

17 May 2021

NSW Murray and Lower Darling

Water allocation update

There is **no increase to general security allocations in the NSW Murray regulated river water source**. Total general security allocation in the NSW Murray remains at 50% of entitlement.

All **Lower Darling** regulated river entitlements, including **general security**, have reached their maximum allocation (100%) for this (2020/21) water year.

Inflows into the Menindee Lakes system has pushed total storage above 640,000 megalitres (ML), meaning the lakes have been administratively connected to the Murray. As a result, resources for the NSW Murray have increased by some 320,000 ML. This improvement has been used to fully payback the Barmah Millewa Environmental Water Allowance (BMEWA), in accordance with the water sharing plan. Additionally, reserves to assure high priority needs for 2021/22 have been increased by 121,000 ML.

While NSW Murray resources have increased in this assessment by 320,000 ML, it has only translated to a forecast resource improvement of around 80,000 ML for next year (2021/22) due to the sharing arrangements under the Murray-Darling Basin Agreement including a full year's operational budget for both the Murray and Menindee systems. By bolstering second year reserves with part of the current improvement, NSW can reduce the risk of a shortfall on 1 July 2021. An outlook for general security allocations under various inflow scenarios is included in this statement.

The BMEWA account balance will be re-borrowed on 1 July to underpin water allocations, however, if the forest does not receive a natural watering (flood) by October, BMEWA account will likely be needed for forest survival, being the fifth consecutive year that water has been borrowed.

This is the last statement to be published for 2020/21. An opening allocations announcement will be made on 1 July 2021, with regular fortnightly statements commencing on 15 July 2021.

2020-21	High Security	General Security	Average Carryover	Drought Stage
Murray	97%	50%	21%	 Stage 1
Lower Darling	100%	100%#	48%	 Stage 1

Availability of allocation on individual licences is subject to account limits as per the rules in the Water Sharing Plan

Murray storage levels (as at 14 May 2021)*

- Dartmouth Dam is 64% full – steady – holding 2,450,000 ML.
- Hume Dam is 43% full – rising – holding 1,285,000 ML.
- Lake Victoria is 34% full – rising – holding 230,000 ML.

* The NSW share of this water is approximately 37%, 47% and 47% for these storages respectively, or 41% in total.

State sharing of the Murray resource

The bulk accounts assessment indicates that 3,870 gigalitres (GL) of total shared Murray resource is available in the extreme dry (99th percentile) case, of which about 350 GL is needed to run the

system (incorporating South Australia's 'operational' (dilution and loss) entitlement and any shared resource which cannot be regulated). The NSW portion of the regulated shared resource is 1,710 GL based on rules in the Murray-Darling Basin Agreement. Following adjustments including South Australia's non-dilution entitlement, trade, tributary inflows and usage to date, the assessment results in a volume of **Murray resource for NSW to allocate of 2,310 GL**.

The bulk resource assessed by MDBA includes supplementary and uncontrolled flow diversion in the NSW usage. Therefore the 2,430 GL assessed share of Murray resource must be reduced by 120 GL to 2,310 GL to account for water used from unregulated water sources. Note, the unregulated water usage does not adversely impact regulated allocations.

NSW is looking to collate publicly available resource information from other Murray jurisdictions and present it in future statements to assist NSW water users.

Menindee

The Menindee Lakes system is currently 44% full, holding around 760,000 ML, and rising. Strong inflows are currently accruing in the system and since total storage has increased above 640,000 ML, the system has been administratively connected to the Murray as per the Murray-Darling Basin Agreement. The Menindee system will then remain a shared Murray resource until it next falls below 480,000 ML.

This resource improvement has allowed full allocation to all Lower Darling regulated river water entitlements, without risk to the security of high priority commitments next year. The total expected inflows this water year are forecast to exceed about 800,000 ML.

Climatic outlook

The Bureau of Meteorology's seasonal outlook for June to August indicates that rainfall is likely to be above average across the catchment. Daytime and overnight temperatures are likely to be average to warmer than average.

The Bureau's ENSO indicator has returned to inactive, with the El Niño–Southern Oscillation thresholds in a neutral phase. Other major climate indicators are also neutral. Models indicate that negative Indian Ocean Dipole conditions may develop in winter, which may increase the chances of above average rainfall in winter-spring.

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. There is no plan to change this long-standing trade arrangement despite challenges to river operations. Water users are advised to monitor the Murray-Darling Basin Authority (MDBA) website (www.mdba.gov.au) for information about the trade balance and status of trade across the Barmah choke.

Temporary trade between the Lower Darling and the Murray is now open and will likely remain open until the system next falls below 480 GL. Trade within the Lower Darling regulated river water source remains open.

The normal operating range for the Murrumbidgee IVT account is between 0 GL and 100 GL. Trade **out** and **into** the Murrumbidgee valley is **open** (as of 14 May 2021).

Water users should monitor the WaterNSW website (www.waternsw.com.au) for daily information about the IVT account balance, the status of trade, and end of year trade closure dates. The IVT account balance at the end of the water year carries forward into the new water year.

Next announcements

This is the final water allocation statement for the 2020/21 water year. Opening water allocations will be made on Thursday 1 July 2021 for the 2021/22 water year. Regular fortnightly statements will commence on Thursday 15 July 2021.

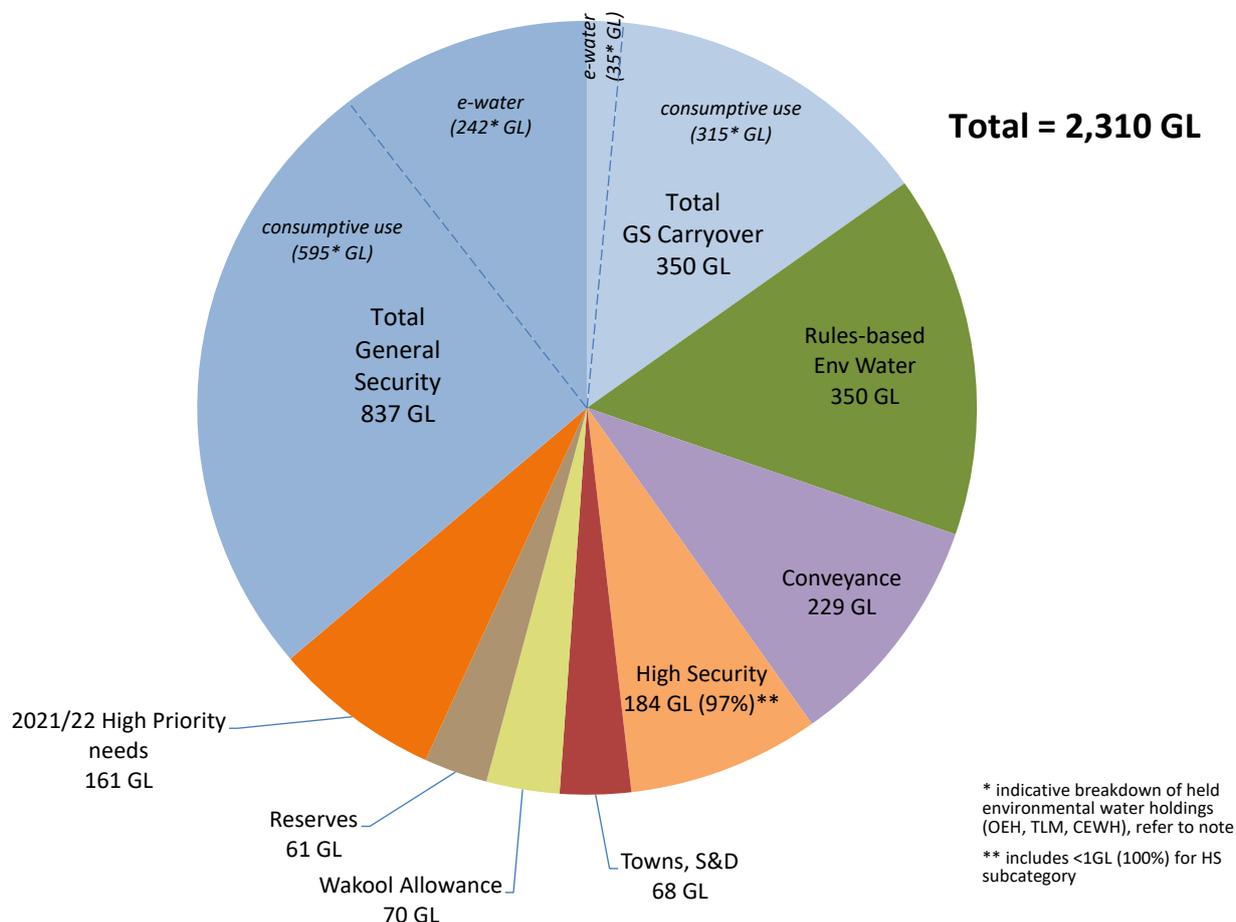
NSW Murray resource assessment data sheet

Resource Distribution* (17 May) for 2020-21	Volume (GL)
Total Available Resource ⁽¹⁾	2,310 [#]
less	
Carryover ^{(2), (8)}	350
Rules based Environmental Water ⁽³⁾	350
Towns, Stock, Domestic ⁽⁴⁾	68 (100%)
Announced High Security subcategory ⁽⁴⁾	<1 (100%)
Announced High Security ⁽⁴⁾	184 (97%)
Conveyance ⁽⁵⁾	229 (69%)
Wakool Allowance ⁽⁶⁾	70
Reserves ⁽⁷⁾	61
Announced General Security ⁽⁸⁾	837 (50%)
Year 2 (2021-22) high priority needs ⁽⁹⁾	161

*See notes below

[#]Resource adjusted by supplementary and uncontrolled flow usage (refer above to State sharing of the Murray resource)

NSW Murray resource distribution 2020-21 – 17 May 2021

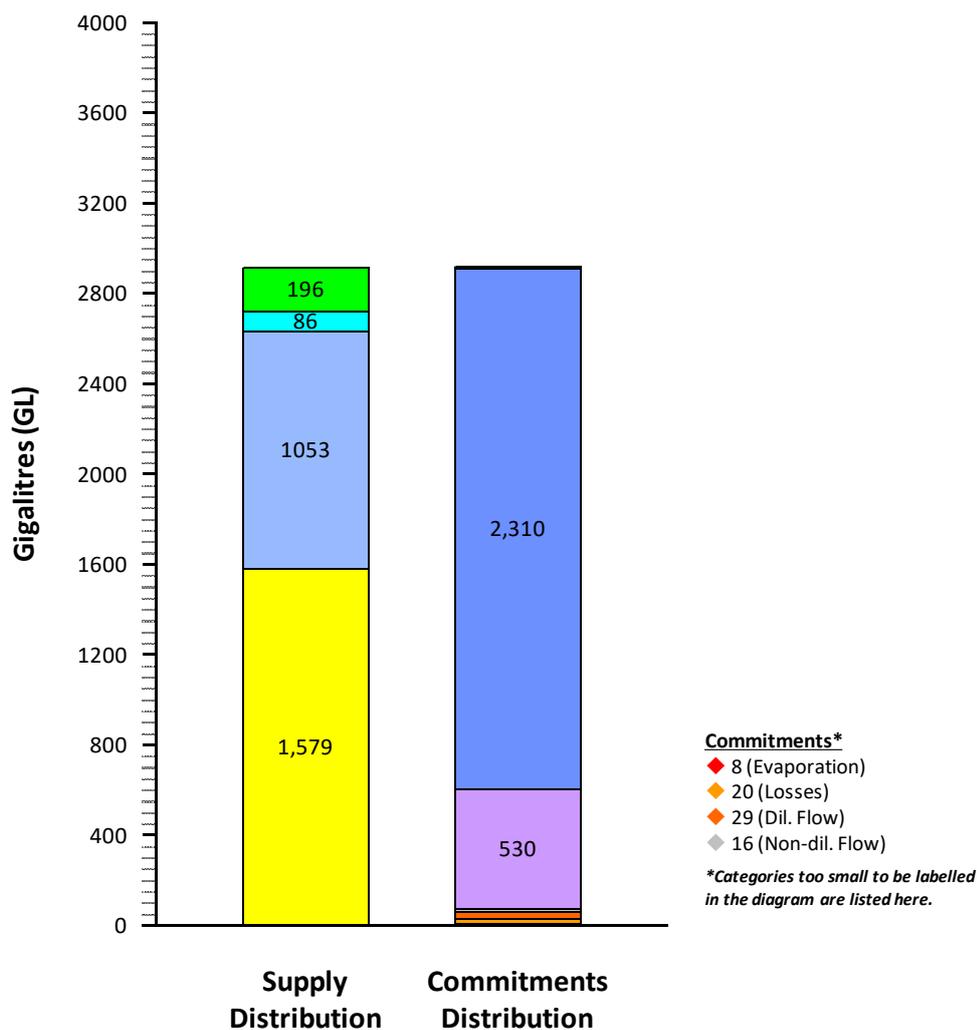


Data sheet notes

- (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 (2020-21) is estimated to be about 880 GL. NSW has moved out of Special Accounting with South Australia (SA). The details of Special Accounting can be found in the MDB Agreement clauses 123-129. Special Accounting is triggered when forecasts indicate that NSW will have an end of year reserve of less than 1,250 GL.
- (2) Carryover – NSW Murray General Security water users can carryover a maximum account balance of 50% of their entitlement into the following water year. The account limit is 110% 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 the 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 344GL – currently fully paid back). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently 0GL). 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 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". Drought critical

- conveyance water allocated under Special Purpose Access Licences (SPAL) to small irrigation districts for running channels to supply high priority entitlements has been included in this category, totalling about 6GL.
- (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 242 GL of GS, 24 GL of HS, 35 GL of conveyance allocation and 35 GL of GS carryover. These entitlements are held and/or managed either singly or jointly by various environmental holder groups, including the NSW Department of Planning, Industry and Environment (DPIE), The Living Murray (TLM) and the Commonwealth Environmental Water Holder (CEWH). Details on environmental holdings can be found on individual agency websites.
 - (9) 2021-2022 high priority needs on 1 July 2021 - volume set aside to cover high priority needs on 1 July 2021, for 'Year 2', including potential carryover.

NSW Murray water balance – 17 May 2021



Water balance notes:

- (1) Supply and Commitments Distribution – 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. Generally 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 2021-22

Key information

- This outlook for 1 July 2021 water availability is conservatively based on assumed dry inflows for the remainder of this water year and extreme dry (99th percentile) conditions for 2021-22. Indicative forecast general security allocations for September and November 2021 under a range of possible inflow scenarios are provided to assist water users to plan ahead.
- For context, NSW Murray has experienced dry (about 75th percentile) conditions this water year. That is, based on long term inflow statistics, about 75 out of a 100 years would generally experience conditions that are wetter than those experienced this year. This is not necessarily indicative of conditions that may be experienced in the near future.
- The forecast information is not guaranteed and should be used at one's own risk.
- Although dry conditions are assumed to continue, heavy rainfall and significant inflows can occur at any time, and forecasts will be adjusted accordingly.
- It is difficult to reliably predict end-of-year carryover, however, it is estimated that the NSW Murray general security carryover will be around 39% (some 650 GL) on average. Maximum general security carryover in the valley is 50% of entitlement.
- 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 2021, regular assessments will be undertaken and allocation announcements made fortnightly on the 1st and 15th of each month, or the following working day, until full allocations are achieved.

Indicative allocations on 1 July 2021 – Lower Darling

- The Menindee Lakes system has been accruing flows from the Barwon-Darling system. It is currently 44% full, holding about 760,000 ML.
- The Menindee resource became shared with other States last week when the system reached 640,000 ML. Therefore, it has now been administratively connected with the Murray and will remain so until it next falls below 480,000 ML.
- Once the storage drops below 480,000 ML, the resources will be managed to provide water supply security to Lower Darling water users and ecosystems.
- Full (100%) allocation can be expected for **towns, domestic** and **stock** access licences, and **high security** entitlements in 2021/22.
- Full allocations for **supplementary** access licence holders can be expected and is available subject to announced periods of supplementary access.
- Based on forecast inflows, **general security** may receive a full (100%) opening allocation.
- **Carryover** water is likely to be fully available at the commencement of the water year.
- Lower Darling inter-valley **trade** is open and will remain open until the system is administratively disconnected from the Murray.

Indicative allocations on 1 July 2021 – NSW Murray

- Full (100%) 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% is likely to be available.
- **Conveyance** allocation will likely be available in accordance with the water sharing plan.
- It is likely that full **general security carryover** commitments will be met on 1 July, however commencing **general security allocations** will likely be low.
- 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.
- The low flows downstream of Yarrowonga over the past four years means that borrowing of the Barmah Millewa EWA in the fifth year is not automatically triggered. Rather a borrow and accelerated payback arrangement is under consideration to ensure that water is available for a forest watering in October, being mindful too that many water users must decide by October their water management strategy for the year.

Chances of improvement

The chances of improved general security allocations after 1 July 2021, 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).

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 (%)

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

Repeat of historical inflow conditions	1 Sep 2021	1 Nov 2021
99 chances in 100 (extreme) (99%)	0	0
9 chances in 10 (very dry) (90%)	1	6
3 chances in 4 (dry) (75%)	5	15
1 chance in 2 (mean) (50%)	9	28

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 39% general security carryover.

Note 4: Forecast incorporates Murrumbidgee regulated end of system flows.

Note 5: Assumes BMA payback is commensurate with GS allocations. This is a preliminary conservative assumption for forecasting purposes and may for the better depending on the final BMA payback regime in 2021-22.

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