

Gwydir Operations Plan

November 2018

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1. Highlights

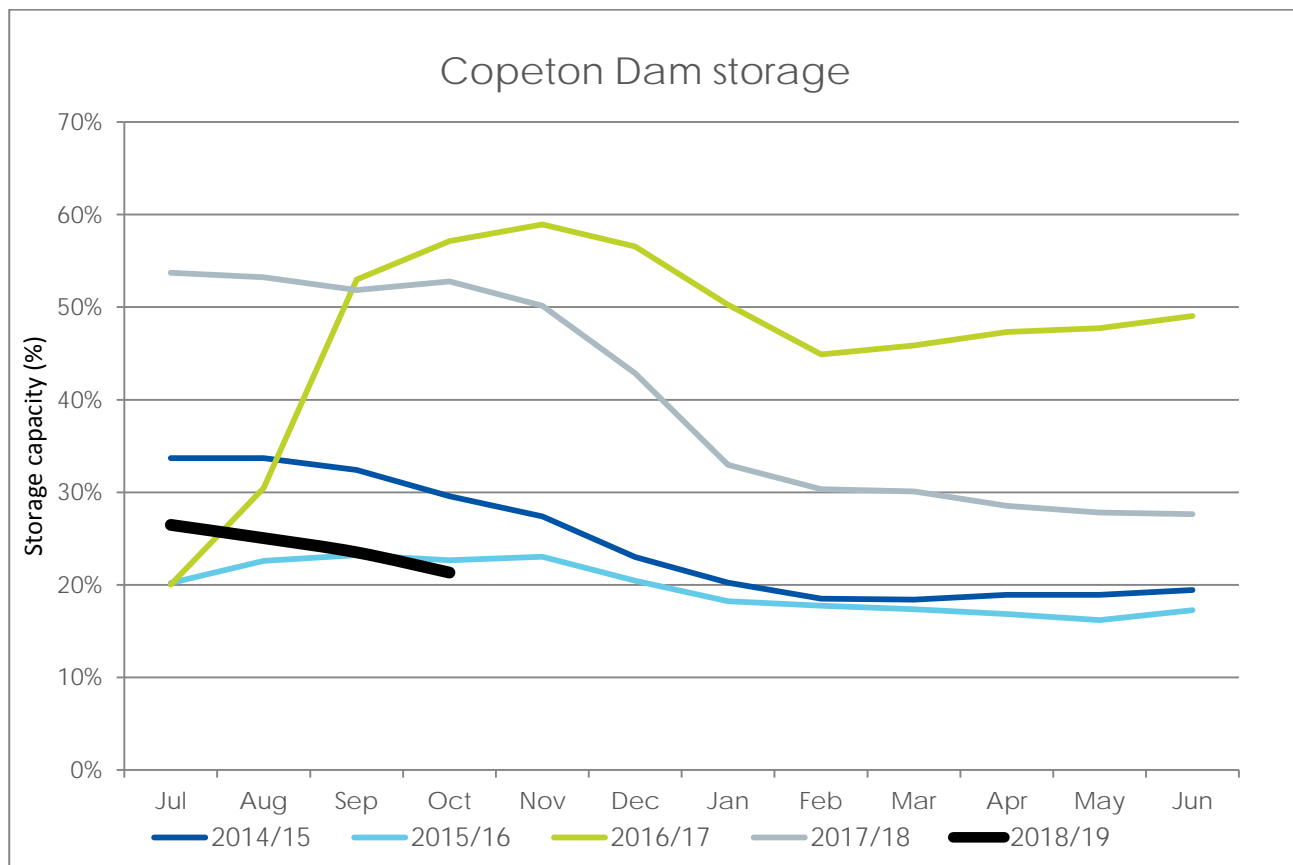
- Under a minimum inflow sequence the delivery loss account is expected to be drawn down to empty by the end of December 2018.
- The essential supplies account will then be utilised to deliver remaining account volumes, becoming relatively stable from Feb 2019 to May 2020 before improving at the end of sequence.
- WaterNSW will be utilising block releases as an efficiency measure, for the delivery of relatively low remaining account volumes of general security irrigation throughout 2018/19.
- The block releases strategy will consist of up to 3 defined blocks of water being delivered to distributary streams (Moomin, Carole/Gil Gil and Mehi) throughout spring and summer 2018/19. The first block releases arrived at extraction sites in mid-October for a duration of around 14 days.
- Total anticipated deliveries for this season include approximately, 80GL of environmental water (ECA +general security), 40 GL of general security irrigation water, and 14GL of high security water.



2. Dam storage

2.1 Copeton Dam storage

The below figure shows the Copeton Dam behaviour for the 2017-18 water year compared to the last four water years.



The dam was 26.5% full in July 2018 and reduced to 21.3% over last four months. No significant inflow has arrived at the dam this water year therefore the graph shows a continuous decreasing trend. In 2017-18, Copeton dam was 53.2% full at the start of the water and there was no significant inflow during that year either.

Without significant inflows, Copeton Dam is likely to be holding close to 180 GL at the end of this water year.

3. Supplementary access

3.1 Commentary

here have not been any supplementary events in the Gwydir since the start of the 2017/18 water year.

3.2 Explanation

No supplementary access was available since the start of the 2017/18 water year due to lack of high flow runoff events entering the system.

4. Water availability

4.1 2018/2019 water availability for Gwydir as of 31 October 2018

Licence category	Share component	Carryover	AWD volume	Allocation assignments in	Allocation assignments out	Usage	Balance
Domestic and stock	2,506	-40	2,506	-	-	493	1,973
Domestic and stock [domestic]	88	-	88	-	-	-	88
Domestic and stock [stock]	230	-2	230	-	-	22	206
ECA	44,000	44,000	-	-	-	-	44,000
Local water utility	3,836	-	3,836	-	-	520	3,316
Regulated river (general security E)	106,617	70,884	-	19,910	17,053	15,200	58,541
Regulated river (general security)	403,048	39,637	-	9,824	3,577	9,746	35,713
Regulated river (high security)	20,200	-9	20,200	-	9,104	1,626	9,460
Regulated river (general security) [research]	60	-	60	-	-	-	60
Replenishment	21,000	-	-	-	-	-	-
Supplementary water	181,398	-	226,748	10,551	10,551	-	226,748
Grand total	782,983	154,469	253,668	40,285	40,285	27,607	380,105

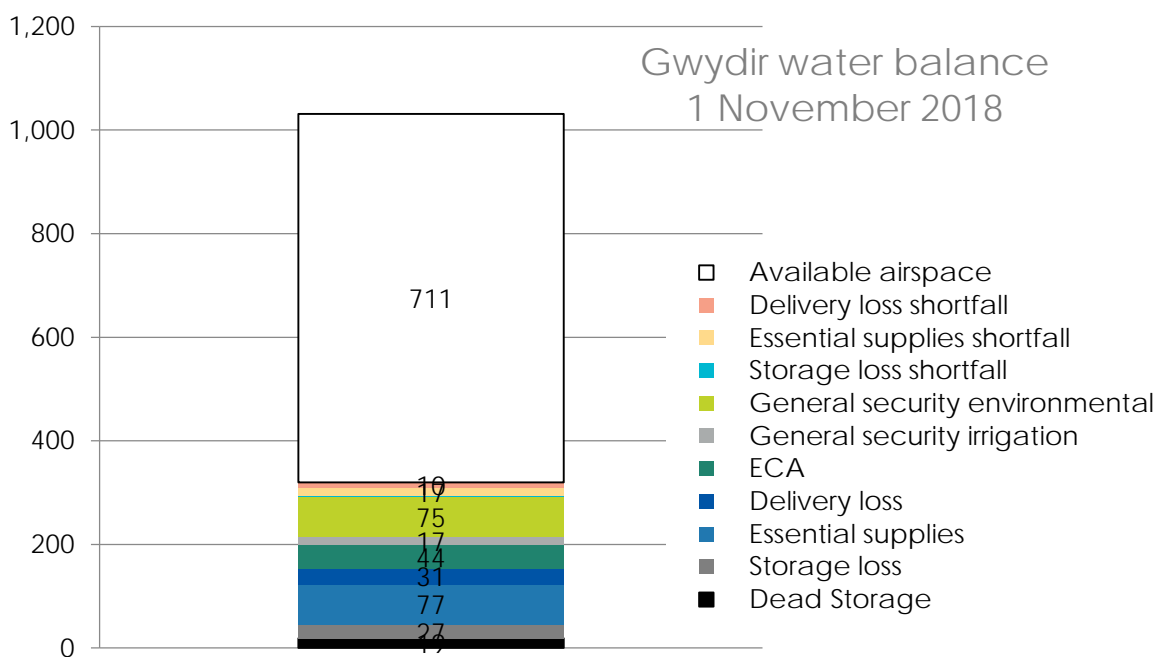
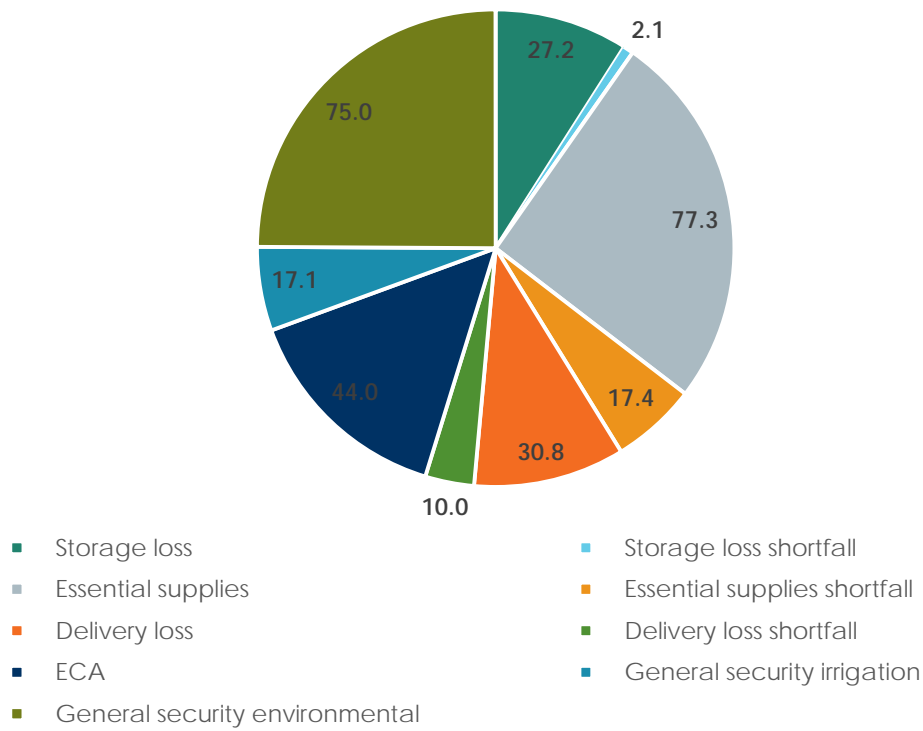
Gwydir River valley

Allocation (ML/Share, %)	Licence category	Date of allocation
0.0 / 0%	General security	1 July 2018
1.00 / 100%	High security	1 July 2018
1.00 / 100%	Domestic and stock	1 July 2018
1.00 / 100%	Local water utilities	1 July 2018

- General Security water users in the Gwydir have access to unused water in their account carried over from the previous year. Towns, domestic and stock, and high security licence categories cannot carryover.
- In this current water year, 0% Available Water Determination (AWD) has been announced on 1 July 2018 for General Security (GS). For other water users (e.g. High Security and Town Water Supply), the AWD is 100%.
- No additional AWD has been announced since 1 July 2018. Further general security AWD's are possible throughout the year.

4.2 Resource assessment

Copeton Dam resource assessment distribution
1 November 2018



End of October Copeton Dam storage volume = 290.45 GL (20.2 %). Total shortfall 29.49 GL.

4.2.1 Significance of this resource assessment

The current resource assessment at 1 November 2018 indicates that there is no general security AWD announcement in this month.

It also shows that 29.49 GL of inflow is required to make up for the shortfall before any future AWD announcements are possible.

4.2.2 Resource assessment process

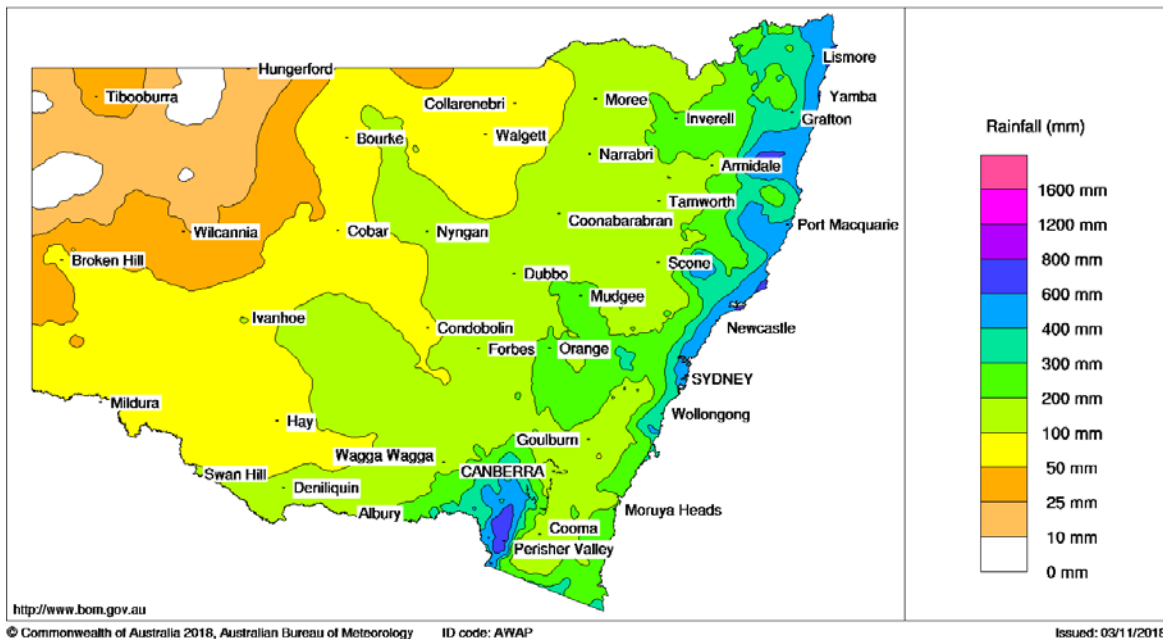
The Resource Assessment is the process of calculating how much water is available based on the rules of the Water Sharing Plan (WSP). This is done at the end of the month and when any significant inflow event happens.

The planning horizon for this resource assessment is 24 months. For this resource assessment it is November 2018 to October 2020. The minimum inflow sequence is considered from November 2018 to October 2020. At the 1st of November, the total resource available is the Copeton storage volume, and the minimum expected inflow over the planning horizon. Afterwards, commitments for the planning horizon are subtracted to find the remaining available resource for AWD announcement. Currently the total commitment is higher than the available resource and the shortfall is about 29.49GL. No significant inflow was recorded since the last assessment. Therefore, no additional allocation is possible at this point in time.

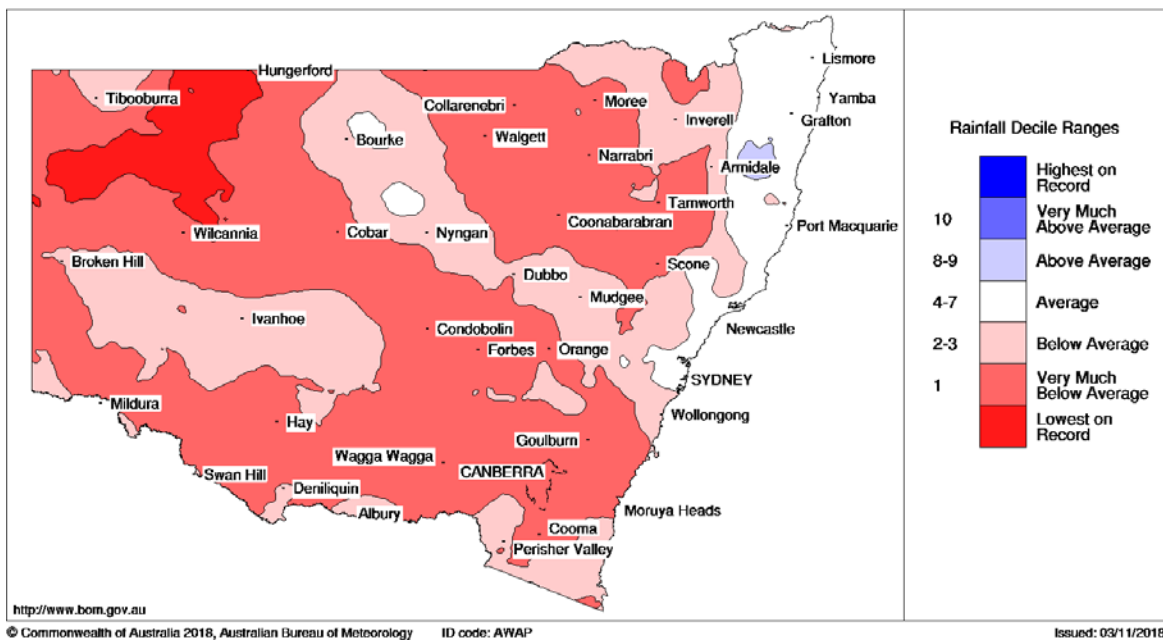
5. Rainfall

5.1 6-month rainfall

New South Wales Rainfall totals (mm) 1 May to 31 October 2018
Australian Bureau of Meteorology



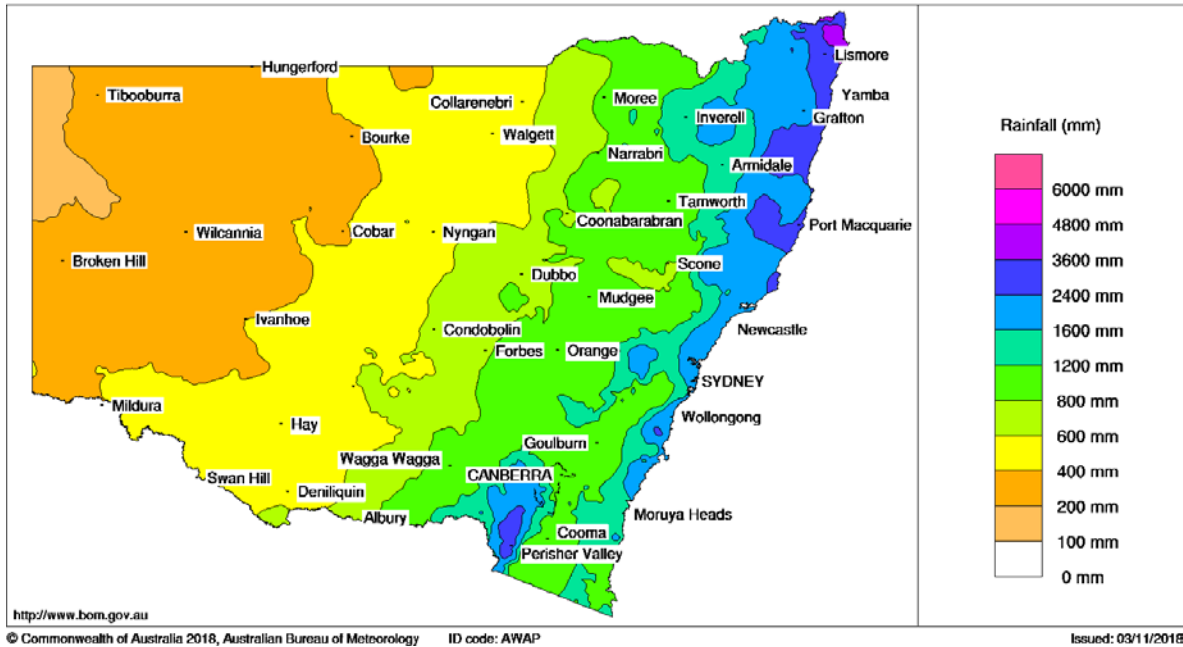
New South Wales Rainfall Deciles 1 May to 31 October 2018
Distribution Based on Gridded Data
Australian Bureau of Meteorology



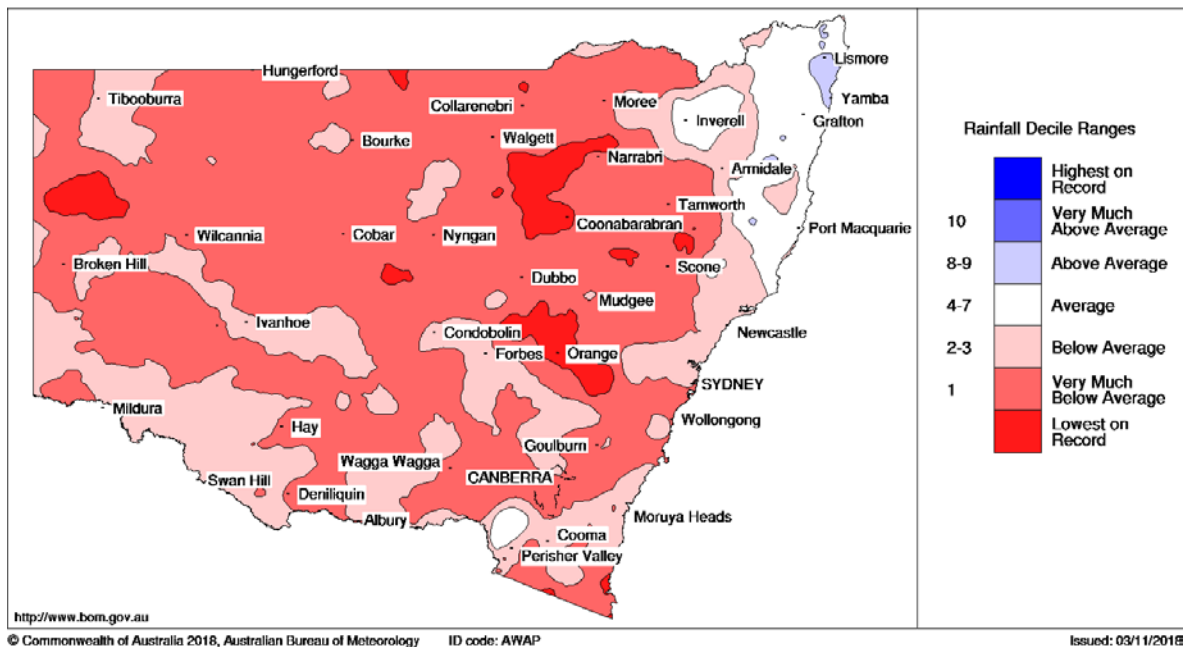
During the last 6-months, total rainfall has ranged from 50 to 200mm which is below to very much below average.

5.2 24-month rainfall

New South Wales Rainfall totals (mm) 1 November 2016 to 31 October 2018
Australian Bureau of Meteorology



New South Wales Rainfall Deciles 1 November 2016 to 31 October 2018
Distribution Based on Gridded Data
Australian Bureau of Meteorology

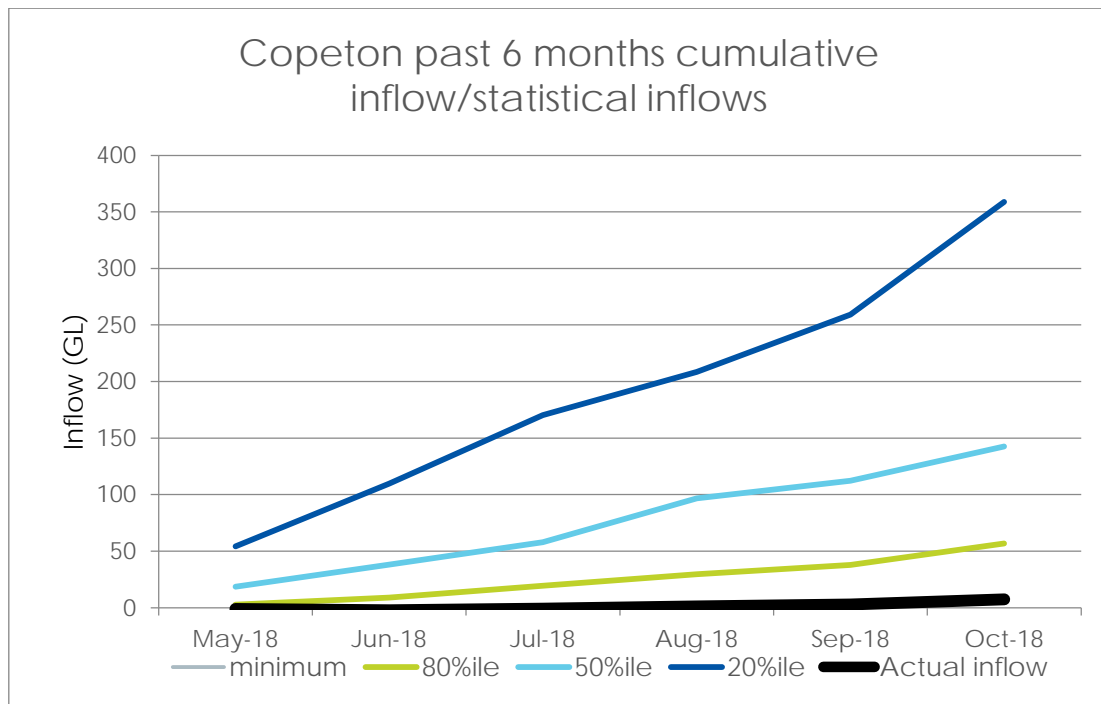


During last 24-months, total rainfall has ranged from 400mm to 1600mm which is below to very much below average.

6. Inflows

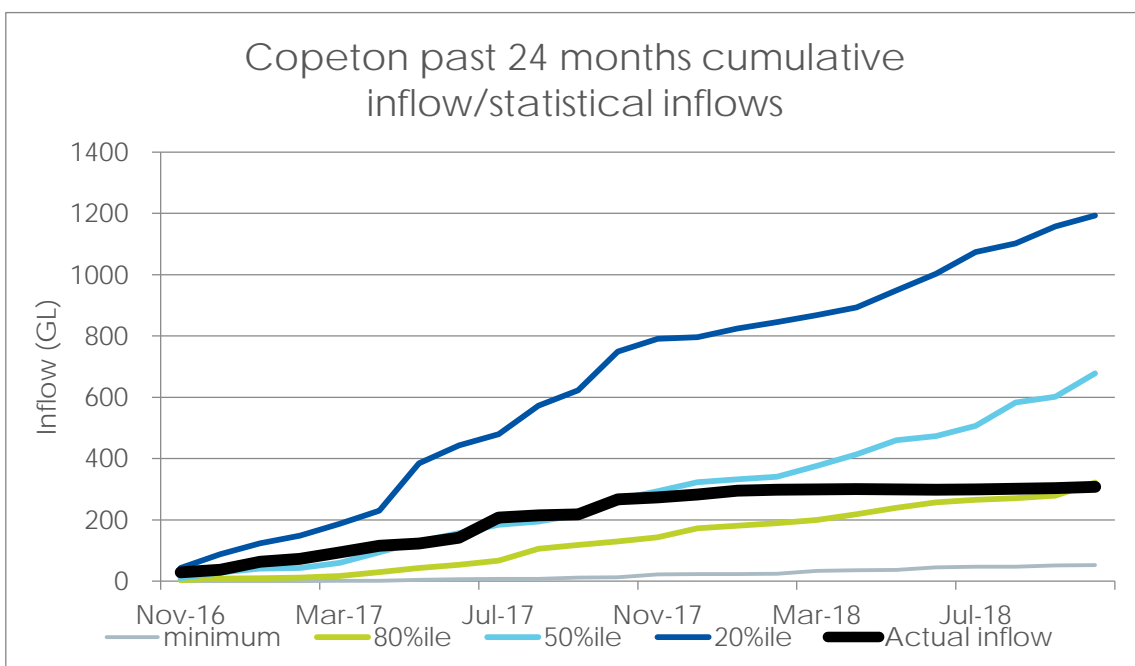
6.1 Copeton Dam inflows

6.1.1 Copeton Dam - past 6-month inflows/statistical inflows



Actual inflow for the 6 months is 7.4 GL which is just above the lowest recorded inflow.

6.2.2 Copeton Dam - past 24-month inflows/statistical inflows



Due to dry conditions in the last 24 months only around 300 GL of inflows were recorded which is slightly under to 80th percentile inflow condition.

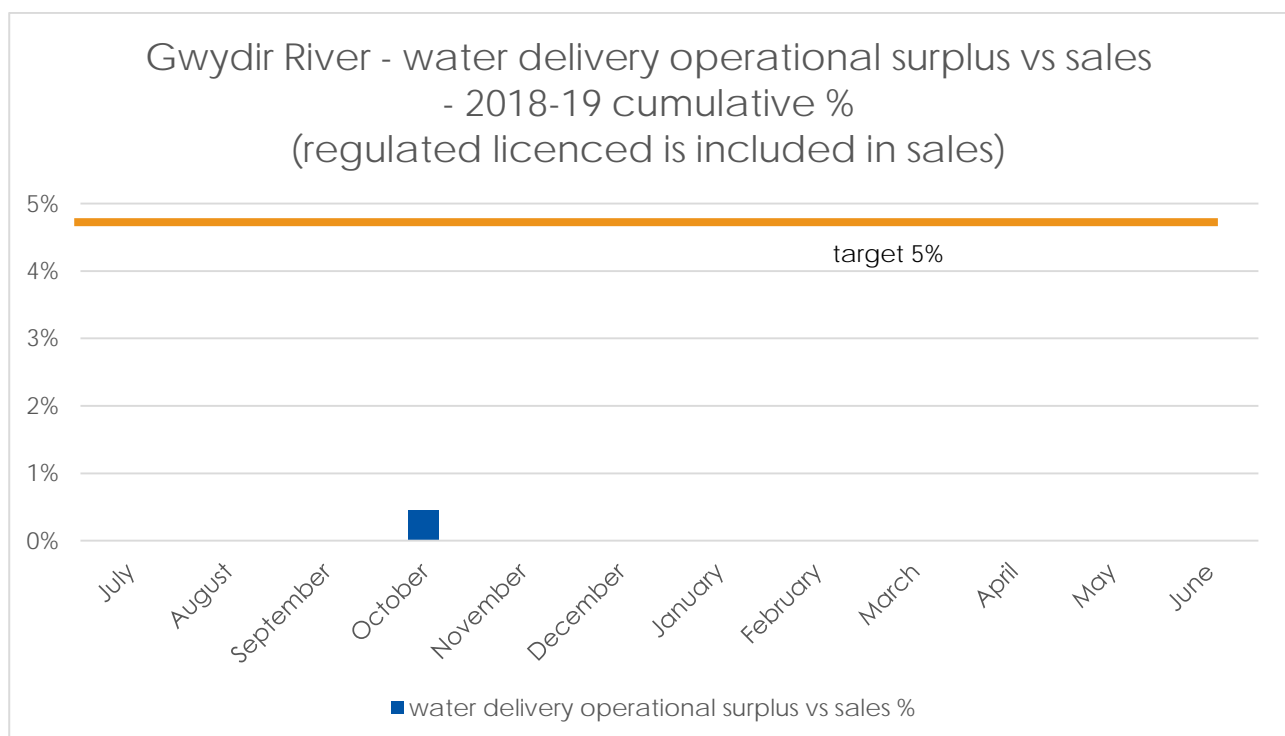
6.3 Downstream tributary inflows

No significant downstream tributary inflows have been recorded during this water year (July 2018 to October 2018).

7. Operational losses

6.4 Operational losses for 2018-19

Operational loss is water above that which could reasonably be expected to pass the last extraction point on each given river/creek being supplied with regulated flow (dam releases and controlled tributary inflows – not supplementary flows).

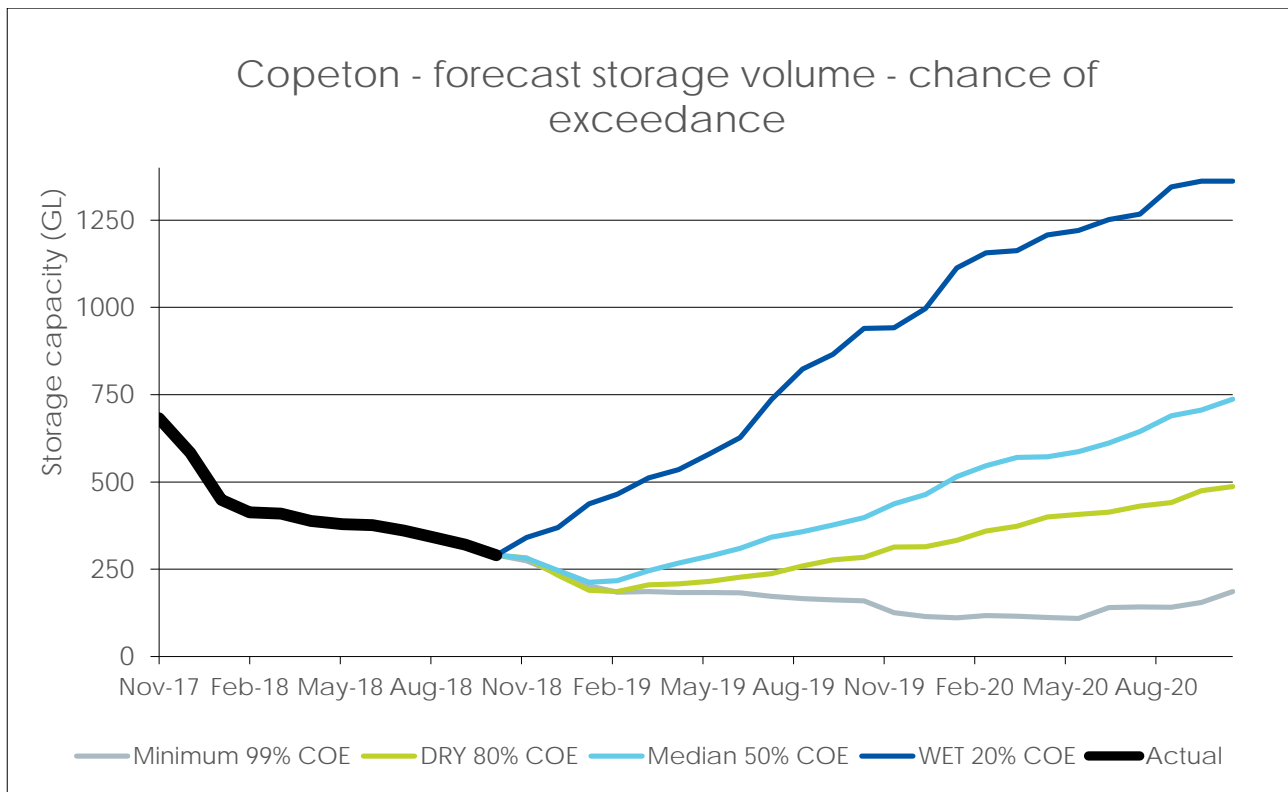


Gwydir cumulative totals for 2018-2019

Dates	Sales + environmental delivery	Operational surplus	Actual	Target
July	9,250	0	0%	5%
July-Aug	23,835	0	0%	5%
July-Sep	34,942	0	0%	5%
July-Oct	56,044	250	0.446%	5%

8. Storage forecast

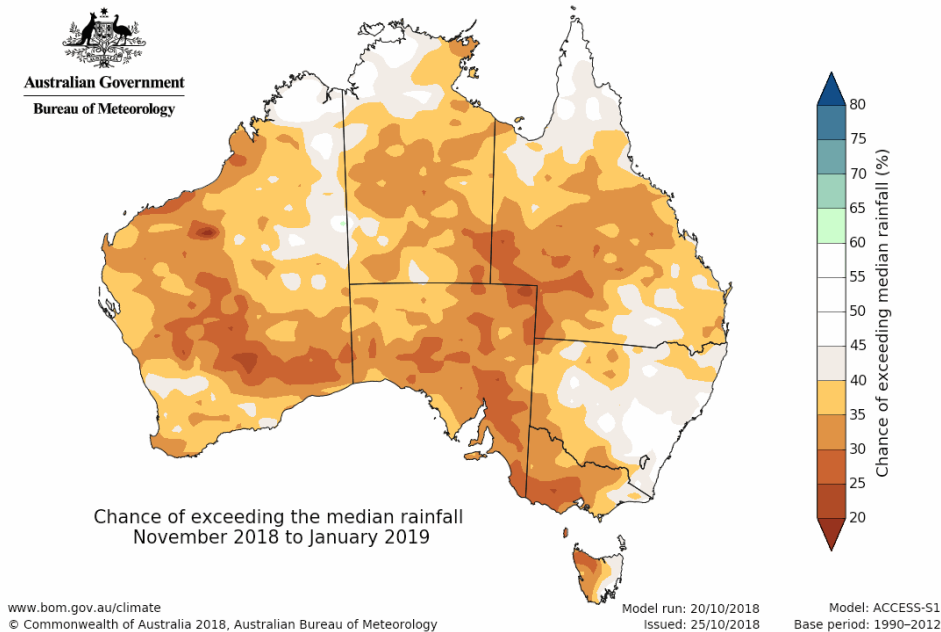
8.1 Copeton storage forecast



The above figure demonstrates the possible scenarios for Copeton Dam until October 2020. The scenarios are based on different expected inflow conditions. For example, with the 20th percentile inflows, Copeton Dam may be almost full at the end of October 2020. The Chance of Exceedance (COE) in the figure refers to the chance of exceeding inflows and storage levels in the time frame. For example, Wet 20% COE indicates that there is a 20% of chance that the dam volume will be

greater than the projected volume, and there is 80% chance that the dam volume will be less than the projected volume.

8.2 Next 3 months scenario from the BOM forecast



9. Outage planning

Item	Time	Description
Copeton Dam	N/A	None
Booloroo weir	N/A	None
Combadello weir	N/A	None
Tareelaroi weir	N/A	None
Tyreel weir	N/A	None
Carole Creek regulator	N/A	None
Gundare bridge and regulator	N/A	None
Mallowa creek regulator	N/A	None
Mongyer Lagoon Block Dam and regulator	N/A	None
Tareelaroi regulator	N/A	None
Tyreel regulator	N/A	None

10. Prognosis

Possible General Security Allocations, based on different inflow scenarios are as follows:

	Extremely dry (minimum inflows)	Dry (80 th percentile inflows)	Average (50 th percentile inflows)	Wet (20 th percentile inflows)
3-month forecast to 31-Jan -19	0.0	0.0	5.4	30.0
6-month forecast to 30-Apr-19	0.0	3.2	17.0	48.4

If the dry conditions continue with minimum inflows, then there will be no AWD announcement for next 6 months. If conditions improve with 50th percentile inflows, there is a chance of a 5.4% AWD within next 3 months. With higher inflows (i.e. 20th percentile inflow), a 30.0% AWD is possible within the next 3 months.

More information

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