

15 March 2019

NSW Murray and Lower Darling

Water allocation update

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

Limited rainfall in February, combined with very dry catchment conditions, has resulted in inflows continuing to track well below average. Dry conditions have continued into March.

Despite these dry conditions, there has been a 45,000 megalitres (ML) improvement in the NSW share of Murray resources due to reconciliation of accounts, as well as a minor rainfall rejection event in the Murrumbidgee flowing to the NSW Murray.

This improvement has been set aside to meet 1 July 2019 high priority needs. By similarly assigning improvements through the remainder of the water year, it is likely that it will be possible to meet high priority commitments, including general security carryover in 2019-20. However, the situation is being closely monitored. An outlook for 2019-20 water availability is given below.

While the River Murray system as a whole has experienced inflow conditions of 91% Annual Exceedance Probability (AEP) this water year, the NSW Murray share of the system has tracked much drier at closer to 95% AEP. This disparity has been driven by high inflows from Victorian tributaries; around three times larger than NSW inflows. For context, this difference between 91% and 95% AEP equated to over 300,000 ML drier for NSW.

The Menindee Lakes system remains critically low at 1.4 per cent full, holding just 24,500 megalitres (ML). Remaining supplies are restricted to critical needs only. Information on Lower Darling drought contingency measures is provided in the Drought stage section below. The widespread cease-to-flow conditions combined with extreme summer weather continue to create significant water quality challenges.

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 in Stage 1 drought, meaning it can deliver all account water under normal river operations. Although next year's (2019-20) high priority

commitments are not yet fully assured, inflows to satisfy them would normally arrive over autumn and winter.

The **Lower Darling** regulated river water source is at maximum Stage 4 drought criticality, with restrictions limiting access to water for critical needs only. Drought measures include:

- A temporary water restriction that took effect on 4 December 2018, restricting use to town water supply, domestic use, stock watering, permanent plantings and some limited high security water from Copi Hollow.
- Water from Copi Hollow is being used to supply Broken Hill until the Wentworth to Broken Hill pipeline is fully commissioned in coming months.
- Releases from Weir 32 ceased in mid-February 2019.
- Access to water along the Lower Darling is from pools created by temporary banks.

The current intention is to retain the temporary water restriction until resources improve in the Menindee system. Follow this link for further details on the reasons for the temporary restriction: <https://www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions>

Operational updates on Lower Darling drought measures can be found in WaterNSW's state-wide weekly water availability reports at: <https://www.waternsw.com.au/supply/regional-nsw/availability>.

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 March 2019)*

- Dartmouth Dam is 63 per cent full – falling – holding 2,443,000 ML.
- Hume Dam is 24 per cent full – falling – holding 734,000 ML.
- Lake Victoria is 43 per cent full – falling – holding 289,000 ML.

* NSW share of this water is approximately 24%, 49% and 48% for these storages respectively.

State sharing of the Murray resource

The monthly end of January accounts indicate 3,410 GL of total Murray resource is available in the very dry (99 percentile) case, of which about 680 GL is needed to run the system and therefore 2,730 GL is distributed to NSW and Victoria based on rules in the Murray-Darling Basin Agreement. The assessment results in 1,160 GL for NSW to distribute.

Climatic outlook

The Bureau of Meteorology seasonal outlook for April to June shows conditions are likely to be dry and warmer than average in parts of the upper and mid Murray. The Bureau's ENSO Outlook is currently at El Niño WATCH, meaning there is a 50% chance of El Niño developing from autumn; this is double the normal chance.

For further details: www.bom.gov.au/climate/outlooks/#/overview/summary

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 and typically remains closed until the system recovers to above 640GL. Trade within the Lower Darling water source is allowed.

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, 1 April 2019**. It will be an abbreviated statement to confirm conditions and keep water users updated.

A water availability outlook for the start of next water year (1 July 2019) is reported in this Statement and will continue to be updated on a monthly basis until mid-May in the lead-up to the new water year.

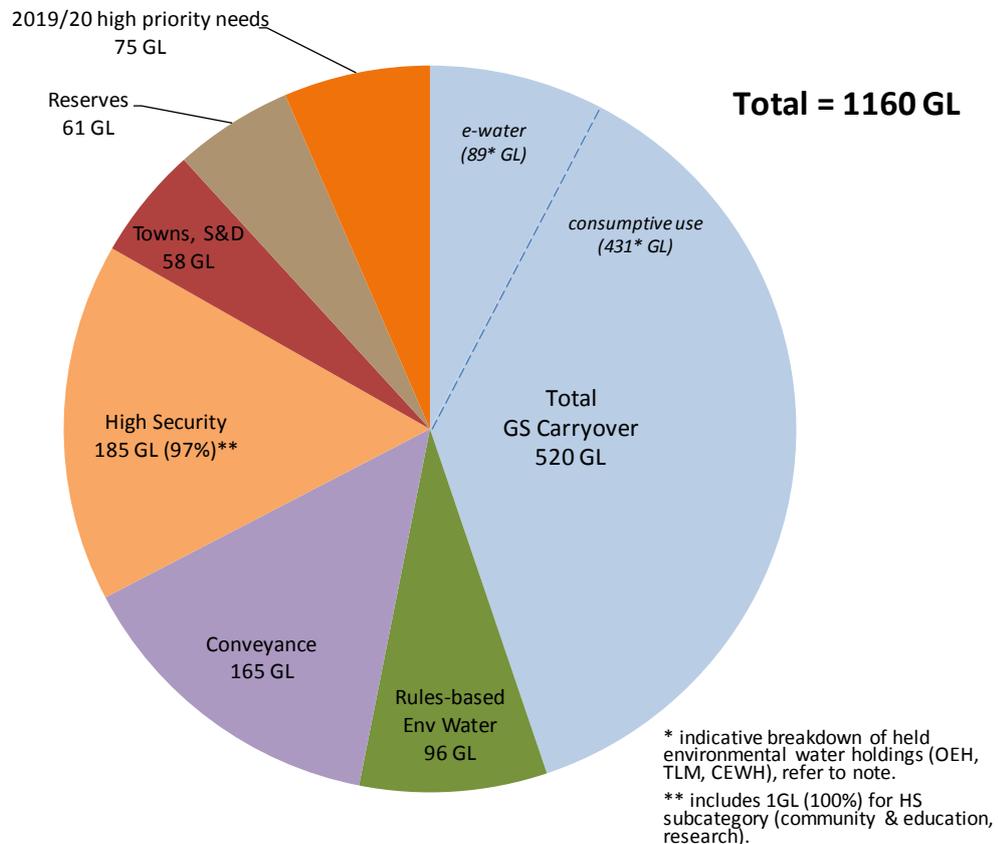
The reliability of the outlook is expected to improve as the forecast period reduces. Forecasts intend to help water users with their end of year water management decisions – whether to use, trade or carryover their account balances. However, forecast conditions are best estimates only and not guaranteed. They should be used with caution, particularly when they project many months ahead.

NSW Murray resource assessment data sheet

Resource Distribution (15 March) for 2018-19	Volume (GL)
Total Available Resource ⁽¹⁾	1,160
less	
Carryover ^{(2), (7)}	520
Rules based Environmental Water ⁽³⁾	96
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⁾	61
Announced General Security ⁽⁷⁾	0 (0%)
2019-20 high priority needs ⁽⁸⁾	75

*See notes below.

NSW Murray resource distribution 2018-19 – 15 March 2019



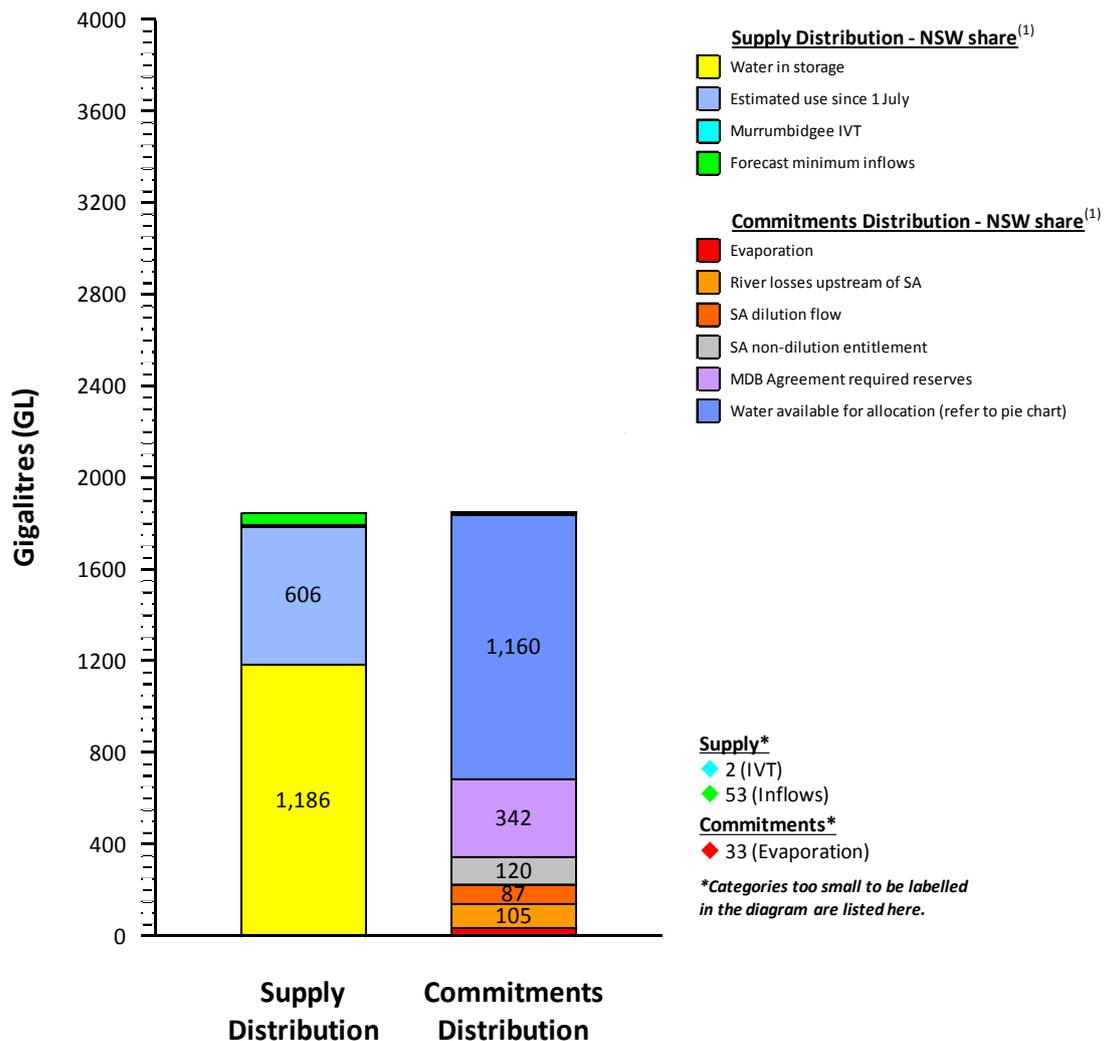
Data sheet notes

- (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 M1 releases to date for this water year (2018-19) is estimated to be about 791GL, 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 about 50GL). 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 March 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, and Murrumbidgee end of system flows).

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.

Preliminary Outlook for 2019-20

Key information

- This preliminary outlook is a repeat of the information provided in the 15 February 2019 statement.
- As the NSW caretaker period has commenced in the lead-up to the NSW election, additional detail on the preliminary outlook will be released after the caretaker period has ceased.
- This preliminary outlook for 1 July 2019 water availability is conservatively based on assumed very dry (90th percentile) inflow scenario for the remainder of the water year, and extreme dry (99th percentile) conditions for all of 2019-20.
- The forecast information is not guaranteed and should be used at one's own risk. It can be expected to become more reliable as the forecast period reduces.
- The River Murray system has experienced very dry conditions this water year, with inflows tracking around the 90th percentile for much of the year. However Victorian tributary inflows have been about three times greater by volume this year than NSW, meaning NSW inflows have tracked drier than the 90th percentile and Victorian inflows wetter.
- It is noted that Snowy Hydro's assessment of potential reduced inflow conditions across the scheme for 2019-20 is having a bearing on the Murray resource availability outlook.
- BoM's rainfall forecast indicates that over the next three months from April to June, warmer than average conditions are very likely, and drier conditions are likely for parts of the upper and mid Murray. Although very dry conditions are assumed to continue, heavy rainfall and significant inflows can occur at any time, and allocations will be promptly adjusted accordingly.
- It is difficult to reliably predict end-of-year carryover, as it is highly dependent on weather conditions over the next few months and individual decisions by water users.

- Storage in Hume and Dartmouth dams combined is about 1,700,000 megalitres (ML) lower than this time last year.
- 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.
- Once the commencing allocations are announced on 1 July 2019, 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.

Indicative allocations on 1 July 2019 – Lower Darling

- The Menindee Lakes System (MLS) is critically low, currently holding about 24,500 ML (1.4 per cent capacity) and is in the highest, Stage 4, drought criticality. In the absence of significant inflows, surface water supplies will be managed adaptively to ensure that any remaining available water is prioritised for critical purposes.
- Allocations will be made to ensure town, domestic, stock and high security access licences held by those allowed to take water, have enough account balance to ensure continued use of water while access to surface water supplies remain. However a full (100 per cent) allocation on 1 July is not assured.
- Opening general security allocation will be zero (0) per cent of entitlement in the Lower Darling unless there is significant recovery in the Menindee system. Carryover water will remain in accounts and trade within the Lower Darling water source will be allowed. Lower Darling inter-valley trade can resume once the system recovers above 640 GL.
- Current restrictions on water usage in the Lower Darling will remain in place until sufficient recovery of the Menindee Lakes system occurs.
- The Wentworth to Broken Hill pipeline is expected to be commissioned and fully supplying Broken Hill's water supply needs by the start of next water year. Therefore allocations for the licence will be governed by NSW Murray town water supply allocation.

Indicative allocations on 1 July 2019 – NSW Murray

- Full (100 per cent) allocation can be expected for towns, domestic and stock access licences, and sub-category high security entitlements.
- Full allocations for supplementary access licence holders, which is available subject to announced periods of supplementary flows.
- It is intended at this stage that high security (97 per cent) and carryover commitments will be met on 1 July and that general security allocations will be low or zero. An initial shortfall of water may impact Conveyance entitlements.
- In the unlikely event that critically low inflows are experienced into winter, there will be a significant shortfall challenge. Conditions are being closely monitored and more detail on potential management decisions about high security allocation shortfall and restricted access to carryover will be provided in outlook updates, if that scenario appears to firm.
- 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.
- Payback of the borrowed Barmah Millewa EWA volume will need to commence when general security allocations reach 30 percent of entitlement.