

15 May 2020

NSW Murray and Lower Darling

Water allocation update

Allocations to **general security entitlement** have increased by 3 per cent in the NSW Murray regulated valley. There has been a commensurate increase in Conveyance allocation in accordance with the water sharing plan. Allocations in the **Lower Darling remain unchanged**.

This is the first general security allocation in the NSW Murray since March 2018.

Rainfall in late April has resulted in an increased resource of 170,000 megalitres (ML) for the NSW Murray. This increase means it is now highly likely that all high priority products will receive a full allocation on 1 July for the 2020/21 water year, erasing the deficits of recent years caused by the lack of inflow. While general security allocations on 1 July may commence low or zero, improvements thereafter are far more likely than in recent years. The current general security allocation can be carried forward in accounts and will be fully deliverable in 2020/21.

This statement provides an updated outlook for the 2020/21 water year further below.

The Menindee Lakes system continues to improve from the arrival of northern basin inflows. It is currently 23 per cent full, holding around 405,000 ML. It is expected to continue to slowly rise in coming weeks as water drains from the upper Basin. The Lower Darling has been successfully re-started and safely reconnected to the Murray. Normal regulated river operations have resumed.

Lower Darling general security entitlements received a 30 per cent allocation in the previous assessment. Inflows currently arriving into the lakes have already been factored into that earlier announcement. Conditions are being closely monitored and further improvements will be allocated when they accrue.

Despite some welcome relief, caution is advised. Businesses and landholders affected by the severe water shortage should continue with their prudent water saving behaviours.

2019-20	High Security	General Security	Average Carryover	Drought Stage
Murray	97%	3%	18%	 Stage 2
Lower Darling	100%	30%	19%	 Stage 2

Drought stage

The **NSW Murray** regulated river water source is in Stage 2 drought criticality. Drought operational measures are at the ready to protect critical water supplies if conditions deteriorate into the future.

The **Lower Darling** regulated river water source is also in Stage 2 drought criticality. Resource conditions are being closely monitored, with the priority on ensuring longevity of supply in the Lower Darling for critical human and high priority needs.

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

Storage levels (as at 14 May 2020)*

- Dartmouth Dam is 50 per cent full rising – holding 1,920,000 ML.
- Hume Dam is 20 per cent full rising – holding 615,000 ML.
- Lake Victoria is 42 per cent full – steady – holding 285,000 ML.

* NSW share of this water is approximately 32%, 50% and 47% for these storages respectively, or 36% in total.

State sharing of the Murray resource

The end of April accounts indicates that 2,320 gigalitres (GL) of total shared Murray resource is available in the extreme dry (99th percentile) case, of which about 330 GL is needed to run the system. The NSW portion of this shared resource is 950 GL based on rules in the Murray-Darling Basin Agreement. Following adjustments including trade, tributary inflows and usage to date, the assessment results in 1,340 GL of water being available for NSW to allocate.

Climatic outlook

The Bureau of Meteorology's seasonal outlook for June to August indicates that conditions are likely to be wetter than average across the catchment. 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. Negative IOD and La Niña conditions may develop over winter and 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. 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) for information about the trade balance and status of trade across the Barmah choke. As usual, on 1 July 2020, the trade capacity will be reset to a small positive number that reflects the volume of annual Snowy Savings that will not need to be delivered downstream through the choke.

Temporary trade between the Lower Darling and the Murray is closed and typically remains closed until the system recovers to hold more than 640 GL of water, and the Menindee Lakes become part of the shared Murray system. Trade within the Lower Darling water source is allowed.

Trade **out and into** the Murrumbidgee valley is **open** (as of 14 April 2020) with a small IVT balance of 0.9 GL. Water users should monitor the WaterNSW website (www.waternsw.com.au) for daily information about the IVT account balance, status of trade and seasonal trade closures.

Next announcement

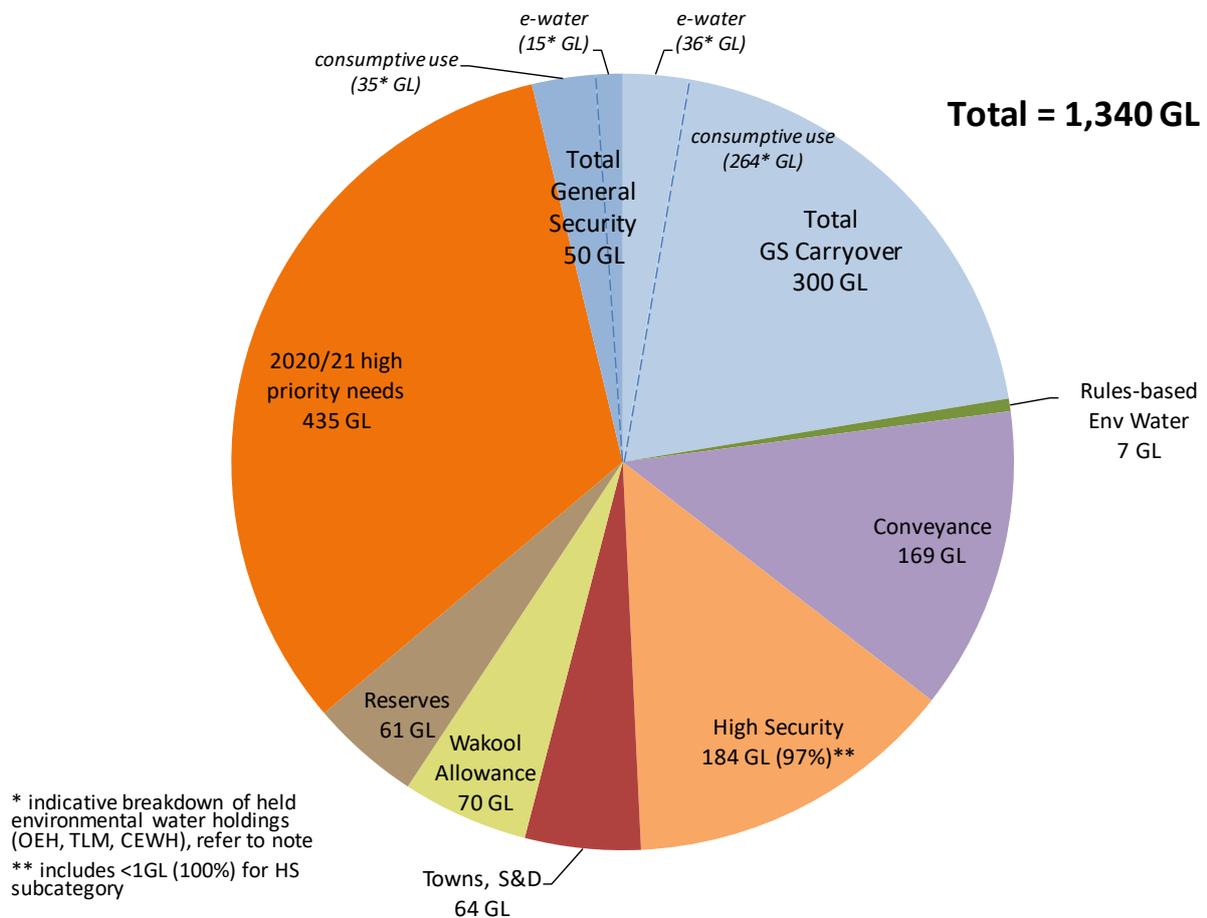
This is the final water allocation statement for the 2019/20 water year. Opening water allocations will be made on **Wednesday 1 July 2020**. Regular fortnightly statements for the 2020/21 water year will commence on Wednesday 15 July 2020.

NSW Murray resource assessment data sheet

Resource Distribution (15 May) for 2019-20	Volume (GL)
Total Available Resource ⁽¹⁾	1,340
less	
Carryover ^{(2), (8)}	300
Rules based Environmental Water ⁽³⁾	7
Towns, Stock, Domestic ⁽⁴⁾	64 (100%)
Announced High Security subcategory ⁽⁴⁾	<1 (100%)
Announced High Security ⁽⁴⁾	184 (97%)
Conveyance ⁽⁵⁾	169 (50%)
Wakool Allowance ⁽⁶⁾	70
Reserves ⁽⁷⁾	61
Announced General Security ⁽⁸⁾	50 (3%)
2020-21 high priority needs ⁽⁹⁾	435

*See notes below.

NSW Murray resource distribution 2019-20 – 15 May 2020

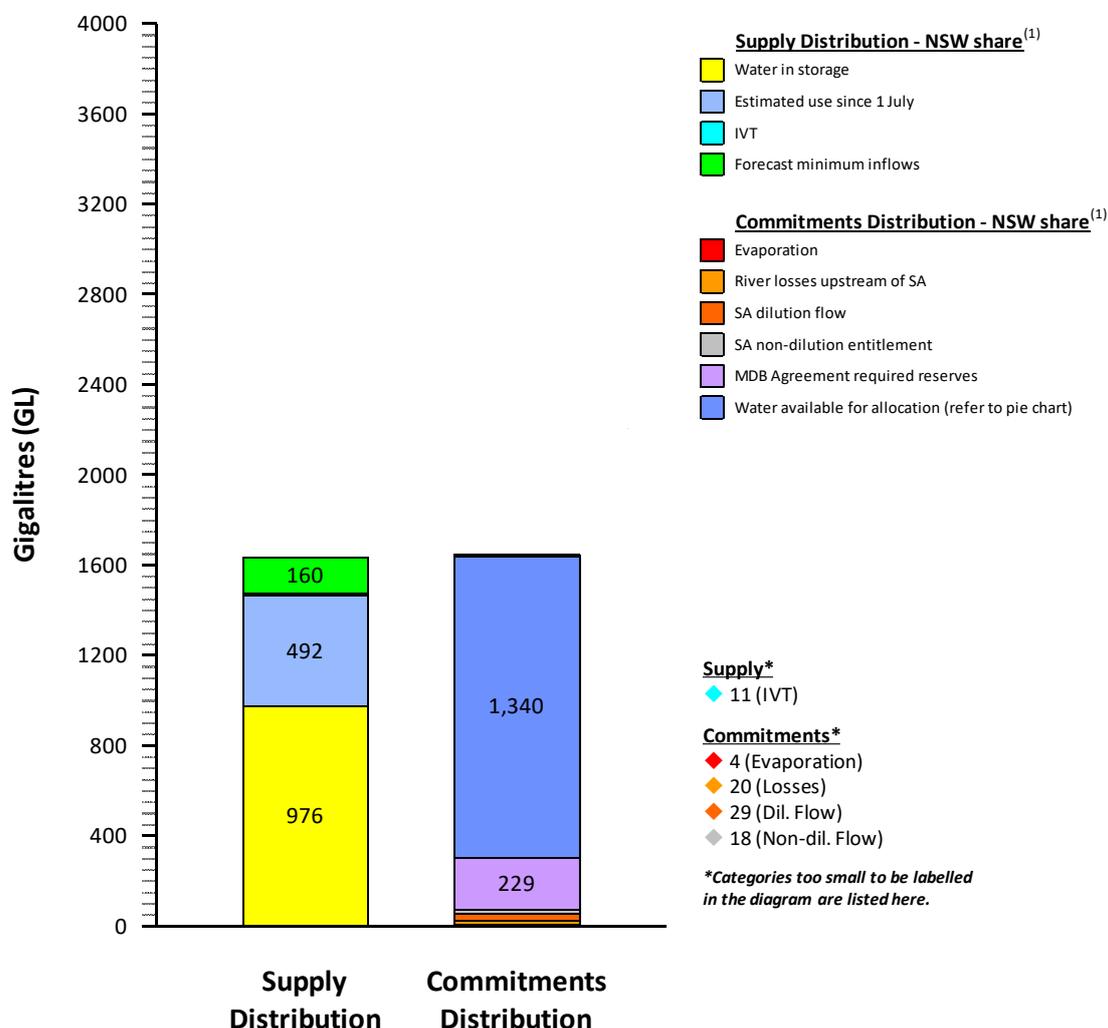


Data sheet notes

- (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 296GL – currently 100% borrowed). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently about 1GL). 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

- conveyance water allocated under Special Purpose Access Licences 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 15GL of GS, 24GL of HS, 26GL 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 – 15 May 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 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. Actual inflow conditions better than these will improve water availability and be allocated. Indicative forecast general security allocations for September and November under a range of inflow scenarios are provided to assist water users to manage risk and plan.
- For context, the NSW Murray has averaged about 95th percentile conditions this water year, that is, only five years out of a given 100 years of historical record experience drier conditions.
- The forecast information is not guaranteed and should be used at one's own risk.
- Dry conditions across the Snowy Hydro scheme has had a strong bearing on the Murray resource availability outlook, with assessments indicating potential limited water availability.
- Current accounts data, including the general security allocations in the current assessment, indicates that carryover will be around 20 per cent (some 340 GL) on average for the NSW Murray valley. Maximum allowable general security carryover in the valley is 50 per cent of entitlement. Late trade and usage may vary this figure and the actual carryover volume will be likely be finalised by late July 2020.
- Current water stored in Hume and Dartmouth dams combined is about 380,000 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.
- This is the last outlook for 2020/21 before commencing allocations are announced on 1 July 2020. Once the commencing allocations are announced on 1 July 2020, 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 2020 – Lower Darling

- The Menindee Lakes System is rising as northern basin inflows continue to accrue. It is currently around 23 per cent full, holding around 405,000 ML
- Copi Hollow has naturally re-connected with Lake Pamamaroo and is receiving inflows.
- Water currently forecast to reach Menindee can be captured in the upper, most efficient, lakes.
- The inflows have been enough for a pulse release to safely re-start the Lower Darling river.
- All temporary drought works have been removed and water restrictions eased. Stored water and inflows are estimated to be enough to run the Lower Darling for at least 12 – 18 months. The drought criticality level has been eased to Stage 2.
- 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 per cent unless there is significant further inflow in coming months.
- **Carryover** water will be fully available.
- Lower Darling inter-valley trade is likely to 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.

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. The **conveyance** entitlement is expected to receive its full opening allocation of 50 per cent.
- Full (100%) allocation to drought conveyance Specific Purpose Access Licences. These licences will lapse when announced general security allocations reach 15 per cent.
- In the highly unlikely event that critically low inflows are experienced from now into winter, there may still be a small shortfall on 1 July. Any shortfall will be temporarily trimmed from the conveyance entitlement and the Wakool System allowance and returned as a priority ahead of general security allocations.
- From resource improvements in 2020/21, allocations will be made to general security licences, particularly early in the water year, and reserves for high priority commitments in 2021/22 will also need to be built during the year from resource improvements.
- 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 is appropriate given the seasonal outlook, and 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 at least 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.

It is important to note that these estimates are indicative improvements only and are not guaranteed allocations. Estimates may change based on weather conditions, water management decisions and river operations. 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	10
1 chance in 2 (mean) (50%)	3	30

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 18 per cent general security carryover and 95 percentile conditions for the remainder of 2019-20.

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

Drought Information Webinar

The department, together with WaterNSW, will be holding public information sessions on drought experiences and water availability via webinar during May and June 2020. For more information go to: <https://www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/drought-update/information-sessions>

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