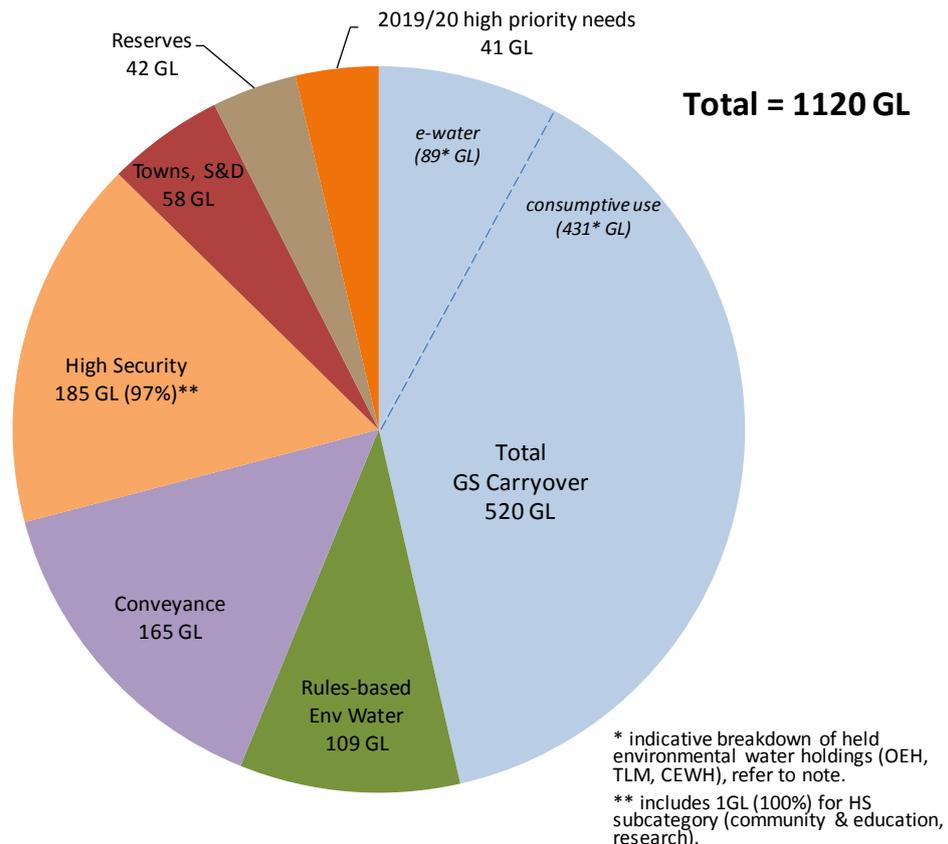
From mid-February, mid-monthly statements will provide indicative 1 July 2019 allocations as the new water year approaches. This aims to help water users with their end of year water management decisions – whether to use, trade or carryover their account balances.

NSW Murray resource assessment data sheet

Resource Distribution (15 January) for 2018-19	Volume (GL)
Total Available Resource ⁽¹⁾	1,120
less	
Carryover ^{(2), (7)}	520
Rules based Environmental Water ⁽³⁾	109
Towns, Stock, Domestic ⁽⁴⁾	58 (100%)
Announced High Security subcategory (education, research) ⁽⁴⁾	1 (100%)
Announced High Security ⁽⁴⁾	184 (97%)
Conveyance ⁽⁵⁾	165 (50%)
Reserves ⁽⁶⁾	42
Announced General Security ⁽⁷⁾	0 (0%)
2019/20 high priority needs ⁽⁸⁾	41

*See notes below.

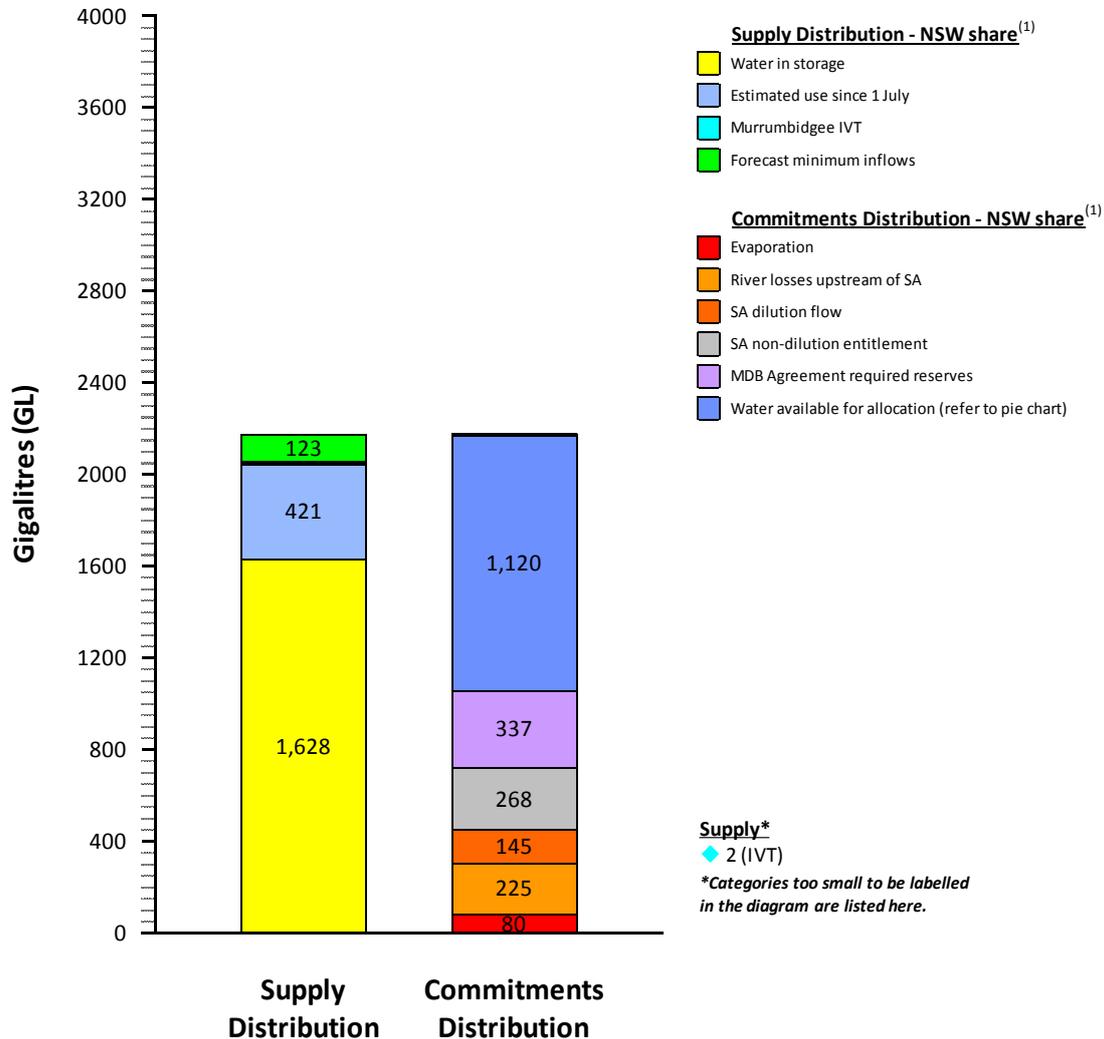
NSW Murray resource distribution 2018-19 – 15 January 2019



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 about 639GL, and 200GL 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 1,250GL 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 6GL), Wakool system requirements (up to 70GL, currently 40GL available), and the Barmah-Millewa Allowance (B-MA) (about 261GL – currently 100% borrowed). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently 63GL). 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, up to 61GL; 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 0GL of GS, 24GL of HS, 25GL of conveyance allocation and 89GL 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) 2019/20 high priority needs on 1 July 2019 - 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 2019, for 'Year 2', including potential carryover. This volume will be determined at each assessment and will change as estimates of end of year usage and carryover become more certain, and as weather conditions unfold in coming months.

NSW Murray water balance – 15 January 2019



Water balance notes:

- (1) Supply Distribution and Remaining Commitments – 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.

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. Allocation of this volume is provided in the above table and pie chart.