

# Regional customer drought update

8 January 2019



## Key messages

Sporadic rainfall of 1 – 5 mm was received over most parts of the state. Some eastern areas of the state receive 10 – 25mm but had little impact on storages

Overall, regional valley storages vary significantly in security, with the Namoi, Barwon Darling and Lower Darling at high risk with cease to flow either in place or imminent.

The drought conditions in the state's Central West, Far West and North West regions are the worst affected to date. As well as bringing hardship to local farmers and surrounding communities, the stressed river network is also impacting the riverine environment. These impacts are being felt most acutely in the form of declining overall water quality, blue-green algae outbreaks and fish kills. A number of fish kills were reported in recent weeks in the Lower Darling, downstream of Keepit and in Wyangala Dam.

Increase reports of red alerts are occurring for blue green algae with increasing temperatures and reduction in flows along the rivers due to the drought.

WaterNSW is undertaking a drought roadshow in the Macquarie valley from 15-17 January. Community meetings will be held in Warren, Narromine, and Mudgee as well as closed meetings with Bogan, Cobar and Dubbo councils.

In the Namoi, the 324 order has now been lifted and all orders have been delivered, including the Expression of Interest. However, no further releases to the Lower Namoi are possible until inflows occur as Keepit is practically empty.

In the Macquarie, there remains a restriction on access to 70% of carryover. Any improvements in resources to Burrendong Dam will need to consider high priority commitments for 2019-20, before this order is eased.

Bulk water transfer of 35 gigalitres from Windamere to Burrendong Dam has been commenced on 1<sup>st</sup> January 2019. A second 13 GL phase of the transfer is scheduled for mid-year if conditions remain dry, leaving a minimum of 70 GL in Windamere.

Construction of Lower Darling block banks is complete, and filling is in progress. Filling these banks will result in cease to flow in some river sections over coming weeks, and a temporary water restriction order is now in place. Releases from Menindee to these banks is forecast to cease in mid-January as Lake Pamamaroo empties.

Rainfall of 5 – 25mm should be received over the central and eastern parts of the state with the western areas of the state forecast to remain dry.

Temperatures for the week will see average January conditions increasing on Saturday to heatwave conditions, 39 – 45 degrees.

## Last week's weather

Sporadic rainfall of 1 – 5 mm was received over most parts of the state. Areas that received higher rates of rainfall of around 10 – 25mm included the Hunter, Southern and Central Tablelands, Central West Slopes and Plains and parts of the Upper Western.

## This week's weather forecast

A high pressure system over the Tasman Sea extends a ridge towards southeast Queensland, while a weakening trough lies over northeast New South Wales. On Monday and Tuesday a broad low pressure trough is forecast to lie over the state's west while high pressure remains over the Tasman Sea. A cold front passing to the south later Tuesday and Wednesday is expected to push a trough through eastern parts, bringing another dose of unsettled weather.

Most of the rainfall for this week will occur in the first few days of the week. The latter part of the week will see minimal rainfall. Rainfall of 5 – 25mm should be received over the central and eastern parts of the state with the western areas of the state forecast to remain dry.

Temperatures for the most parts of the week are expected to be around average for January, but towards the end of the week, Saturday, temperatures will soar, with the central to western parts of the state forecast to reach heatwave conditions again of around 39 to 45 degrees.

## Operational Update

**Lower Darling:** Construction of all four temporary banks in the Lower Darling is now complete and release rates from Lake Pamamaroo have been increased to fill these banks before evaporation empties Lake Pamamaroo. The upper block banks are reaching the design capacity and are likely to be close to full when releases from the lakes cease.

Releases from Pamamaroo are forecast to reduce, with lower lake levels, in mid-January and the pipes in the banks will be closed to store this water. This will lead to cease to flow conditions between the banks' pools.

WaterNSW wrote to customers along the lower Darling advising those wishing to install individual block banks (in locations between the four temporary banks) to forward applications to WaterNSW for fast track approvals, via standard conditions. This will allow the timing of the construction and filling of these private block banks to be co-ordinated to ensure all customers have access to water.

On 4 December the Government requested WaterNSW implement restrictions on water accounts for our Lower Darling customers. A Temporary Water Restriction Order restricts the

use of any available water to critical human needs and permanent plantings, plus the use of high security water from Copi Hollow.

High levels of blue green algae have been recorded within the lakes and Lower Darling River. This is having an impact on water quality and restricting access to the lakes, especially Copi Hollow, for recreational use.

A fish kill occurred in weir 32 with up to 10,000 fish being impacted. The cause of the fish kill is likely to be the result of low dissolved oxygen. Dissolved oxygen levels were high in the top 1m of the water column but once below that level oxygen levels drop to close to zero. A small inflow from a localised storm is likely to have mixed the water column, removing the oxygenated layer.

**Namoi:** The block release from Keepit to deliver all orders placed by 5 November ceased on 16 December, with Keepit Dam now at 0.4% of active capacity.

Delivery of these orders, and the additional 1GL from the expression of interest are now complete. No further block releases are planned without further inflow, and Keepit is now practically empty.

WaterNSW is working with Road and Maritime Services to place a marine order on Keepit Dam to limit motor boating access to the dam due to the increase public safety risk with very low water levels and limited area available for activities. Navigational warning was put in place by RMS advising potential visitors of the public safety limitations on the 19 December.

Low flows downstream of Keepit and increasing temperatures resulted in a fish kill in this reach. High temperatures and low flows can reduce oxygen levels in the water column which puts native fish at risk.

**Macquarie:** First phase of the Windamere bulk water transfer (BWT) has been commenced on 1 January 2019. Burrendong is planned to be drawn down to about 4% by end of summer. Deliveries to town water and stock and domestic supplies will be maintained from this volume in Burrendong Dam to at least the end of 2018-19 in the Macquarie. The second parcel of bulk water transfers will be released in spring 2019, if conditions remain very dry, to extend critical supplies in the Macquarie for 2019/20. This second stage of the BWT will leave 70GL in Windamere which is a very secure supply for that valley for at least 7 years.

The information session on the 4 December in Mudgee for the local community confirmed; the commencement date of 1 January, the communications plans, the volume per month, but limited the peak releases to 900ML/d rather than the peaks (1,500ML/d) and troughs proposed by OEHL to provide environmental outcomes from the BWT. Customers were concerned that higher releases would lead to more suspended solids in the water that would clog irrigation equipment filters in the peak irrigation months of January and February.

The level in Burrendong Dam is expected to drop steadily to about 4% by end of summer. Burrendong Dam had been drawn below 10% on five similar occasions (June 1995, Jan 1998, Apr 2003, May 2004 and Jan 2007).

## Details

Valley		Storage Volume (GL)	Weekly inflows (GL)	Releases ML/d	Comment	GS % AWD	AWD Inflows Required
Valley	Dams						
Border	Pindari	88	0.8	1,480	Releases are being made to meet d/s irrigation demand for both NSW and QLD customers	2.7	18.3
	Glenlyon	80	1	1,579			
Gwydir	Copeton	239	0.8	2,090	Releases are being made to meet d/s irrigation and environmental demand.	0	36
Namoi	Split Rock	21	0	65	Split Rock bulk water transfer complete. Keepit releases for Lower Namoi block release ceased 16 Dec with Keepit now at 0.4% of capacity. No further releases to Lower Namoi until inflows occur.	0	80
	Keepit	9	0.1	0			
Peel	Chaffey	43	0	110	Chaffey Dam releases for Tamworth and irrigation demand, in roughly 35:65 ratio.	38	N/A***
Macquarie	Burrendong	177	0	2,740	Current releases from Burrendong Dam are for increasing irrigation demand. Delivery of environmental flows commenced at Burrendong Dam on 12 July 2018 and finished on 11 Dec 2018, with a total delivery of about 127 GL.	0	325
	Windamere	139	0	293			
					Current release from Windamere dam are for the bulk water transfer.		

Valley		Storage Volume (GL)	Weekly inflows (GL)	Releases ML/d	Comment	GS % AWD	AWD Inflows Required
Valley	Dams						
Lachlan	Wyangala	517	0.4	3,500	Current releases from Wyangala Dam are for irrigation, TWS and S&D demand.	0	267
	Carcoar	15	0	93	Current releases from Carcoar Dam are for irrigation and S&D demand. Due to drought conditions, end of system daily environmental flow requirements is only met intermittently.		
Murrumbidgee	Burrinjuck	441	3.5	3,500	Release for: irrigation, planned environmental water (186ML/d at Balranald and 50ML/day at Darlot) and planned/held environmental water to Lowbidgee.	7	180
	Blowering	655	0.3*	6,500			
Murray	Hume	1,134	36.2*	13,900	Transfers from Dartmouth & Hume to Lake Victoria continues, at lower rate, for South Australia.	0	130
Barwon-Darling			0	N/A	Cease to flow conditions: Walgett – no flow since 21 July 2018; Bourke – no flow since 27 August; Wilcannia – no flow since 8 September	N/A	N/A
Lower Darling	Menindee	63	0	295	Four block banks have been constructed on the lower Darling with releases currently filling banks.  Copi Hollow bank has been constructed and has been filled to 12GL to secure water for Broken Hill.	0	N/A

\* Includes inflows from Snowy Hydro, already budgeted.

\*\* Includes inflows from Dartmouth and Snowy Hydro, already budgeted.

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