



17 October 2016

NSW Murray and Lower Darling

Water allocation update

Allocations

NSW Murray general security allocation has **increased by 10 per cent to 63 per cent of entitlement** with a commensurate increase in allocation to conveyance entitlements. Above average rainfall and wet catchment conditions continue to provide steady system inflows and storage improvements.

Now that general security allocation has increased beyond 60 per cent, carryover in accounts will boost allocations because individual account limits, 110 per cent entitlement in the NSW Murray, are being reached. In other words, those with maximum carryover (50 per cent) cannot benefit from further allocation improvement. This forfeiture of water from full accounts means that those with little or no carryover benefit the most from further resource improvements.

While supplementary access continues to be available in the NSW Murray, general security licence holders can no longer divert supplementary water 'without debit' as allocations are now greater than 60 per cent. Supplementary access holders should refer to WaterNSW's website for further information regarding the times and reaches where access applies:
<http://www.waternsw.com.au/customer-service/news/supplementary>.

With Hume Dam at 98 per cent capacity, it is effectively full and air-space operations are continuing to safely pass inflows. Dartmouth Dam is 71 per cent full and rising.

NSW Murray general security allocations will continue to rise as water captured in Dartmouth Dam increases. They will also be boosted when the Menindee system exceeds 640,000 megalitres (ML) and becomes a shared Murray resource, which is anticipated by the end of this month. It is currently holding about 530,000 ML and rising.

The **Lower Darling** regulated river water source continues to steadily improve, with Menindee Lakes storage now 30 per cent full and currently rising at about 1 per cent per day. Lake Pamamaroo is currently surcharged and transfers into Lake Menindee have begun. It is estimated that at least another 600,000 ML will flow into the lakes by the end of November.

Water quality in the Lower Darling has also been steadily improving. Latest water quality results indicate salinity levels in the Wentworth Weir pool have fallen to well below 1000 EC and are generally below 500 EC for most of the river length below Weir 32. Levels of pH have also fallen significantly, with levels generally ranging from 7.7 to 8.2, which is not unusual for Lower Darling river water.

	High Security	General Security	Average Carryover
Murray	97%	63%	27%
Lower Darling	100%	100%	34%

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www.water.nsw.gov.au

Upper Murray storage levels (as at 13 October 2016)

- Dartmouth Dam is currently about 71 per cent full - rising - holding 2,748,000 ML.
- Hume Dam is 98 per cent full – steady - holding 2,944,000 ML.

Climate outlook

September was the wettest on record for large portions of inland NSW, as well as the Murray-Darling Basin. A record-setting northern Australia dry season has also ended with the highest rainfall recorded since records commenced in 1900.

Significant rainfall has continued in NSW so far in October, particularly in the upper Murray. Heavy rainfall on saturated catchments has led to flooding across many inland NSW valleys. Flood information and forecasts are provided by the Bureau of Meteorology - www.bom.gov.au/nsw/warnings

The Bureau of Meteorology seasonal outlook indicates that wet conditions in the Murray catchment are highly likely over the coming three months, particularly in October. Above average October rainfall is also highly likely across large parts of the Barwon-Darling catchments. Cooler days and nights are also likely across NSW and large parts of Queensland.

Major drivers of the current outlook include a negative Indian Ocean Dipole, combined with a La Niña-like pattern of warm seas around northern Australia.

Trade

In the Murray, trade across the Barmah choke is restricted to 'no net trade downstream'. Downstream trade opens automatically to the extent of the volume of any upstream trade. The trade restriction prevents water trades from placing excessive physical water delivery demand on choke channel capacity during the year, which could affect the water security of existing entitlement holders. Water users are encouraged to monitor the MDBA website at <http://www.mdba.gov.au/managing-water/water-markets-trade/interstate-water-trade/barmah-choke-trade-balance> for information about the trade balance and status of trade.

With improvement at Menindee and forecast significant inflows, trade to and from the Lower Darling river water source has been re-opened. Trade within the valley has not been affected.

Trade **into** (and within) the Murrumbidgee Valley is open, but trade **out** of the Murrumbidgee Valley is closed. Water users are encouraged to monitor the WaterNSW website at www.watarnsw.com.au/customer-service/trading/murrumbidgee for information about the Murrumbidgee IVT account balance and the current status of Murrumbidgee trade.

Next announcements

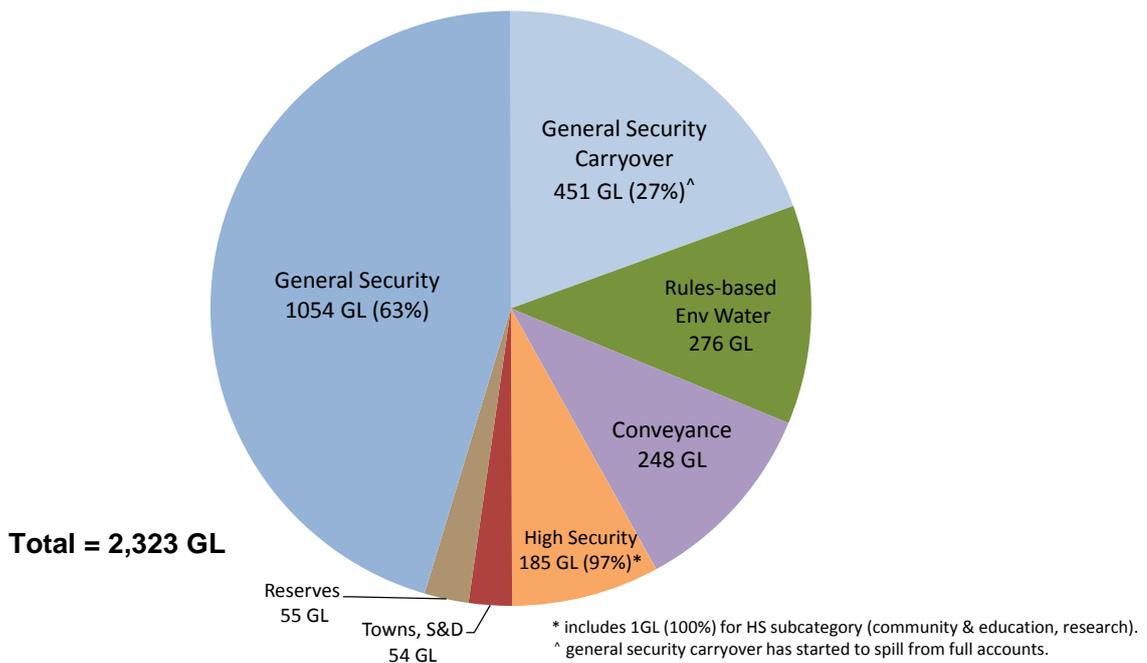
The next resource assessment and allocation update for the NSW Murray and Lower Darling valleys will be on **Tuesday 1 November 2016**. The additional detailed information including an update of the attached rocket diagram will be issued on Tuesday 15 November 2016.

NSW Murray Resource Assessment Data Sheet

Resource Distribution (as at 17 October) for 2016-17	Volume (GL)
Total Available Resource ⁽¹⁾	2,323
less	
Carryover ⁽²⁾	451
Rules based Environmental Water ⁽³⁾	276
Towns, Stock, Domestic ⁽⁴⁾	54 (100%)
Announced High Security subcategory (education, research) ⁽⁴⁾	1 (100%)
Announced High Security ⁽⁴⁾	184 (97%)
Conveyance ⁽⁵⁾	248
Reserves ⁽⁶⁾	55
Announced General Security	1,054 (63%)

*See notes below.

Resource Distribution 2016-17 NSW Murray - 17 October 2016



Notes:

- (1) NSW is currently in Special Accounting with South Australia but this has no material impact on NSW allocations. Special accounting is triggered when NSW forecast is unable to meet the required reserve of 1,250 GL by the end of the year to supply South Australia (SA) with its entitlement in the following water year. Details can be found in the MDB Agreement Clauses 123-129.
- (2) Carryover – NSW Murray general security water users can carryover a maximum of 50 per cent of their entitlement into the following water year. The account limit is 110 per cent of entitlement, which can consist of both allocation and carryover. This means that those with maximum carryover have now forfeited 3 per cent of improvement, and this has been assigned to others. From now on allocations will be boosted because carryover water will increasingly cause the forfeiture of water from full accounts and those with little or no carryover will be the beneficiaries of the forfeited water.
- (3) Rules-based planned environmental water – water required to be set aside under water sharing plans to

provide for riverine environments. In the NSW Murray this includes Additional Environmental Allowance (AEA) (6 GL), Wakool system requirements (70 GL), and the Barmah-Millewa Allowance (B-MA). The current B-MA account balance remains at the minimum 200 GL for 2016/17 (does not accrue while Hume Dam is spilling). The borrow by consumptive water users has been fully repaid. Licence-based environmental water is not included in this rules-based environmental water category.

- (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. These licences are to receive 100% allocation at the commencement of each water year. 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".
- (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) Reserves – required primarily under statutory plans; used for emergency purposes and critical needs.

NSW Murray Resource Assessment – Comparison with this time last year

Item	Mid Oct 2015 (GL)	Mid Oct 2016 (GL)	Comments
NSW share of total resources	1,195	2,323	Wetter conditions in 2016
less			
Carryover	500	451	similar carryover
Environmental	56	276	about 5 times of last year's
Towns, Stock, Domestic	54	54	same
Conveyance	180	248	about 130% of last year's
High Security	183	185	same
Critical Human Need (CHN) reserve*	21	55	about 2.5 times of last year's
General Security	201	1,054	much higher GS alloc'n 2016

* CHN reserve target 61 GL.

Chances of improvement

The chances of inflows being above historical minimums, and therefore the likelihood of improved allocations, are provided in the table below.

A conservative approach using all years of inflow records (including dry years) has been used in this analysis. In reality, the current wet catchment conditions will likely supply somewhat higher allocations than those indicated for the dry inflow scenarios.

NSW MURRAY Potential Inflow Conditions #	Forecast 1 Dec 2016 General Security Allocations*	Forecast 1 Mar 2017 General Security Allocations*
Current allocation (99% inflows)	63%	63%
9 chances in 10 (very dry) (90%)	65%	76%
3 chances in 4 (dry) (75%)	72%	100%
1 chance in 2 (average) (50%)	100%	100%
1 chance in 4 (wet) (25%)##	100%	100%

* Licence holders can add individual carryover to the relevant percentage up to a maximum of 110% of entitlement.

Using all years of inflow records. ## Currently tracking wetter than this probability.

NSW Murray Valley Outlook

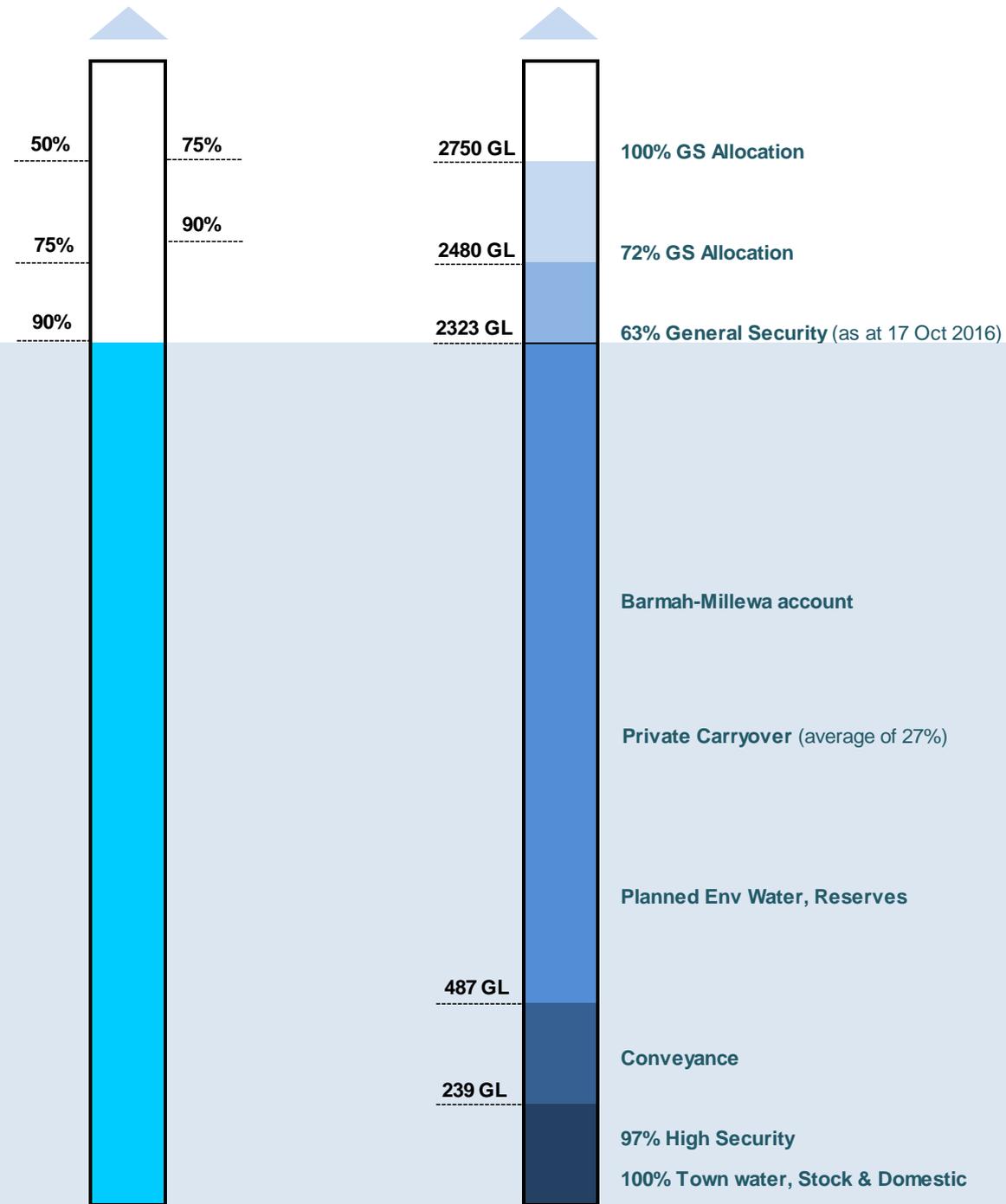
as at 17 October 2016

Probability of improvement

Indicative requirements

1-Dec

1-Mar



Note: The figure is based on probabilities and does not guarantee allocations, volumes are indicative only. Large volume items are listed in this figure to provide context, refer to Data Sheet table for complete listing of items contained within the Total Available Resource value.