

17 August 2020

NSW Murray and Lower Darling

Water allocation update

Allocations to **general security entitlements in the NSW Murray regulated river water source have increased by 5 per cent**. Allocations in the **Lower Darling remain unchanged**.

The NSW Murray resource has improved by about 105,000 megalitres (ML) since the last assessment to the end of July. While rainfall in July was below average over the catchments feeding headwater storages, as winter and spring are generally the wetter seasons for the NSW Murray, therefore resources are incrementally improving. The resource improvement has been allocated to general security licences, with a commensurate increase in the Conveyance entitlement. A small amount has been added to mandatory critical human water needs (CHWN).

Further resource improvements will continue to be allocated to general security entitlements, while ensuring that there is enough water for high priority needs in 2021-22.

If inflow conditions were to track lower than average until summer, which appears likely, then the threshold for “exceptional circumstances” under the Barmah Millewa EWA rules will be triggered. If triggered, then payback of the borrowed Barmah Millewa EWA balance will commence when general security reaches 50 per cent allocation, rather than the usual 30 per cent. This will be closely monitored and further advice provided in future statements.

The Menindee Lakes system experienced a partial recovery in 2019-20 from the arrival of northern basin inflows. It is currently around 27 per cent full, holding around 460,000 ML. The Lower Darling is administratively disconnected from the Murray, therefore, the resources in the Menindee Lakes system are being managed by NSW to meet Lower Darling needs only. The system is being operated with minimum releases to maximise longevity of supply and is expected to slowly deplete without further inflows. Lower Darling general security entitlements received a 30 per cent opening allocation on 1 July 2020. Further significant inflows are required before further improvements to general allocations can be announced.

2020-21	High Security	General Security	Average Carryover	Drought Stage
Murray	97%	8%	21%	 Stage 1
Lower Darling	100%	30%	48%	 Stage 2

Drought stage

The **NSW Murray** regulated river water source was eased to Stage 1 drought criticality in the last assessment as all shortfalls for 2020-21 were met and general security allocations commenced.

The **Lower Darling** regulated river water source remains in Stage 2 drought criticality. Resource conditions are being closely monitored, with the system being managed as a drought reserve, 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

Murray Storage levels (as at 14 August 2020)*

- Dartmouth Dam is 54 per cent full – steady – holding 2,075,000 ML.
- Hume Dam is 54 per cent full – rising – holding 1,610,000 ML.
- Lake Victoria is 99 per cent full – steady – holding 665,000 ML.

* NSW share of this water is approximately 35%, 51% and 42% for these storages respectively, or 42% in total.

State sharing of the Murray resource

The end of July accounts indicate that 4,610 gegalitres (GL) of total shared Murray resource is available in the extreme dry (99th percentile) case, of which about 2,000 GL is needed to run the system (incorporating South Australia's dilution entitlement and any shared resource which cannot be regulated). The NSW portion of the remaining shared resource is 1,120 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 NSW receiving 1,020 GL of water to allocate.

As the adjustments include usage to date across all NSW Murray entitlements, the resource has been reduced by the volume of supplementary water used (both supplementary and uncontrolled flow access) currently estimated to be around 30 GL in total. Usage under supplementary licences and uncontrolled flow provisions do not reduce the outstanding liability on the valley.

Climatic outlook

The Bureau of Meteorology's seasonal outlook for September to November indicates that rainfall conditions are likely to be wetter than average across the catchment. Daytime temperatures are likely to be near average or cooler, while overnight temperatures are likely to be warmer than average.

The Bureau indicates that the El Niño-Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD) are neutral. The Bureau has issued a La Niña WATCH alert, with some models indicating that La Niña conditions may develop over spring. There is also a possibility of negative IOD conditions developing over spring. La Niña and negative IOD conditions typically increase the probability of above average rainfall during 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. On 1 July 2020, the trade capacity was 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. This balance has since been consumed.

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** of the Murrumbidgee Valley is **closed** with an IVT balance of 99.9 GL (as of 14 August 2020). Trade **into** the Murrumbidgee Valley is **open**. Water users should monitor the WaterNSW website (www.waternsw.com.au) for daily information about the IVT account balance and the status of trade.

Next announcement

The next water allocation statement will be published on **Tuesday 1 September 2020**. It will be a short statement, updating any improvements in resource and allocations.

The next comprehensive statement, including the likely improvement in general security allocations under various inflow scenarios, will be published on Tuesday 15 September 2020.

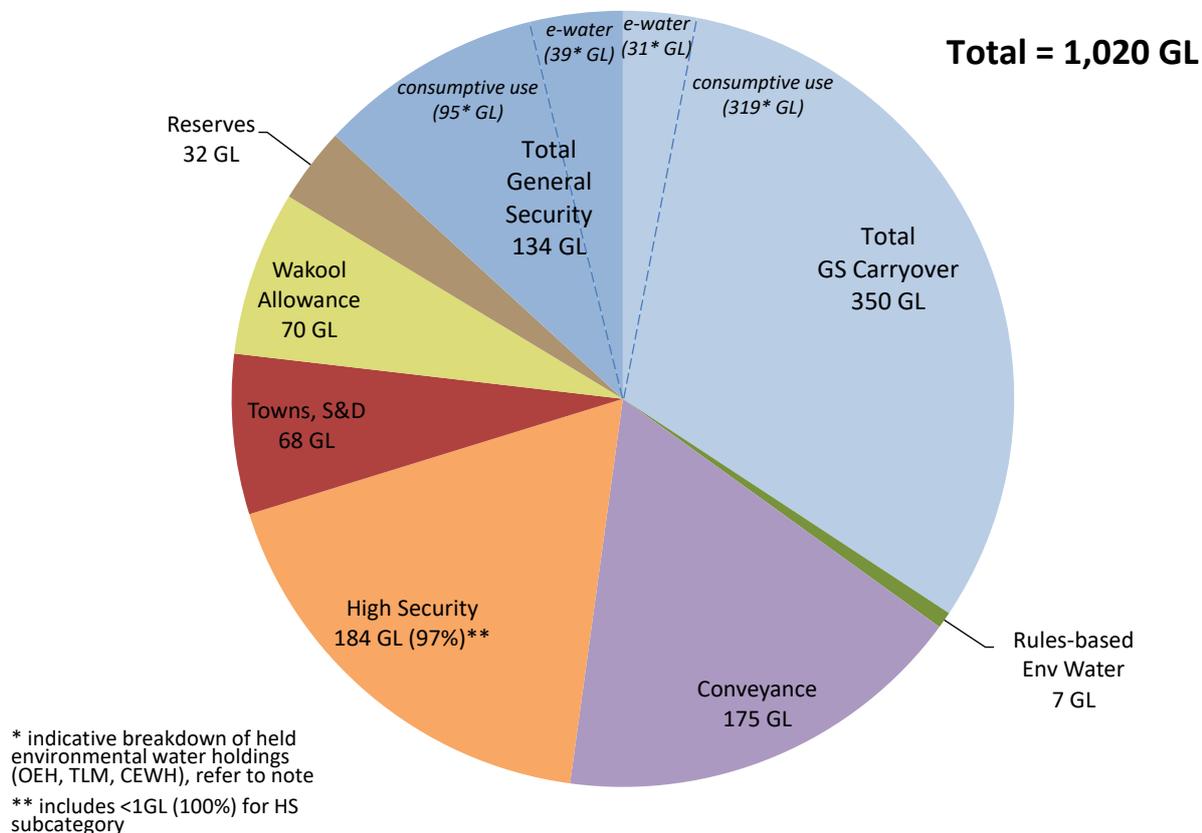
NSW Murray resource assessment data sheet

Resource Distribution* (17 August) for 2020-21	Volume (GL)	Volume (GL)
Total Available Resource ⁽¹⁾		1,020 [#]
less		
Carryover ^{(2), (8)}	350	
Rules based Environmental Water ⁽³⁾	7	
Towns, Stock, Domestic ⁽⁴⁾	68 (100%)	
Announced High Security subcategory ⁽⁴⁾	<1 (100%)	
Announced High Security ⁽⁴⁾	184 (97%)	
Conveyance ⁽⁵⁾	175 (53%)	
Wakool Allowance ⁽⁶⁾	70	
Reserves ⁽⁷⁾	32	
Announced General Security ⁽⁸⁾	134 (8%)	
Year 2 (2021-22) high priority needs ⁽⁹⁾	0	

*See notes below

[#]Resource adjusted by supplementary and uncontrolled flow usage

NSW Murray resource distribution 2020-21 – 17 August 2020



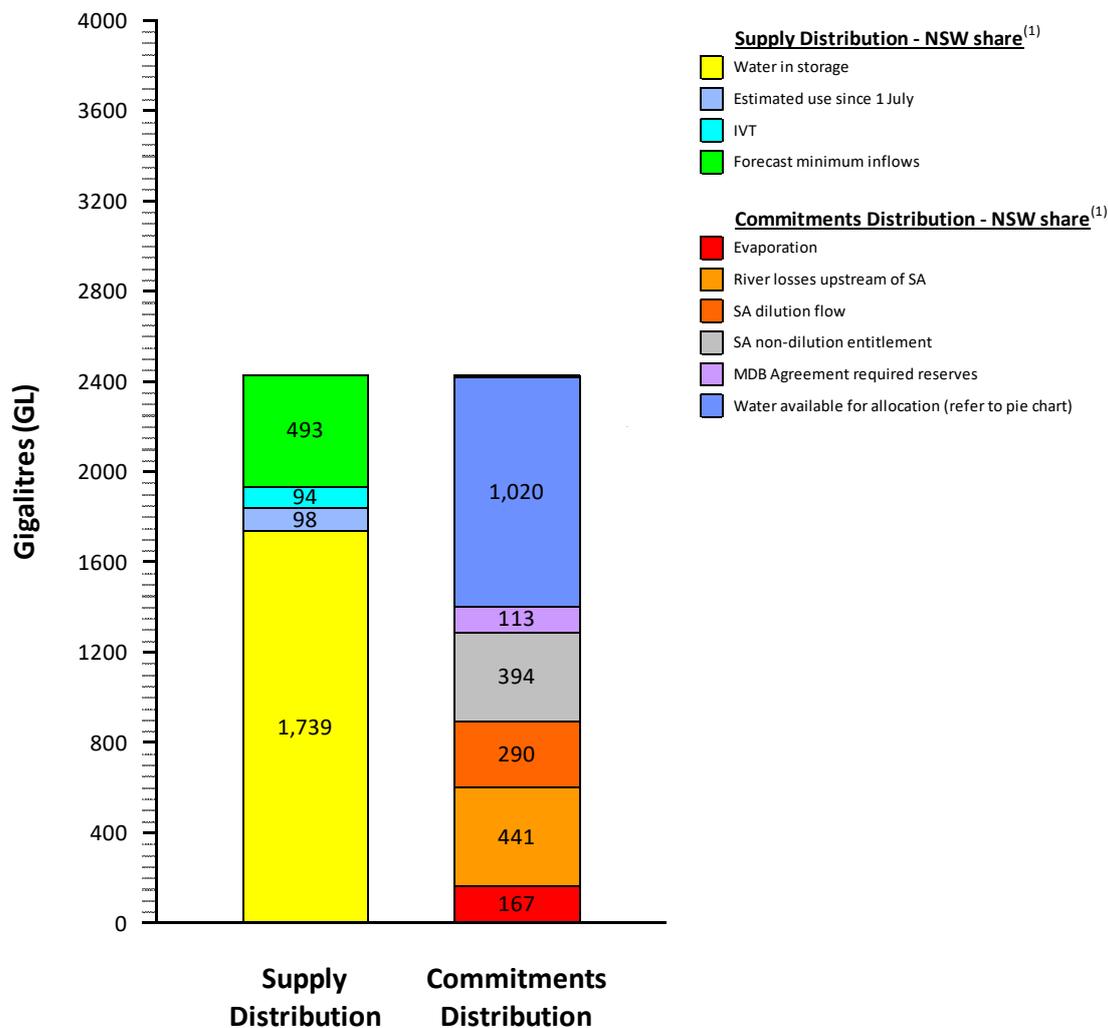
Data sheet notes

- (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 (2020-21) is estimated to be about 460GL. 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 301GL – 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 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 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 39 GL of GS, 24 GL of HS, 27 GL of conveyance allocation and 31 GL 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) 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 August 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. 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.

NSW Murray Resource Assessment – Comparison with this time last year

Item	Mid Aug 2019 (GL)	Mid Aug 2020 (GL)	Comments
NSW share of total resources	720	1,020	Improving conditions resulting in higher resource in 2020/21.
less			
Carryover	300	350	Higher due to 3% GS allocation in May 2020.
Environmental	56	7	Reduced RMIF in 2020/21.
Towns, Stock, Domestic	58	68	Broken Hill pipeline entitlement and drought critical conveyance added.
Conveyance	60	175	No shortfalls in 2020/21.
Wakool Loss	62	70	No shortfalls in 2020/21.
High Security	184	184	Similar.
General Security	0	134	8% allocation in 2020/21.
Reserves	0	32	Improved resources in 2020/21

Chances of improvement

The chances of improved general security allocations, 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).

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 Oct 2020	1 Feb 2021
99 chances in 100 (extreme) (99%)	8	8
9 chances in 10 (very dry) (90%)	8	13
3 chances in 4 (dry) (75%)	14	26
1 chance in 2 (mean) (50%)	25	45*

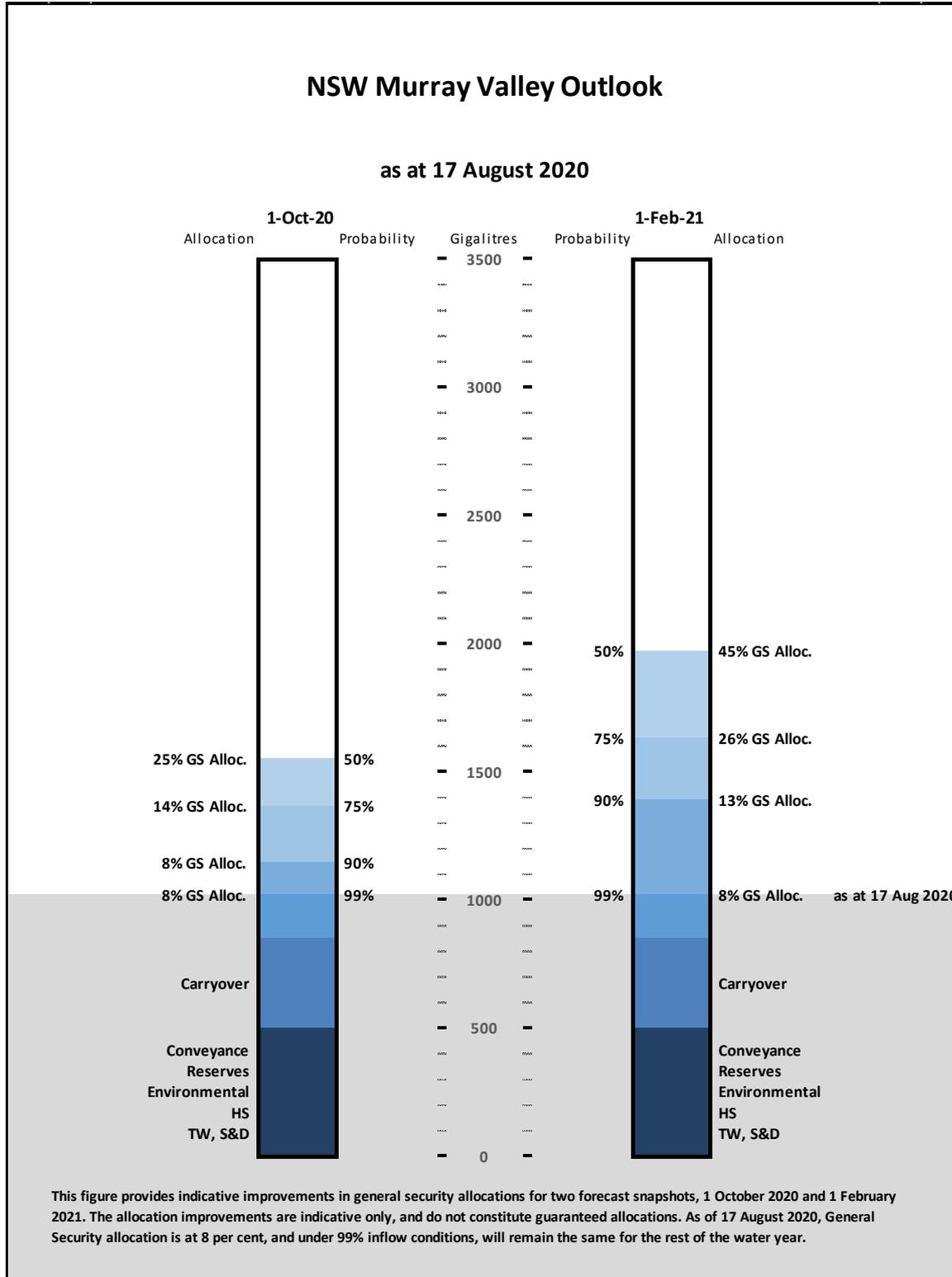
Note 1: Estimated values indicative only, not guaranteed and subject to change based on actual events unfolding.

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

Note 3: Forecast assumes 21 per cent general security carryover.

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

* Assumes BMA payback commences when general security reaches 50% allocation.



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