

16 March 2020

## NSW Murray and Lower Darling

### Water allocation update

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

Recent rainfall and cooler conditions have resulted in an increase in the NSW Murray resource of 50,000 megalitres (ML). Overall dry conditions continue to strain resources, therefore the system is being managed to maintain deliverability of all account water and support full opening allocations to high priority needs in 2020-21 as required by the statutory water sharing plan. On this basis, the resource improvement has been set aside for 2020-21 high priority needs (40,000 ML) and to close the current year's shortfall to Conveyance entitlement holders (10,000 ML). An outlook for 2020-21 opening allocations is provided further below.

Though good inflows prior to winter/spring are unlikely based on historical patterns, individual storms can bring heavy rainfall and good inflows at any time. Water users are encouraged to continue to plan for the worst and hope for the best. In the meantime, conditions will continue to be closely monitored and water allocation statements updated.

The Menindee Lakes system is still critically low, but now rising as northern basin inflows arrive. It is currently 2 per cent full, holding just 34,000 ML, but is expected to rise to at least 15 per cent full in coming weeks. The inflows arriving and forecast to follow are sufficient to re-start the Lower Darling. Preparations are underway to remove the four temporary block banks, design a safe release strategy, ease water restrictions and run the Lower Darling for at least 12 months, probably longer. Once the Lower Darling is flowing, the drought criticality level is likely to be eased.

2019-20	High Security	General Security	Average Carryover	Drought Stage
Murray	97%	0%	18%	 Stage 2
Lower Darling	30%	0%	19% (not available)	 Stage 4

### Drought stage

The **NSW Murray** regulated river water source is in Stage 2 drought criticality. Drought operational planning has commenced so that contingency measures can be readied to protect critical water supplies if conditions deteriorate beyond this year. A Critical Water Advisory Panel has been formed for southern valleys to provide advice on drought management options and will convene as conditions necessitate.

The **Lower Darling** regulated river water source is at maximum Stage 4 drought criticality. The level is being re-assessed and is likely to be eased as waters begin to accumulate in the system to underpin critical needs.

Follow this link for further details on the reasons for the temporary restriction:

[www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions](http://www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions)

Further information on critical valleys in drought can be found at:  
[www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/drought-update/critical-valleys-in-drought](http://www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/drought-update/critical-valleys-in-drought)

### Storage levels (as at 13 March 2020)\*

- Dartmouth Dam is 47 per cent full – steady – holding 1,800,000 ML.
- Hume Dam is 17 per cent full – steady – holding 500,000 ML.
- Lake Victoria is 39 per cent full – steady – holding 265,000 ML.

\* NSW share of this water is approximately 32%, 48% and 51% for these storages respectively, or 37% in total.

### State sharing of the Murray resource

The end of February accounts indicates that 2,430 gigalitres (GL) of total shared Murray resource is available in the extreme dry (99<sup>th</sup> percentile) case, of which about 680 GL is needed to run the system. The NSW portion of this shared resource is 780 GL based on rules in the Murray-Darling Basin Agreement. Following adjustments including trade, tributary inflows and usage to date, the assessment results in 1,070 GL of water being available for NSW to allocate.

### Climatic outlook

The Bureau of Meteorology seasonal outlook for April to June shows that there is an even chance that conditions will be wetter than average. Temperatures are likely to be average to warmer than average.

The Bureau indicates that the El Niño-Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD) are neutral and will remain neutral through to mid-year.

For further details: [www.bom.gov.au/climate/outlooks/#/overview/summary](http://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 address the physical constraint at the choke and protect existing downstream entitlement holders from an increased risk of delivery shortfall. Water users are encouraged to monitor the Murray-Darling Basin Authority (MDBA) website ([www.mdba.gov.au](http://www.mdba.gov.au)) for information about the trade balance and status of trade across the Barmah choke.

The Menindee Lakes system is effectively empty, however; now recovering with current inflows. Temporary trade with the Murray is closed and typically remains closed until the system recovers to hold more than 640 GL of water and becomes part of the shared Murray system. Trade within the Lower Darling water source is allowed and although there is currently no regulated water delivery this will change in coming weeks.

Trade **out and into** the Murrumbidgee Valley is open (as of 13 March 2020). Water users should monitor the WaterNSW website ([www.watarnsw.com.au](http://www.watarnsw.com.au)) for daily information about the IVT account balance and status of trade as there is only a small capacity for trade out of the valley. Trade **out** of the valley will close when the IVT balance increases to 100 GL.

### Next announcement

The next water allocation statement will be on **Wednesday 1 April 2020**. It will be an abbreviated statement to confirm conditions and keep water users updated. A more comprehensive statement will be issued on Wednesday 15 April 2020.

An indicative water availability outlook for the start of the next water year (1 July 2020) is reported in this statement. It is still early for certainty in the forecasts, however; they 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 will improve as the forecast period reduces.

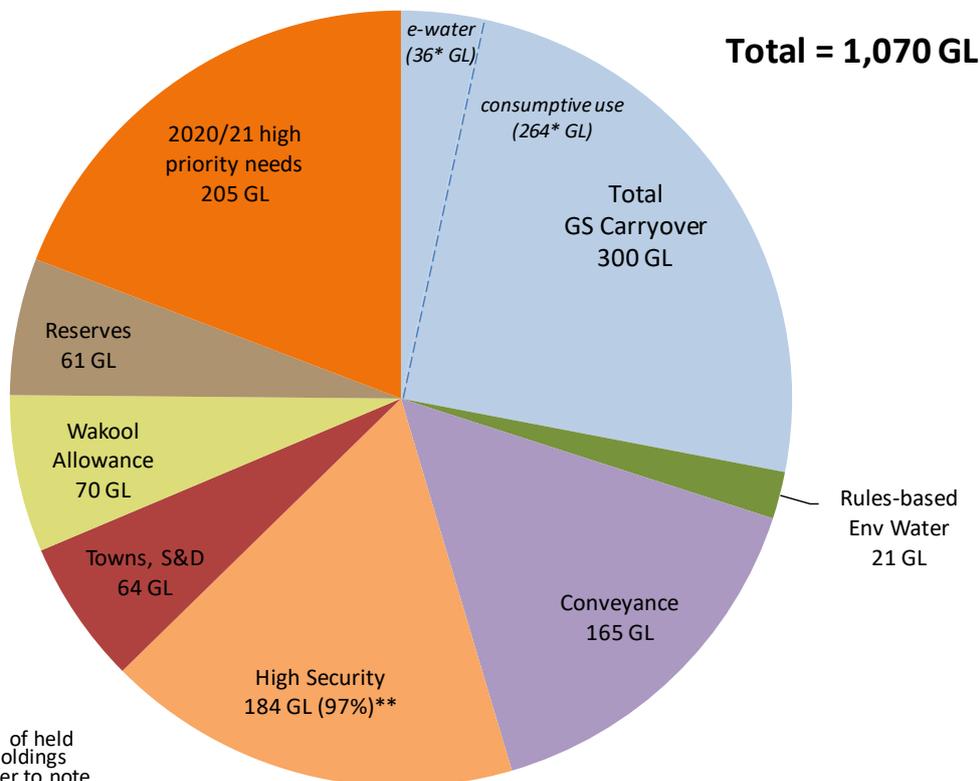
The availability outlook for next year aims to help water users with their end of year water management decisions. Forecast conditions are best estimates only and not guaranteed water availability. They should be used with caution, particularly when projecting many months ahead.

### NSW Murray resource assessment data sheet

Resource Distribution (16 March) for 2019-20	Volume (GL)
Total Available Resource <sup>(1)</sup>	1,070
<b>less</b>	
Carryover <sup>(2), (8)</sup>	300
Rules based Environmental Water <sup>(3)</sup>	21
Towns, Stock, Domestic <sup>(4)</sup>	64 (100%)
Announced High Security subcategory <sup>(4)</sup>	<1 (100%)
Announced High Security <sup>(4)</sup>	184 (97%)
Conveyance <sup>(5)</sup>	165 (50%)
Wakool Allowance <sup>(6)</sup>	70
Reserves <sup>(7)</sup>	61
Announced General Security <sup>(8)</sup>	0 (0%)
2020-21 high priority needs <sup>(9)</sup>	205

\*See notes below.

## NSW Murray resource distribution 2019-20 – 16 March 2020



\* indicative breakdown of held environmental water holdings (OEH, TLM, CEWH), refer to note  
 \*\* includes <1GL (100%) for HS subcategory

### 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 (2019-20) is estimated to be about 540GL. NSW is 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 forecasts indicate that NSW is 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 (PEW) – water required to be set aside to provide for riverine environments, as per water sharing plan and other inter-jurisdictional agreements. In the NSW Murray this includes the Murray Additional Allowance (MAA) (about 6GL) and the Barmah-Millewa Allowance (B-MA) (about 291GL – currently 100% borrowed). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently about 15GL). 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, 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". Drought critical

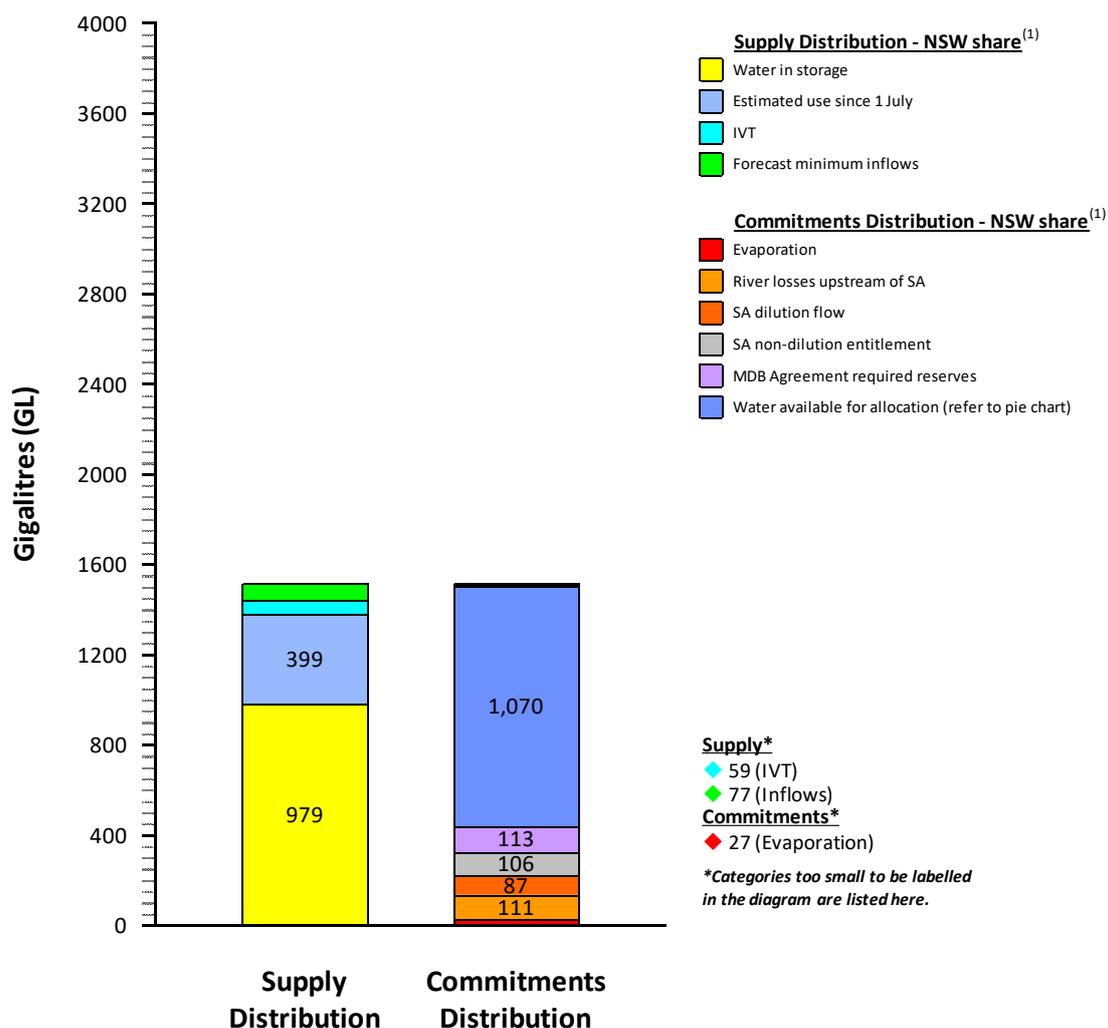
# Water Allocation Statement

Water availability and allocation update



- conveyance water allocated to small irrigation districts for running channels to supply high priority entitlements has been included in this category.
- (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) Wakool Allowance – a conveyance volume necessary for NSW to operate the Edward-Wakool system. Typically up to 70 GL.
  - (7) 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.
  - (8) 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 36GL 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.
  - (9) 2020-2021 high priority needs on 1 July 2020 - volume set aside to cover high priority needs on 1 July 2020, for 'Year 2', including potential carryover

## NSW Murray water balance – 16 March 2020



### 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).
  - IVT: Total tributary system water bought by Murray system users that is yet to be delivered.
  - 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.

## Outlook for 2020-21

### Key information

- This preliminary outlook for 1 July 2020 water availability is conservatively based on assumed very dry (95th percentile) inflows for the remainder of this water year and extreme dry (99th percentile) conditions for 2020-21. Indicative forecast General Security allocations for September and November 2020 under a range of possible inflow scenarios are provided to assist water users to plan ahead.
- For context, the NSW Murray has experienced about 95<sup>th</sup> percentile conditions this water year, that is, only five years out of each 100 years of historical record experience drier conditions.
- The forecast information is not guaranteed and should be used at one's own risk. It will be updated in the mid-monthly water allocation statements and will become more reliable as the forecast period reduces.
- Dry conditions across the Snowy Hydro scheme is having a bearing on the Murray resource availability outlook, with assessments indicating potential reduced inflow conditions.
- 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 in coming months and individual decisions by water users. Nevertheless, at this early stage, it is estimated that the NSW Murray carryover will be around 15 per cent (some 250 GL) on average. Maximum general security carryover in the valley is 50 per cent of entitlement.
- Storage in Hume and Dartmouth dams combined is about 900,000 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 below the choke that will not need to be delivered downstream.

- Once the commencing allocations are announced on 1 July 2020, regular assessments will be undertaken and allocation announcements made fortnightly on the 1<sup>st</sup> and 15<sup>th</sup> of each month, or next working day following, until full allocations are achieved.

### Indicative allocations on 1 July 2020 – Lower Darling

- The Menindee Lakes system is still critically low, but now rising as northern basin inflows arrive. It is currently 2 per cent full, holding just 34,000 ML, but expected to rise to at least 15 per cent full in coming weeks.
- The inflows arriving and forecast to follow are sufficient to re-start the Lower Darling river.
- Preparations are underway to remove the four temporary block banks, design a safe release strategy, ease water restrictions and run the Lower Darling for at least 12 months, probably longer. Once the Lower Darling is flowing, the drought criticality level is likely to be eased.
- Until the Menindee system recovers to over 640 GL, flows will be managed to prioritise water supply security to Lower Darling water users and ecosystems, ahead of delivery to the Murray.
- Full (100 per cent) allocation can be expected for towns, domestic and stock access licences, and high security entitlements in 2020-21.
- Full allocations for supplementary access licence holders can be expected and is available subject to announced periods of supplementary access.
- At this stage opening Lower Darling general security allocation is likely to be low or zero (0) per cent of entitlement unless there is significant further recovery in coming months.
- Carryover water is likely to be fully available.
- Lower Darling inter-valley trade can resume once the system recovers to above 640 GL.
- The Wentworth to Broken Hill pipeline is operational and supplying Broken Hill's water supply from the Murray. Therefore, allocations for the licence will be governed by NSW Murray town water supply allocation.

### Indicative allocations on 1 July 2020 – 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 can be expected and is available subject to announced periods of supplementary access.
- It is forecast that high security allocation of 97 per cent and carryover commitments will be met on 1 July and general security allocations will be low or zero. A shortfall may impact Conveyance entitlements and will be filled as a priority, similar to the current year.
- In the unlikely event that critically low inflows are experienced from now into winter, there may be a larger shortfall challenge on 1 July. In this case the shortfall will be applied to Conveyance entitlements and may also need to be shared across general security water and to a lesser extent high security entitlement, in accordance with *Water Management Act 2000* priorities.
- While no significant shortfall is forecast at this stage and remains unlikely, a detailed calculation of the sharing of shortfalls will be provided should one start to firm.
- Water can be expected to 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 NSW share of the Barmah Millewa EWA, some 290 GL, will need to commence when general security allocations reach 30 per cent of entitlement.

### Chances of improvement

The chances of improved general security allocations after 1 July 2020, based on a repeat of historical inflows, are provided in the following table under a variety of conditions. The forecast is based on all available historical data, which gives a better outlook than using just the driest years on record (dry tercile).

Historically, droughts have a higher likelihood of breaking in the winter/spring seasons than any other season and therefore, there is a possibility that the current drought may break or ease in the coming months. However, if this does not occur, the forecasting will change from using all available data to using the driest third of all years (dry tercile) early in 2020-21. Limited improvements forecast in resources in the dry cases are likely to be prioritised to meet any shortfalls that may exist on 1 July 2020 and to support high priority needs in 2021-22.

It is important to note that these estimates are indicative improvements only and are not guaranteed allocations. Estimates may change based on weather variability, water management decisions and other events. This means water users should use this information with caution and at their own risk, as it projects many months ahead.

### Forecast General Security allocations (per cent)

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

Repeat of historical inflow conditions	1 Sep 2020	1 Nov 2020
99 chances in 100 (extreme) (99%)#	0	0
9 chances in 10 (very dry) (90%)	0	0
3 chances in 4 (dry) (75%)	0	5
1 chance in 2 (mean) (50%)	0	25

Note 1: Estimated values indicative only, not guaranteed and subject to change based on actual events unfolding.

Note 2: Statistical values reflect NSW share of inflows, not whole of system inflows.

Note 3: Forecast assumes 15 per cent general security carryover and 95 percentile conditions for the remainder of 2019/20.

# Extreme dry baseline additionally includes Murrumbidgee end of system flows.

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