

15 October 2020

NSW Murray and Lower Darling

Water allocation update

There is a **9% increase to all general security water users** in the NSW Murray regulated river water source. This brings the total allocation so far this year to 26% of entitlement. Allocations in the **Lower Darling remain unchanged**.

The NSW Murray resource has improved by about 195,000 megalitres (ML) since the last assessment. Resources have been boosted by rainfall to date in October and reduced losses. The improvement has been allocated to general security, with a commensurate increase to Conveyance entitlements in accordance with the water sharing plan.

The focus to date has been to safely allocate as much water as possible early, to allow water users to plan for maximum production. However, as we enter the southern dry season (based on historical records), attention will soon need to shift more to meeting high priority needs in 2021-22. Nevertheless, the recent declaration of La Niña conditions by the Bureau of Meteorology augurs well for likely wetter conditions into summer and improved water availability.



The system has reverted to regulated conditions along the entire NSW Murray system and therefore supplementary access has ceased. With warmer weather and irrigation demand increasing over the next few weeks, and inflows below headwater storages receding, much wetter conditions than currently being experienced will be required before unregulated flow conditions are likely to return.

Special Purpose Access Licences that were issued for temporary critical conveyance needs during the recent severe water shortage have now lapsed in accordance with their licence conditions as general security allocation in the NSW Murray exceeds 15% of entitlement.

Inflow conditions remain on track to trigger 'exceptional circumstances' in November under the Barmah Millewa EWA rules. This means that pay-back of the borrowed water will commence when announced general security allocation reaches 50% of entitlement, not the usual 30%. At this stage, wet conditions will be needed to trigger Barmah Millewa EWA payback.

The Menindee Lakes system is currently 27% full, holding around 470,000 ML, with minor inflows expected to continue over the next few weeks. It is being managed by NSW to meet Lower Darling needs only. The Menindee resource becomes shared with other States when the system next holds more than 640,000 ML.

Further significant inflows are required into the Menindee system before the current 30% general security allocation for Lower Darling water users can be increased. Together with average carryover of 48%, general security water availability is 78% of entitlement.

2020-21	High Security	General Security	Average Carryover	Drought Stage	
Murray	97%	26%	21%		Stage 1
Lower Darling	100%	30%	48%		Stage 2

Drought stage

The **NSW Murray** regulated river water source is in Stage 1 drought criticality, meaning normal river operations are able to deliver water orders. The **Lower Darling** regulated river water source remains in Stage 2 drought criticality. Resource conditions are being carefully monitored, with the need to provide 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 October 2020)*

- Dartmouth Dam is 58% full – rising – holding 2,240,000 ML.
- Hume Dam is 73% full – rising – holding 2,180,000 ML.
- Lake Victoria is 94% full – falling – holding 635,000 ML.

* The NSW share of this water is approximately 36%, 51% and 43% for these storages respectively, or 43% in total.

State sharing of the Murray resource

The bulk accounts assessment indicates that 5,260 gigalitres (GL) of total shared Murray resource is available in the extreme dry (99th percentile) case, of which about 1,790 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 regulated shared resource is 1,600 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 a volume **of Murray resource for NSW to allocate of 1,405 GL.**

The bulk resource assessed by MDBA includes supplementary and uncontrolled flow diversion in the NSW usage. Therefore the 1,525 GL assessed share of Murray resource is reduced by 120 GL to 1,405 GL to account for water used from unregulated water sources. This unregulated usage has not reduced the liability on regulated water, therefore cannot contribute to more allocation.

Climatic outlook

The Bureau of Meteorology's seasonal outlook for November 2020 to January 2021 indicates likely wetter than average conditions across the catchment. Daytime temperatures are likely to be about average, while overnight temperatures are likely to be warmer than average.

The Bureau has declared La Niña conditions, with models indicating that La Niña event is likely to persist until at least early 2021. Indian Ocean Dipole (IOD) conditions are tracking neutral, with some models indicating the potential of negative IOD conditions for the rest of spring. La Niña and negative IOD conditions typically increase the probability of above average rainfall in 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.

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.

The normal operating range for the Murrumbidgee IVT account is between 0 GL and 100 GL. Trade **out** of the Murrumbidgee Valley is **closed** (as at 14 October 2020) with the IVT balance at its upper limit. Trade **into** the Murrumbidgee Valley is **open**. Water users should check the WaterNSW website (www.watersw.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 **Monday 2 November 2020**. It will be a short statement, updating any improvements in resource and allocations.

The next comprehensive statement will be published on Monday 16 November 2020.

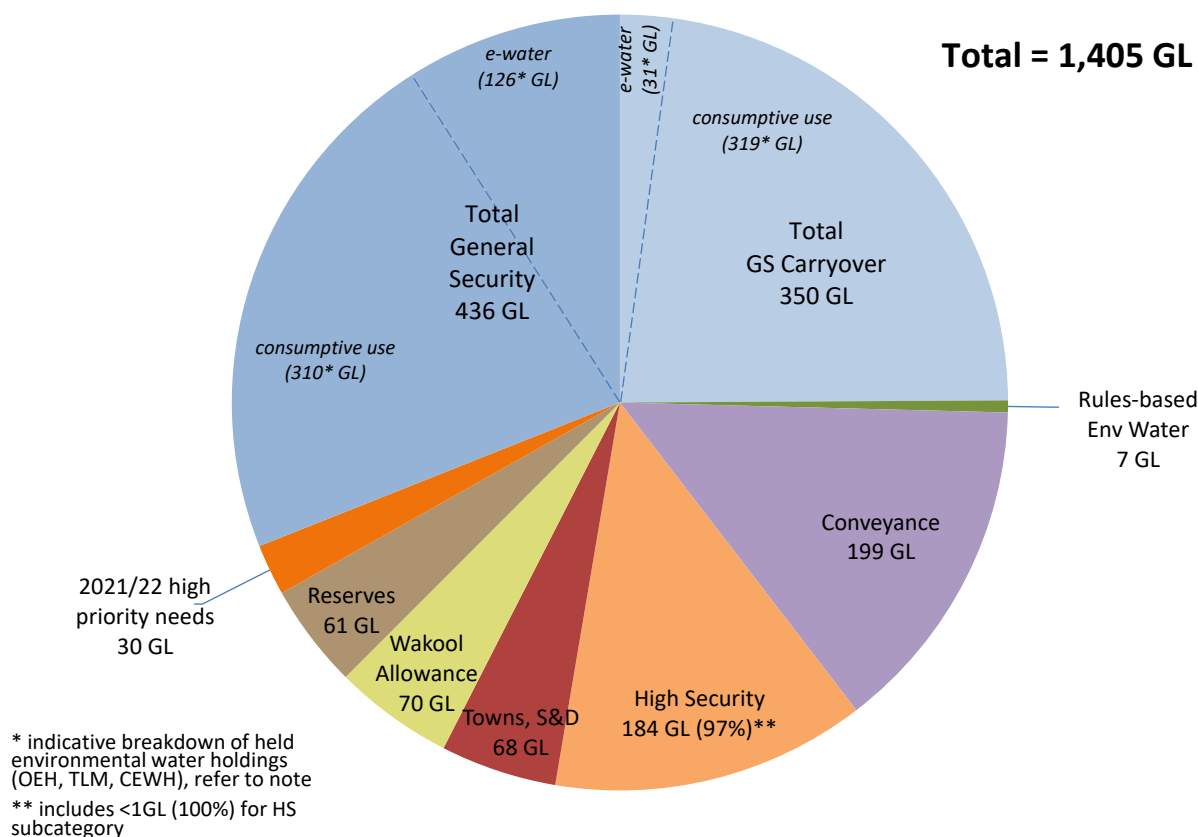
NSW Murray resource assessment data sheet

Resource Distribution* (15 October) for 2020-21	Volume (GL)
Total Available Resource ⁽¹⁾	1,405 [#]
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⁾	199 (60%)
Wakool Allowance ⁽⁶⁾	70
Reserves ⁽⁷⁾	61
Announced General Security ⁽⁸⁾	436 (26%)
Year 2 (2021-22) high priority needs ⁽⁹⁾	30

*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 – 15 October 2020



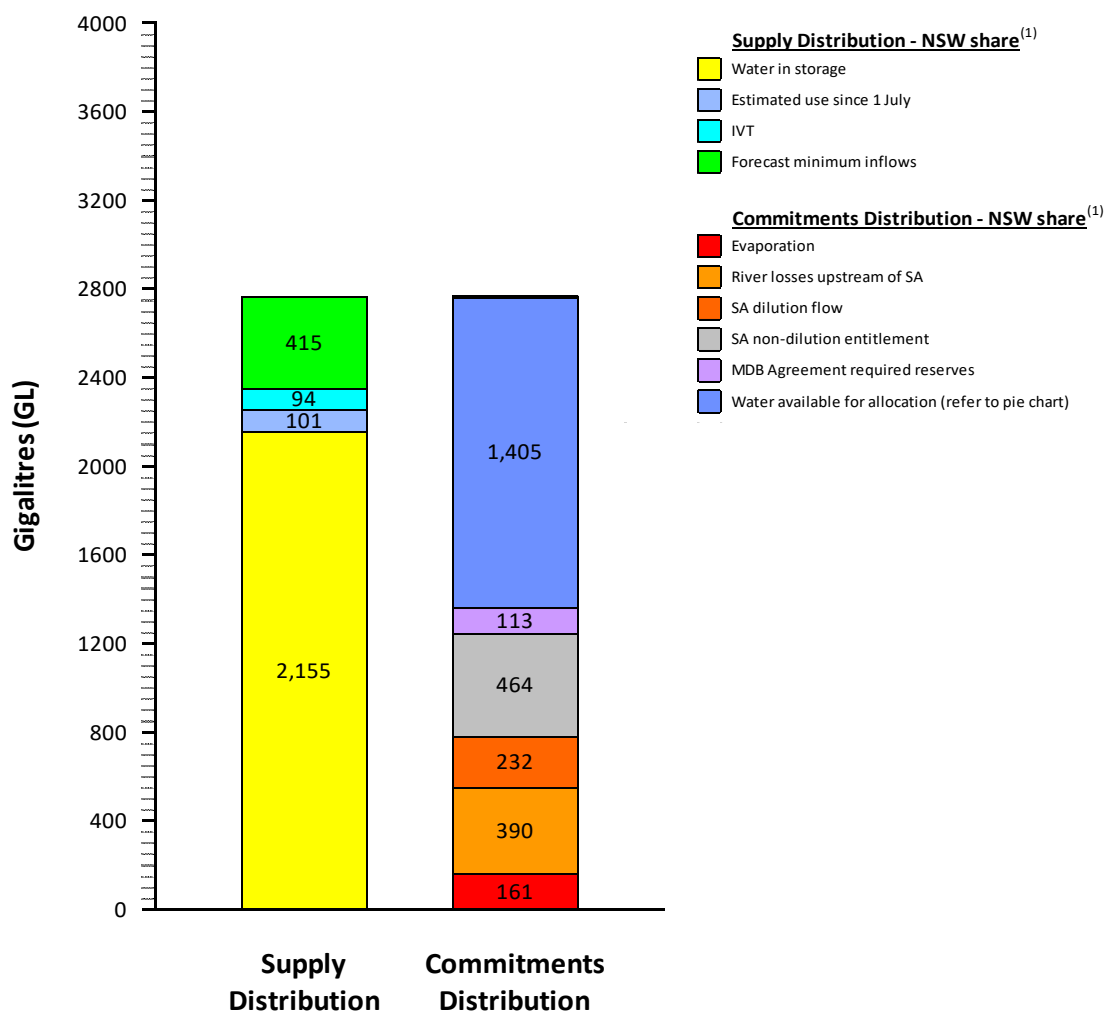
Data sheet notes

- (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%) 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 600GL. 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 310GL – 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 126 GL of GS, 25 GL of HS, 30 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 – 15 October 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 Oct 2019 (GL)	Mid Oct 2020 (GL)	Comments
NSW share of total resources	900	1,405	Improving conditions resulting in higher resource in 2020/21.
less			
Carryover	300	350	Higher due to 3% GS allocation in May 2020.
Environmental	21	7	Reduced RMIF in 2020/21.
Towns, Stock, Domestic	58	68	Broken Hill pipeline entitlement and drought critical conveyance added.
Conveyance	120	199	No shortfalls in 2020/21.
Wakool Loss	70	70	No shortfalls in 2020/21.
High Security	184	184	Similar.
General Security	0	436	26% allocation in 2020/21.
Reserves (incl. Year 2)	86	91	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 (%)

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

Repeat of historical inflow conditions	1 Dec 2020	1 Feb 2021
99 chances in 100 (extreme) (99%)	26	26
9 chances in 10 (very dry) (90%)	26	26
3 chances in 4 (dry) (75%)	26	26
1 chance in 2 (mean) (50%)	26	32*

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.

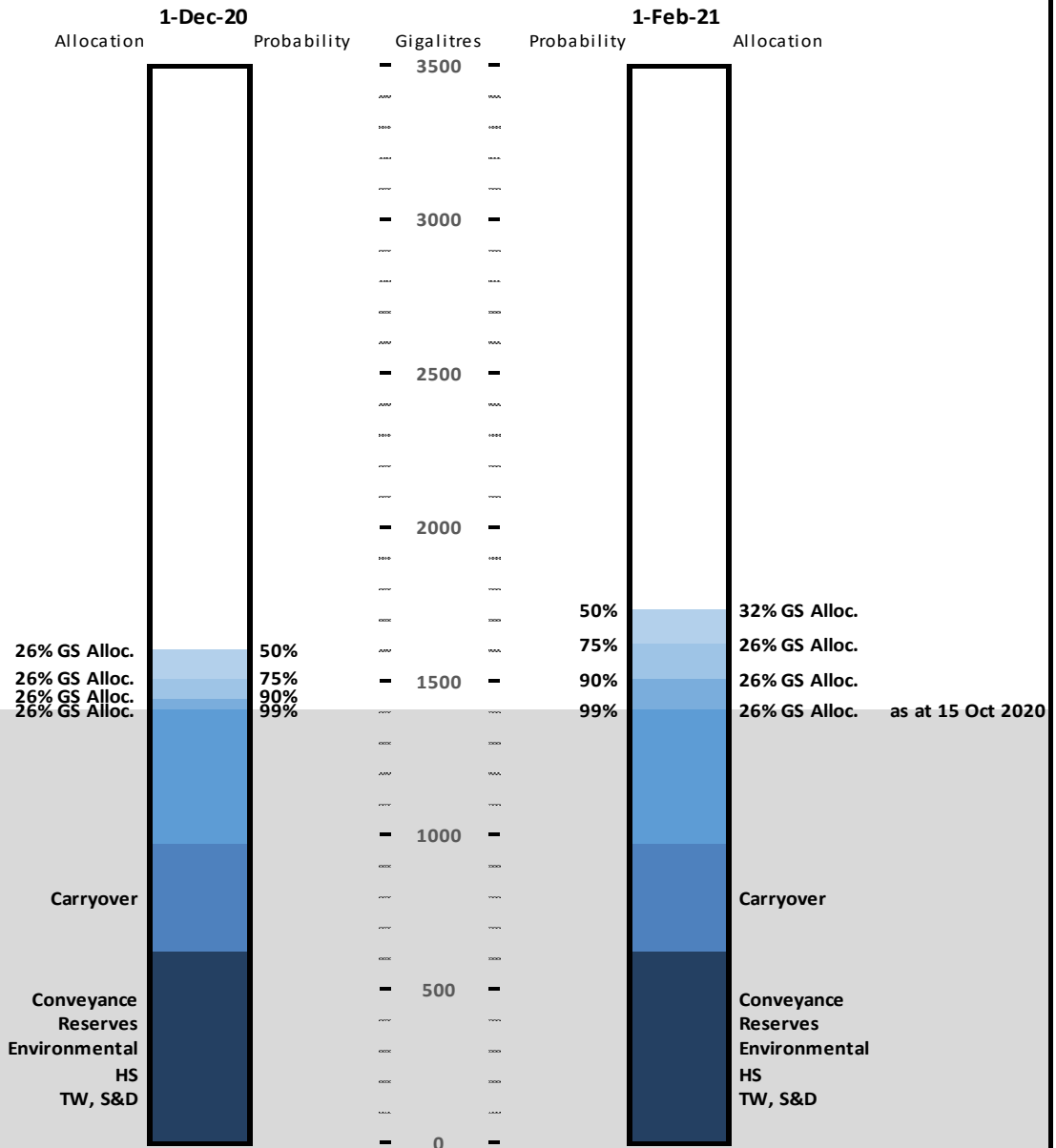
Note 3: Forecast assumes 21 per cent general security carryover.

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

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

NSW Murray Valley Outlook

as at 15 October 2020



This figure provides indicative improvements in general security allocations for two forecast snapshots, 1 December 2020 and 1 February 2021. The allocation improvements are indicative only, and do not constitute guaranteed allocations. As of 15 October 2020, General Security allocation is at 26 per cent, and under 99% inflow conditions, will remain the same for the rest of the water year.

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