

16 May 2016

NSW Murray and Lower Darling

Water allocation outlook for 2016-17

Allocations

This statement describes the outlook for the start of the 2016-17 water year and builds on earlier monthly forecasts. The outlook has changed very little as inflows to the end of April have remained extremely dry. The next announcement will be the opening allocations for 2016-17 on 1 July.

Water Year 2015-16	High Security	General Security	Average Carryover
Murray	97%	23%	30%
Lower Darling	80%	0%	Restricted access

Upper Murray storage levels (as at 13 May 2016)

- Dartmouth Dam is currently 44 per cent full, rising, holding 1,688,000 megalitres (ML).
- Hume Dam is 20 per cent full, rising, holding 613,000 ML.

Climate Outlook

There has been some good May rainfall in the upper Murray but limited response from rivers; however the decreased irrigation demand means that storages have begun to rise.

The Bureau of Meteorology (BoM) seasonal outlook for May to July indicates average to above average rainfall in various parts of the Murray catchment, with increasingly wetter conditions in June and July (60 to 75% chance of exceeding median rainfall in parts).

Well above average daytime temperatures are expected in May, with the eastern portion of the catchment remaining above average in June and July. Nights are also strongly favoured to be warmer than average during these coming months.

The southern basin typically receives winter-spring rainfall, with most resource improvements normally experienced across the months July to September.

The current BoM outlook reflects a combination of a rapidly weakening El Niño, very warm Indian Ocean temperatures and warm sea surface temperatures around much of the Australian coast. Climate models indicate neutral conditions and La Niña are equally likely in the second half of 2016. La Niña is often, but not always, associated with above-average winter-spring rainfall.

Trade

In the Murray, trade across the Barmah choke is restricted to 'no net trade downstream'; however there is currently capacity for downstream trade (by virtue of upstream trades). Each year the trade balance at the choke resets to zero on 1 July and is then credited with the volume of accrued Snowy savings. Typically this credit is 20-30 GL, meaning that there will be some capacity for downstream trade to occur from 1 July.

Media contact: James Muddle – 0407 103 507

www.water.nsw.gov.au

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

Water users can trade **into** the Murrumbidgee valley, but trade **out** of the Murrumbidgee valley is closed. Water users are encouraged to monitor the WaterNSW website at www.waternsw.com.au/customer-service/trading/murrumbidgee to keep informed of the Murrumbidgee IVT account balance and status of trade.

Murray water users are reminded that season closing dates for inter-state and inter/intra-valley trade apply. Inter-state trades closed 30 April 2016. NSW inter/intra-valley trade closes 31 May 2016. Additional information on season closing dates can be viewed at <http://www.waternsw.com.au/customer-service/trading>.

Next announcements

This is the final update for this 2015-16 water year. The next allocation announcement for the NSW Murray will be on Friday **1 July 2016**. Allocation announcement updates will subsequently be provided fortnightly. From mid-August, resource availability outlooks will also be compiled and provided at least every two months.

NSW Murray and Lower Darling resource availability outlook for 2016-17 16 May update

Key information

- This outlook, from 1 July 2016, is based on extremely dry (99th percentile) inflows for the remainder of the water year - meaning that 99 years in 100 will provide better inflows.
- In the unlikely event that May and June produce extremely dry (99th percentile) inflows, there will be a small shortfall in available water to allocate to high priority commitments.
- However recent weather and BoM's forecast indicates improved chances of favourable rainfall conditions in May to July, particularly in June and July, which would assist water availability.
- Rainfall and inflow that has occurred in early May has not been included in this assessment.
- Actual future conditions in 2016-17 are almost certain to be better, as these estimates are based on conservative assumptions - extreme dry inflows and the minimum required Snowy Hydro releases.
- Opening general security allocations are forecast to be zero under very dry conditions but the 'wet' season is typically winter-spring with highest inflows from July to September on average.
- Average system inflows this year have been between 'very dry' and 'extreme dry' - 93rd percentile conditions. This is well below the long-term average and also below the average for the last 10 years which includes the Millennium drought.
- Storage in Hume and Dartmouth is about 1,250,000 ML lower than this time last year.
- It is difficult to reliably predict end-of-year carryover as data is highly dependent on weather conditions and individual decisions by water users over the remaining two months. However, it is estimated that NSW Murray carryover could be 25 to 27 per cent of entitlement (420,000 – 460,000 ML), which is substantial but slightly less than recent years.
- This decrease in the NSW Murray carryover estimate from the previous estimate is mainly due to trade, and there is no net impact on resource availability.
- Once the commencing allocation is announced on 1 July 2016, regular assessments will be undertaken and allocation announcements made fortnightly on the 1st and 15th of each month, or next working day following, for the remainder of the water year.

- DPI Water will also provide updated forecasted chances of improvement on 15 August 2016 and will continue to provide forecast information every two months as the water year unfolds.

Indicative allocations on 1 July 2016 – Lower Darling

- In the absence of significant inflows, surface water will continue to be managed adaptively in the Lower Darling ensuring that available water is prioritised for critical purposes. Access to water will be regulated through statutory water restrictions, meaning that only those water-use purposes that meet exemption criteria are allowed to pump and use raw water.
- Like 2015-16, allocations will be made to ensure town, domestic, stock and high security access licences held by those allowed to take water, have enough account balance to ensure continued use of water while any surface water supplies remain.
- Allocations for towns, domestic, stock and high security water licences will likely commence at similar levels to last year and be similarly reviewed and updated throughout the year.
- It is expected that opening general security allocation will be zero (0) per cent of entitlement in the Lower Darling unless there are significant inflows to Menindee storages.
- The likelihood of future Menindee inflows is assessed using the nearest upstream flow gauge in the Darling River at Wilcannia. Based on modelled flows for the last 120 years of historical climate data, **by 1 October 2016** there is a 90 per cent chance that the total flow will sum to at least 20 gigalitres (GL), a 75 per cent chance of 50 GL, a 50 per cent chance of 120 GL and 25 per cent chance of 620 GL. Similarly, **by 1 February 2017**, there is a 90 per cent chance of 60 GL of inflow, 75 per cent chance of 110 GL, 50 per cent chance of 310 GL, and 25 per cent chance of 1,210 GL.
- In broad terms, an event with a volume between 200 – 250 GL past Wilcannia would be required to assure a continuous river release to the Lower Darling and provide some allocation to general security water users.

Indicative allocations on 1 July 2016 – NSW Murray

- Security of water for **towns**, and **domestic** and **stock** access licences, is assured.
- Full allocations will be made for **supplementary** access licence holders. Use of this entitlement is only available subject to announced periods of supplementary flows.
- **Carryover** water in private accounts will be available on 1 July.
- Based on the extremely dry inflow scenario (99%) through to the end of June, there insufficient water available to provide a full **high security** allocation on 1 July. In that unlikely event, high security allocation is estimated to start at around 80 per cent of entitlement, as it did last year, and any shortfall will be addressed from the first resource improvements in 2016-17.
- The region has already seen some rain in recent weeks, and the outlook for June and July indicates a good chance of above average rainfall (60 to 75% chance of exceeding median rainfall in parts). Therefore, should a shortfall in resource eventuate on 1 July, it is highly likely to be small and quickly made up early in the new water year.
- **General security** allocation will commence at zero (0) per cent of entitlement under very dry conditions.
- Under the water sharing plan, the NSW share of the Barmah-Millewa Forest account water may be borrowed for allocations when general security is less than 30 per cent. This account, fully borrowed this year, will continue to be borrowed in 2016-17 as required.
- At least 80,000 ML of water will be available for allocation to **conveyance** entitlements on 1 July, to ensure that high priority water can be delivered.

Chances of improvement

The chance of improved general security allocation in the NSW Murray, based on different inflow conditions, is provided in the following table assuming extreme dry (99%) conditions for the remainder of this water year. Being so close to 30 June 2016, other dry scenarios (90% and 75%) show little difference in the forecasts.

Forecast General Security allocation (per cent) – extreme dry inflows (99%)[#]

Potential Inflow Conditions in 2016-17	1 Sept 2016	1 Nov 2016
99 chances in 100 (extreme) (99%)	0	0
9 chances in 10 (very dry) (90%) [^]	0	6
3 chances in 4 (dry) (75%)	6	29
1 chance in 2 (mean) (50%)	21	40 ^{**}

^{##} Multi-history modelling using all years

[^] Currently tracking on average 93% in 2015-16.

[#] Assumes extreme dry (99%) inflow conditions to 30 June 2016 and an average general security carryover of 25 to 27% (420 - 460 GL).

^{**} Borrow from B-M Allowance is fully repaid at this point.

Pay-back of borrow from B-M Allowance commences at 30% general security allocation.