



15 August 2016

NSW Murray and Lower Darling

Water allocation update

Allocations

NSW Murray general security allocation has **increased by 13 per cent to 25 per cent** of entitlement with a commensurate increase in allocation to conveyance entitlements. This improvement is largely from tributary inflows including the use of unregulated flow to meet operational requirements.

An average general security carryover of 27 per cent is available in NSW Murray water user accounts, meaning that overall general security water availability is now 52 per cent.

Supplementary access continues to be available in the NSW Murray as Lake Victoria is effectively spilling and unable re-regulate flows.

Customers holding a supplementary water access licence should confirm with WaterNSW the times and reaches where supplementary access applies. In addition, general security licence holders can divert supplementary water 'without debit' bearing in mind that diversions will count toward annual usage limits. For further information refer to WaterNSW's website at <http://www.waternsw.com.au/customer-service/news/supplementary>.

There is no allocation increase for **Lower Darling** entitlements at this time. An update on flows in the Lower Darling is provided in a section below. The modest inflows to the Lower Darling water source are so far insufficient to relax water restrictions; however, they are under review. Therefore, high security irrigation water taken from the river can only be used on permanent plantings.

	High Security	General Security	Average Carryover
Murray	97%	25%	27%
Lower Darling	40%	0%	Restricted access

Upper Murray storage levels (as at 11 August 2016)

- Dartmouth Dam is currently about 55 per cent full – rising - holding 2,134,000 megalitres (ML).
- Hume Dam is 79 per cent full – rising - holding 2,370,000 ML.

It should be noted that these storages are operated to equalise the risk of spill and thereby maximise resource availability. However, they can become out of balance by a disproportionately high unforeseeable natural inflow into one dam, as currently is the case with Hume. If Hume spills it means that allocation increase will then mostly come from future improvement in Dartmouth storage (currently half full) or Menindee Lakes (effectively empty).

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www.water.nsw.gov.au

Climate outlook

After significant rainfall in the Murray and Murrumbidgee headwaters in July, storms have continued generally across the catchments so far in August. Catchments remain wet and inflows are tracking around the very wet (25% annual exceedance probability (AEP) scenario).

The Bureau of Meteorology (BoM) seasonal outlook continues to indicate a high likelihood (about 65 to 75 per cent chance) of above average rainfall conditions continuing within the Murray and Murrumbidgee catchments over the three months to October 2016. Cooler days are also likely in the eastern parts of the catchment.

Although La Niña conditions remain possible, BoM indicates the majority of model outlooks maintain neutral values throughout the remainder of winter and spring.

Sea surface temperatures in the Indian Ocean show a strong negative Indian Ocean Dipole (IOD) present, and climate models indicate it will persist through to the end of spring. A negative IOD often results in greater than average winter-spring rainfall and cooler than average day time temperatures over south-eastern Australia.

Trade

In the Murray, trade across the Barmah choke is restricted to 'no net trade downstream'. Trade from above the choke to downstream of the choke closed on 29 July as the net trade balance reached zero. Downstream trade re-opens automatically corresponding with the volume of any upstream trade. The trade restriction is in place to prevent 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.

Trade is permitted within the Lower Darling water source, but inter-valley trade remains closed due to the severe water shortage.

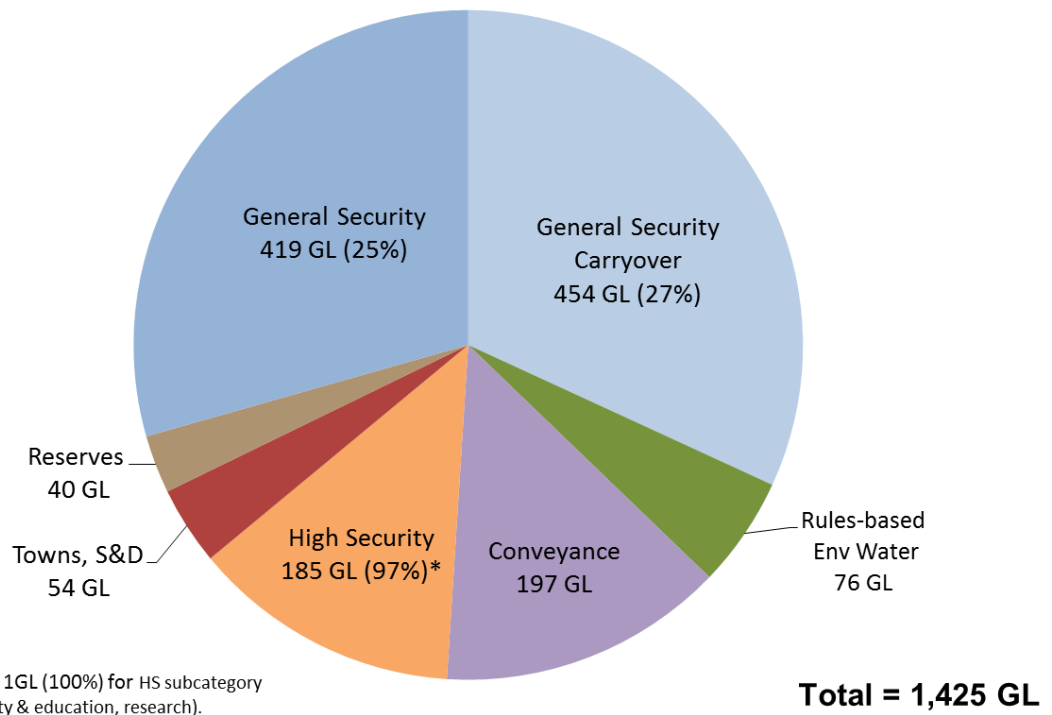
Trade **into** the Murrumbidgee Valley is open but trade **out** of the Murrumbidgee Valley is closed. Water users are encouraged to monitor the WaterNSW website at www.watarnsw.com.au/customer-service/trading/murrumbidgee for information about the Murrumbidgee IVT account balance and status of Murrumbidgee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

NSW Murray Resource Assessment Data Sheet

Resource Distribution (as at 15 August) for 2016-17	
	Volume (GL)
Total Available Resource	1,425
less	
Carryover	454
Rules based Environmental Water	76
Towns, Stock, Domestic	54 (100%)
Announced High Security subcategory (community & education, research)	1 (100%)
Announced High Security	184 (97%)
Conveyance	197
Reserves	40
Announced General Security	419 (25%)

**See notes below.*

Resource Distribution 2016-17 NSW Murray - 15 August 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 is forecast 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) Primarily rules-based 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). The Barmah-Millewa Allowance (B-MA) is ‘rules-based’ water but the account balance of 232 GL is currently fully borrowed by consumptive users and will progressively pay-back with further resource improvements once announced general security allocations reach 30 per cent of entitlement, in accordance with the water sharing plan. Wakool system requirements (70 GL) are included but licence-based environmental water is excluded.
- (3) 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 with “Towns, S&D”.
- (4) 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.
- (5) Reserves – required primarily under statutory plans; used for emergency purposes and critical needs.

Lower Darling – Summary and Update

- About 120,000 megalitres (ML) has reached Lake Wetherell and another 30,000 to 60,000 ML is upstream. Currently Lake Wetherell is holding about 150,000 ML and is about 75 per cent full.
- As a result of the Wetherell inflows, Essential Water customers in Broken Hill can continue to be serviced with potable supplies of treated surface water through until at least early 2018.
- The release of water to the Lower Darling; the first since December 2015, peaked at Weir 32 at around 1,400 megalitres per day for a few days and is now receding. The peak flows are now downstream of the Anabranche off-take.
- Rainfall across the Lower Darling since the release commenced, and the cool conditions, have meant transmission losses have been much less than forecast. Considerably more water is reaching downstream than expected.
- Peak flow at the Anabranche off-take, nearly half way to Pooncarie, is similar to the release peak.
- Flows have totalled about 15,000 ML so far past Weir 32 and will be continued at low rates for as long as possible, at least over the coming summer.
- This will provide fresh water for domestic, stock and permanent plantings as well replenishing refuge pools and restoring property boundaries.
- Water quality in Lower Darling pools was tested prior to the release of water from Lake Wetherell. Upstream, in the Weir 32 weir pool, water was pH 8.9 and EC 1,880 $\mu\text{S}/\text{cm}$. These readings in the stagnant pools increased progressively downstream to Pooncarie where it was pH 9.1 and EC 3,400 $\mu\text{S}/\text{cm}$.
- Upon arrival of the released water, water quality in pools has quickly improved. Currently in the Weir 32 weir pool, the source of Broken Hill's water supply, the pH is about 7.6 and the EC has dropped below 800 $\mu\text{S}/\text{cm}$.
- There have been many positive reports about the benefits of the replenishment flow and no reports of adverse environmental impacts.
- The head of flow reached Pooncarie last Thursday and is expected to reach Jamesville in the next few days. The block banks are being removed to avoid the risk of over-topping.
- There is concern from water users in the lower reaches about high salinity water from the Lower Darling contaminating good quality (Murray) irrigation water in the Wentworth Weir pool and risking damage to crops.
- The observed flow volumes and measured water quality so far as the water has travelled to Menindee and along the Lower Darling River, and the relatively small volume of poor quality water remaining in the Lower Darling system, suggest that risks will be minimal.
- Nevertheless, it would be prudent for irrigators to avoid using water if possible on days when the headwater is passing in proximity to pumps, and, as a precaution, to take water as far as possible from the top of the water profile at that time to avoid risk of salt up-take.
- The Bureau of Meteorology forecast is for likely wetter conditions in coming months meaning there is every likelihood that further rain events could eventually add to the volume of water making its way to the Darling River and downstream to Menindee Lakes.
- DPI Water is continuing a comprehensive program of monitoring flow rates and water quality and will use aerial surveillance to observe the interaction of flows with receiving waters.
- Water users will be kept informed of water quality test results as they come to hand.

NSW Murray Resource Assessment – Comparison with this time last year

Item	Mid Aug 2015 (GL)	Mid Aug 2016 (GL)	Comments
NSW share of total resources	920	1,425	Inflows last month very wet (25% AEP)
less			
Carryover	498	454	reduced carryover
Environmental	50	76	(B-M water not included – fully borrowed)
Towns, Stock, Domestic	54	54	same as last year
Conveyance	135	197	higher
High Security	179	185	higher (97%)
Critical Human Need (CHN) reserve*	4	40	target maximum 61 GL
General Security	0	419	GS allocation in 2016 = 25%

* CHN reserve target 61 GL.

Chances of improvement

The chances of inflows being above historical minimums, and therefore the likelihood of improved allocations, are as follows:

NSW MURRAY Potential Inflow Conditions #	Forecast 1 October General Security Allocations*	Forecast 1 December General Security Allocations**
Current allocation (99% inflows)	25%	29%
9 chances in 10 (very dry) (90%)	30%**	30%**
3 chances in 4 (dry) (75%)	33%	44%
1 chance in 2 (average) (50%)	43%	64%
1 chance in 4 (wet) (25%)##	53%	97%

Using all years of inflow records.

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

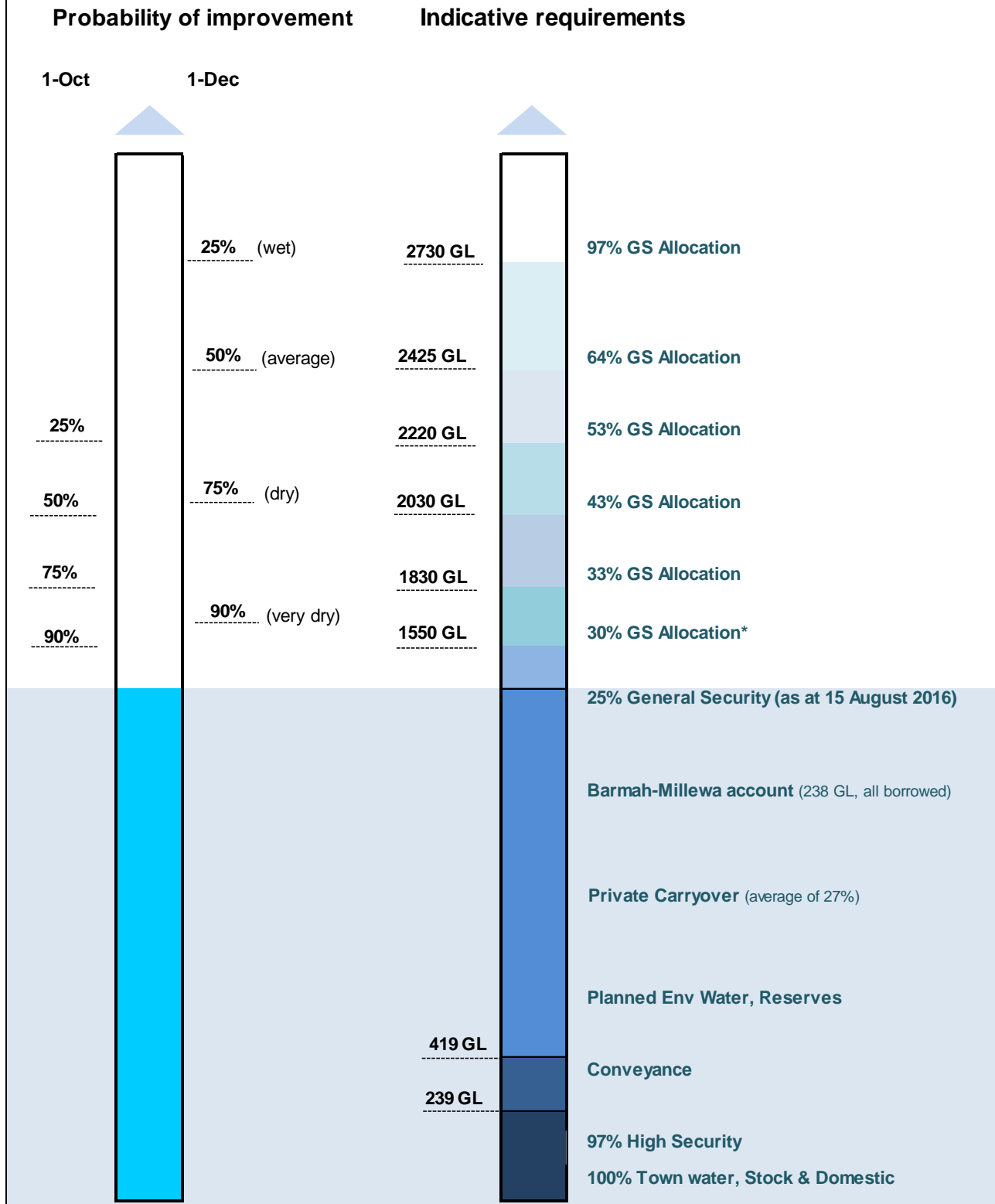
** Payback of Barmah-Millewa Environmental Water Allowance (238 GL) commenced.

We are currently tracking [here](#)

Next announcements

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

NSW Murray Valley Outlook as at 15 August 2016



The figure is based on probabilities and does not guarantee allocations, volumes are indicative only.

*Barmah-Millewa account payback commenced.

Refer to Data Sheet table for complete listing of items contained within the Total Available Resource value.