2017/18 Water Availability for Macquarie

Licence Category Water Availability as of 25th Feb 2018	Sum of Share Component	Sum of Account Balance	Sum of Available Water	Sum of AWD Vol	Sum of Carryover In	Sum of Allocation Assignments In	Sum of Allocation Assignments Out	Sum of Usage
DOMESTIC AND STOCK	4,307	3,533	3,459	4,299	0	0	0	774
DOMESTIC AND STOCK [DOMESTIC]	787	785	785	785	0	0	0	0
DOMESTIC AND STOCK [STOCK]	170	141	141	170	0	0	0	29
LOCAL WATER UTILITY	16,205	7,221	6,395	16,205	0	0	0	8,984
REGULATED RIVER (GENERAL SECURITY)	613,214	342,828	332,137	231,360	442,816	164,245	149,924	343,719
REGULATED RIVER (HIGH SECURITY)	8,416	2,983	2,494	8,416	0	121	616	4,938
REGULATED RIVER (HIGH SECURITY) [RESEARCH]	4,044	2,140	2,010	4,044	0	0	0	1,904
REGULATED RIVER (HIGH SECURITY) [TOWN WATER SUPPLY]	40	40	40	40	0	0	0	0
SUPPLEMENTARY WATER	48,687	48,587	48,587	48,303	-1	9,302	9,278	0
GRAND TOTAL	**695,870**	**408,257**	**396,047**	**313,621**	**442,815**	**173,668**	**159,818**	**360,348**

General Security Available Water Determination		
Date	AWD ML/Share	Total %
1-Jul-17	0.36	36%
14-Aug-17	0.02	38%

No additional AWD has been announced since 14 August 2017.

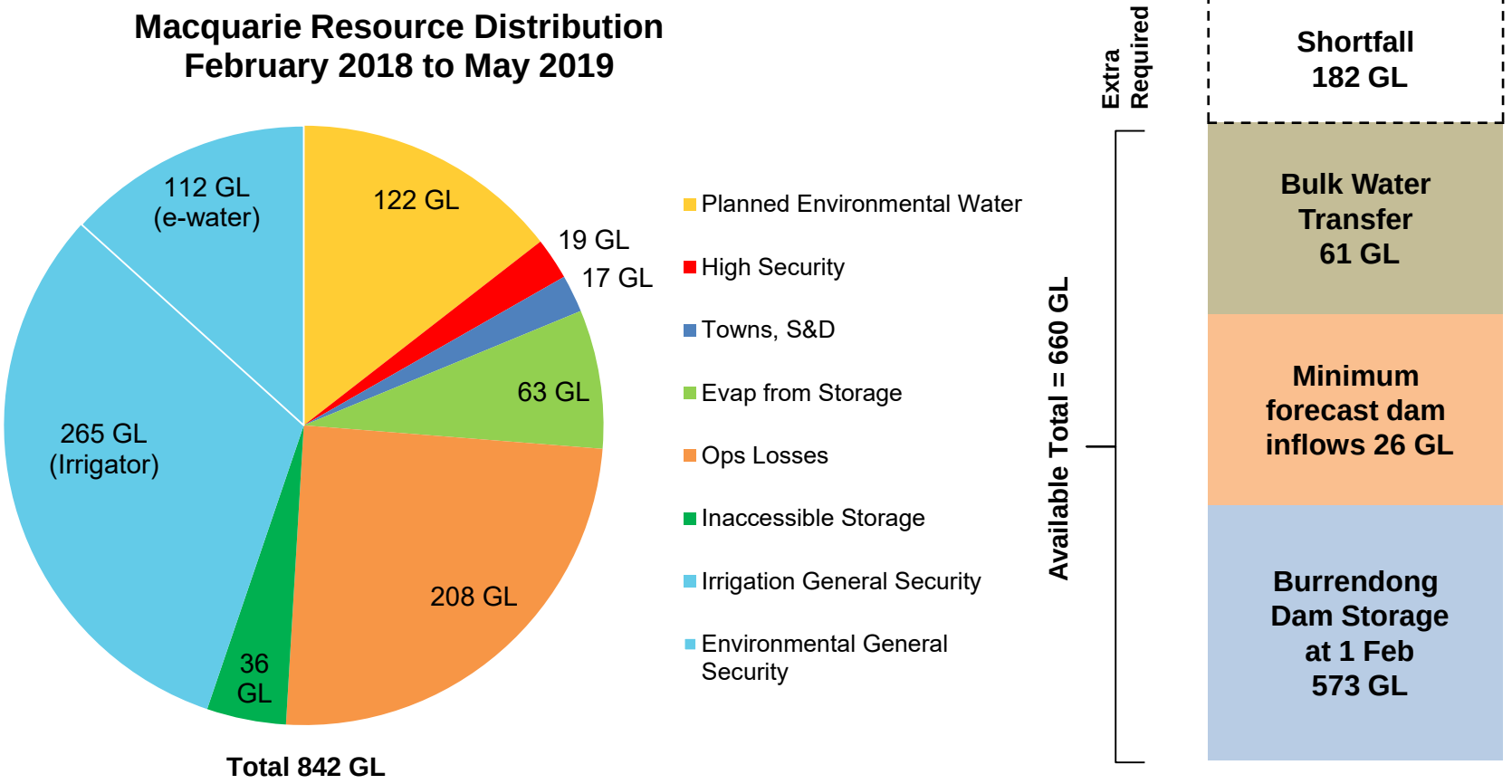
Of 343,719 ML of Usage: Lic Env usage 69,897 ML and Irri GS usage 273,822 ML

2017/18 Water Availability for Cudgegong

Licence Category Water Availability as of 25th Feb 2018	Sum of Share Component	Sum of Account Balance	Sum of Available Water	Sum of AWD Vol	Sum of Carryover In	Sum of Allocation Assignments In	Sum of Allocation Assignments Out	Sum of Usage
DOMESTIC AND STOCK	672	326	326	672	0	0	0	346
DOMESTIC AND STOCK [DOMESTIC]	19	16	16	16	0	0	0	0
DOMESTIC AND STOCK [STOCK]	15	15	15	15	0	0	0	0
LOCAL WATER UTILITY	2,600	1,324	1,291	2,600	0	0	0	1,276
REGULATED RIVER (GENERAL SECURITY)	19,252	23,466	23,365	7,299	29,029	621	10,420	2,689
REGULATED RIVER (HIGH SECURITY)	5,412	779	779	5,175	0	0	4,053	343
REGULATED RIVER (HIGH SECURITY) [RESEARCH]	1	0	0	1	0	0	0	1
SUPPLEMENTARY WATER	1,312	1,312	1,312	1,248	0	0	0	0
GRAND TOTAL	**29,283**	**27,239**	**27,105**	**17,026**	**29,029**	**621**	**14,473**	**4,655**

General Security Available Water Determination		
Date	AWD ML/Share	Total %
1-Jul-17	0.36	36%
14-Aug-17	0.02	38%

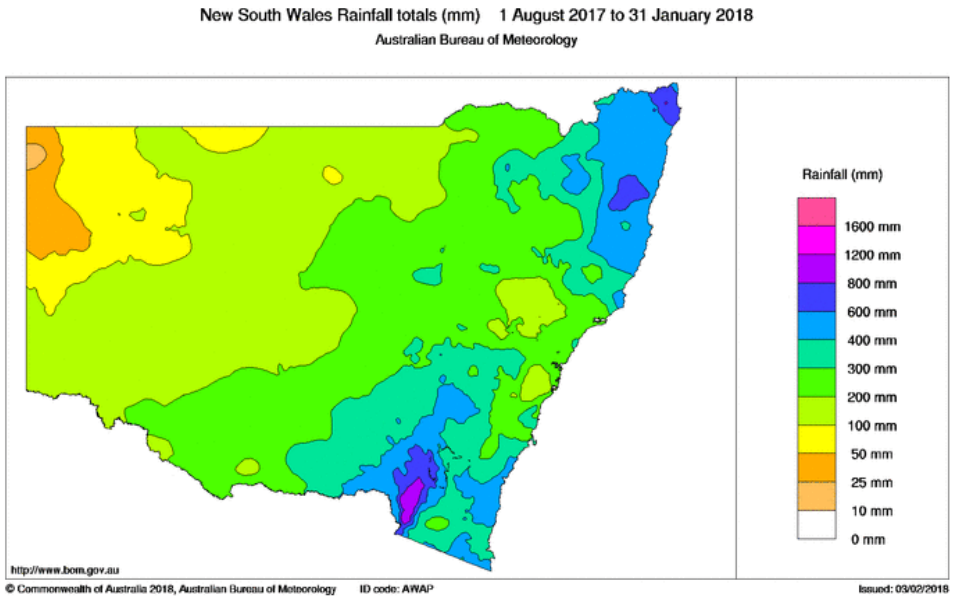
Current Resources Breakdown

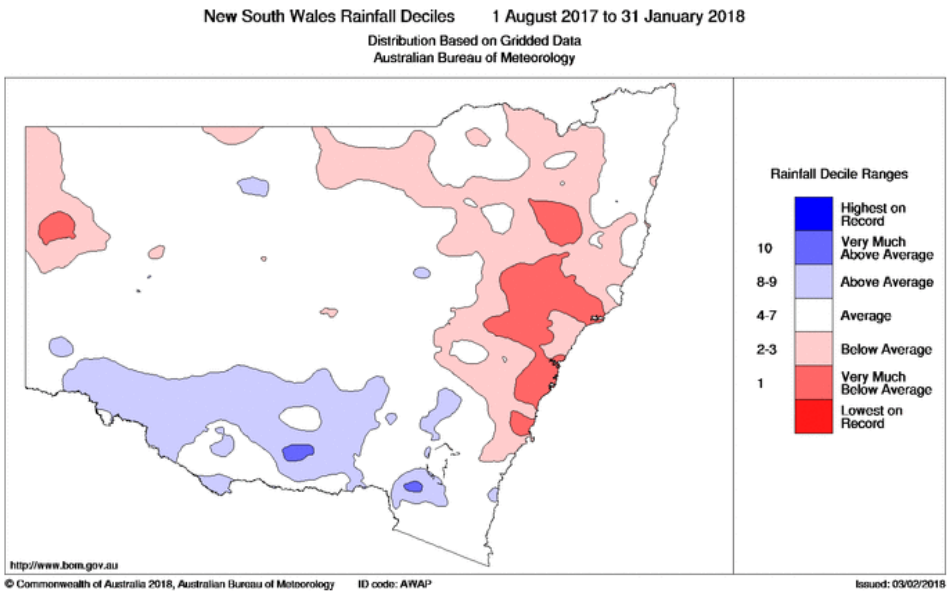


Resource Assessment

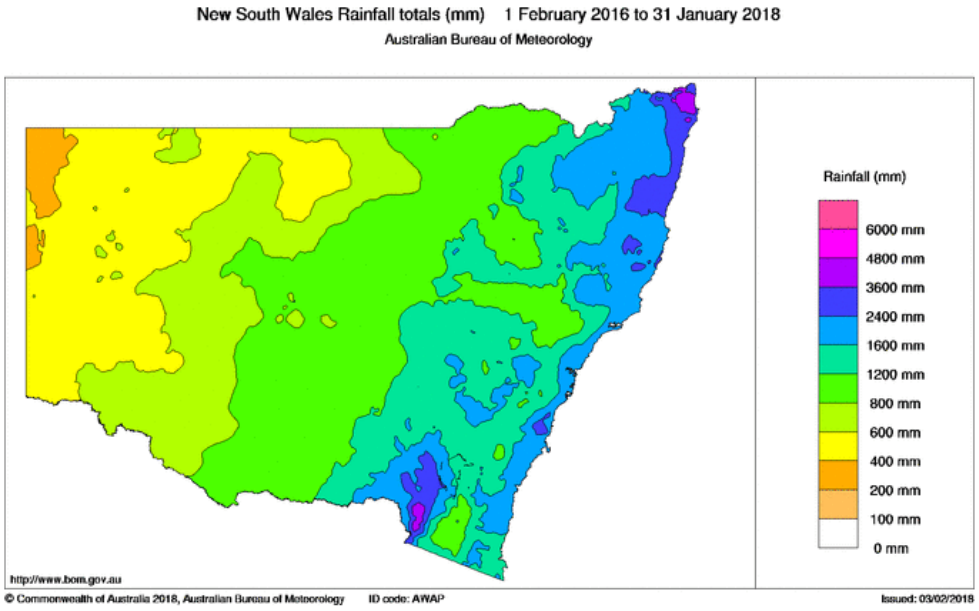
Macq Cudge Resource Assessment - Burrendong Dam	1-May-17	1-Jun-17	1-Aug-17	1-Aug-17	1-Sep-17	1-Oct-17	1-Nov-17	1-Dec-17	1-Jan-18	1-Feb-18
Planning Horizon (drought sequence)	May 17- May 18	Jun 17- May 18	Aug 17- May 18	Aug 17- May 19	Sep 17- May 19	Oct 17- May 19	Nov 17- May 19	Dec 17- May 19	Jan 18- May 19	Feb 18- May 19
AWD Announcement Date	1-Jul-17	1-Jul-17	1-Aug-17	1-Sep-17	1-Oct-17	1-Nov-17	1-Dec-17	1-Jan-18	1-Feb-18	1-Mar-18
Min Inflow Sequence	Jul 17- May 18	Jul 17- May 18	Aug 17- May 18	Sep 17- May 19	Oct 17 - May 19	Nov 17 - May 19	Dec 17 - May 19	Jan 18 - May 19	Feb 18 - May 19	Mar 18 - May 19
	GL									
Opening storage volume	1044	1042	1035	1035	974	910	826	791	707	573
Plus volume available through Bulk Water Transfer	81	81	81	62	62	62	62	62	63	61
Plus minimum expected inflow sequence over planning horizon	21	21	18	130	96	89	43	29	26	26
Less amount of dead storage	-34	-34	-34	-34	-34	-34	-34	-34	-34	-34
Less evaporation allowance	-57	-53	-55	-103	-104	-98	-93	-83	-72	-63
Less remaining essential requirements	-199	-199	-187	-346	-331	-318	-314	-302	-273	-244
Less unallocated storage volume	-266	-285	-4	-4	-2	-1	-2	-2	-1	-2
Less volume remaining in irrigator accounts	-330	-313	-472	-480	-460	-474	-429	-417	-353	-265
Less volume remaining in environmental accounts	-260	-260	-365	-370	-338	-276	-239	-227	-235	-234
Amount available for allocation (+ve) / Amount of inflow required before new allocation can be made (-ve)			**16**	**-110**	**-137**	**-140**	**-180**	**-183**	**-172**	**-182**
Allocation %			2 % alloc							

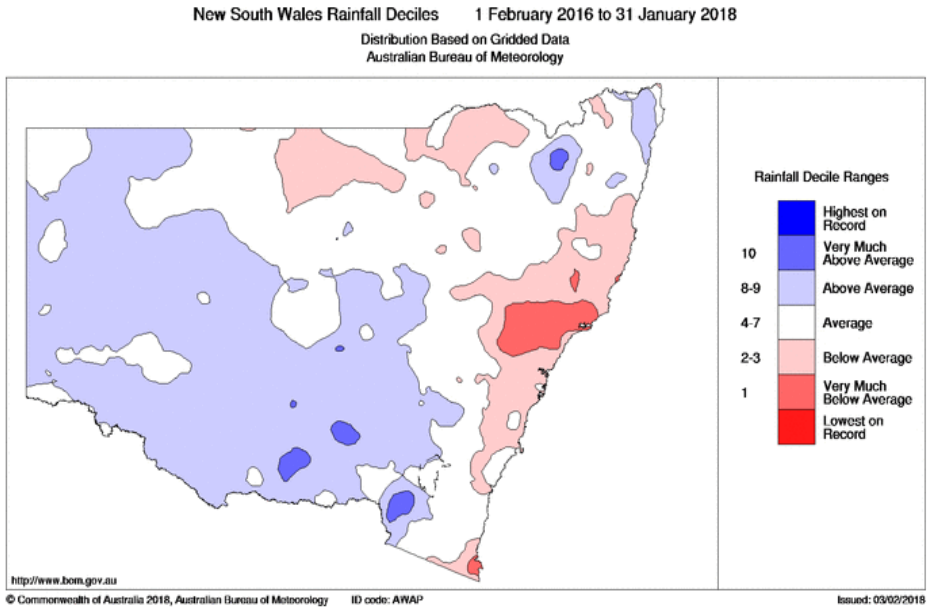
6 Month Rainfall and Inflow



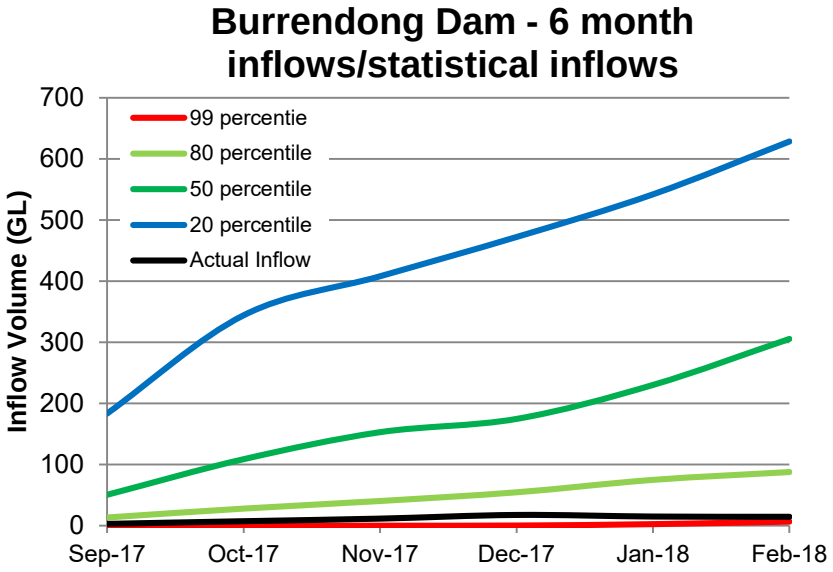


24 Month Rainfall and Inflow



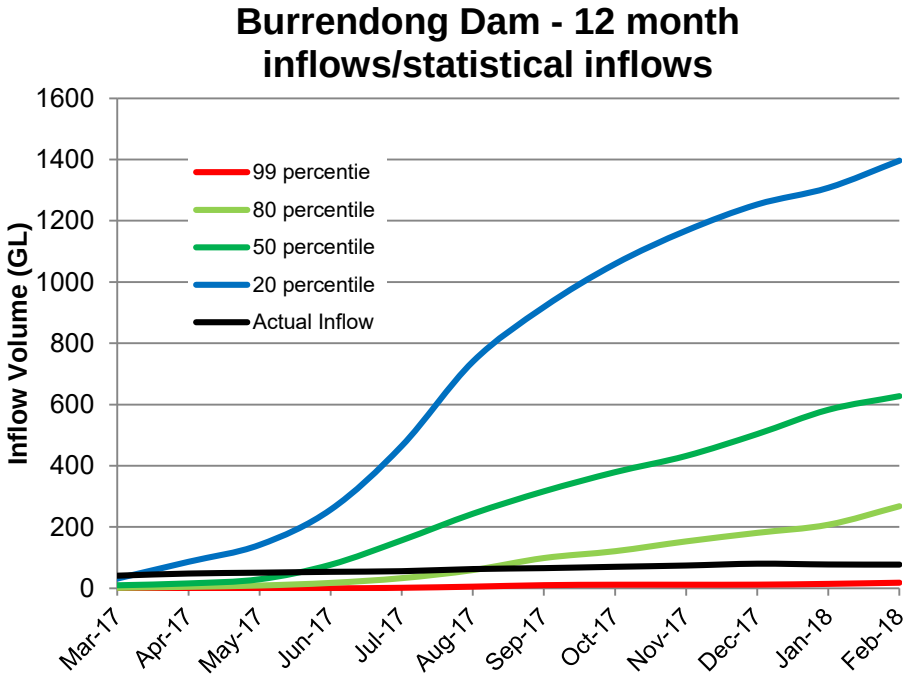


Rainfall and Inflow (Dam)

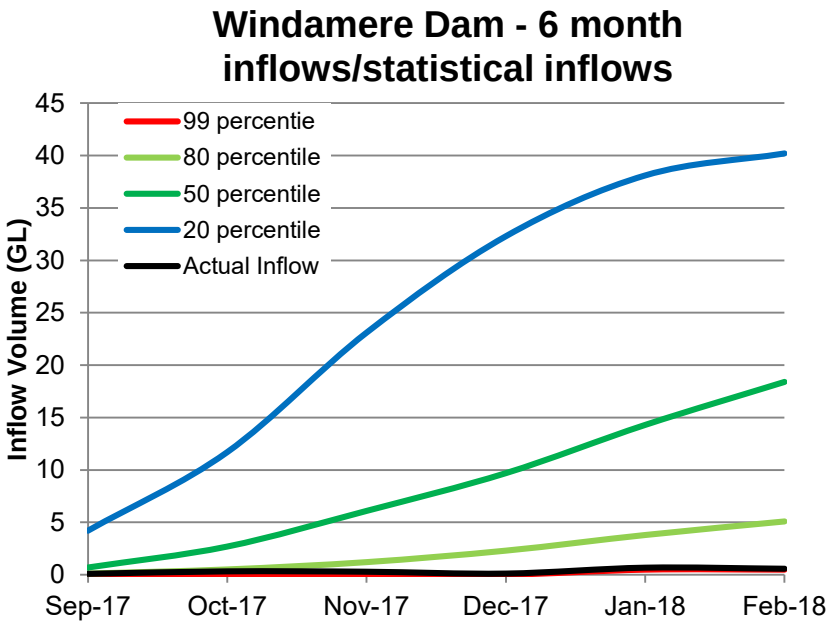


Inflows are consistent with rainfall over the past 6 month period. Actual inflows for last 6 months were only around 15 GL which is slightly better than 99th percentile inflows.

Inflows are consistent with rainfall over the past 12 months. Actual inflows for the last12 months were around 77 GL. Most of the inflows were up to end of April17 and the percentile was better than 50% condition. However, from May 17 the condition were drier and only 26 GL of inflows were recorded. The cumulative inflows turned out to be less than 80th percentile for rest of the year.

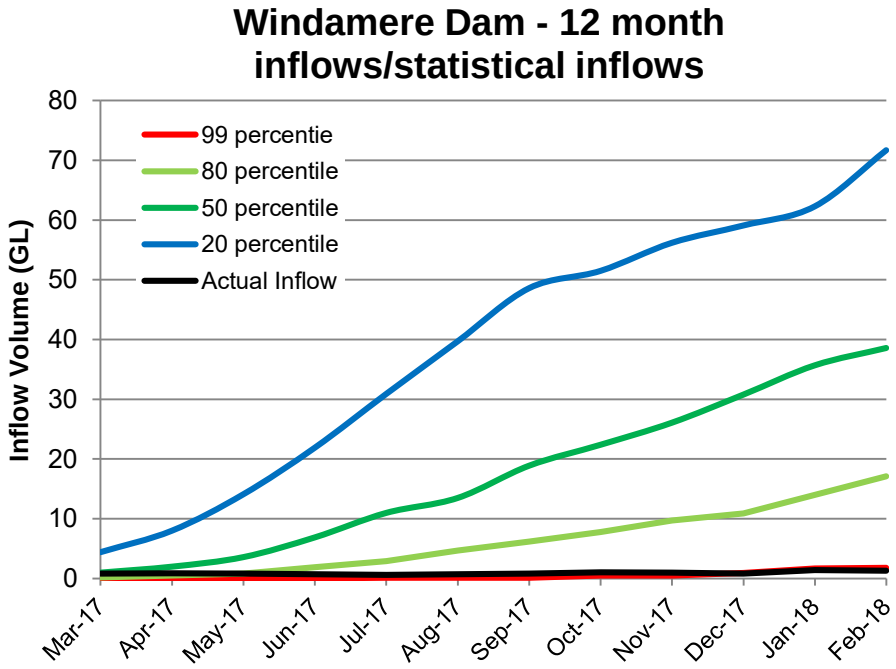


Rainfall and Inflow (Dam)



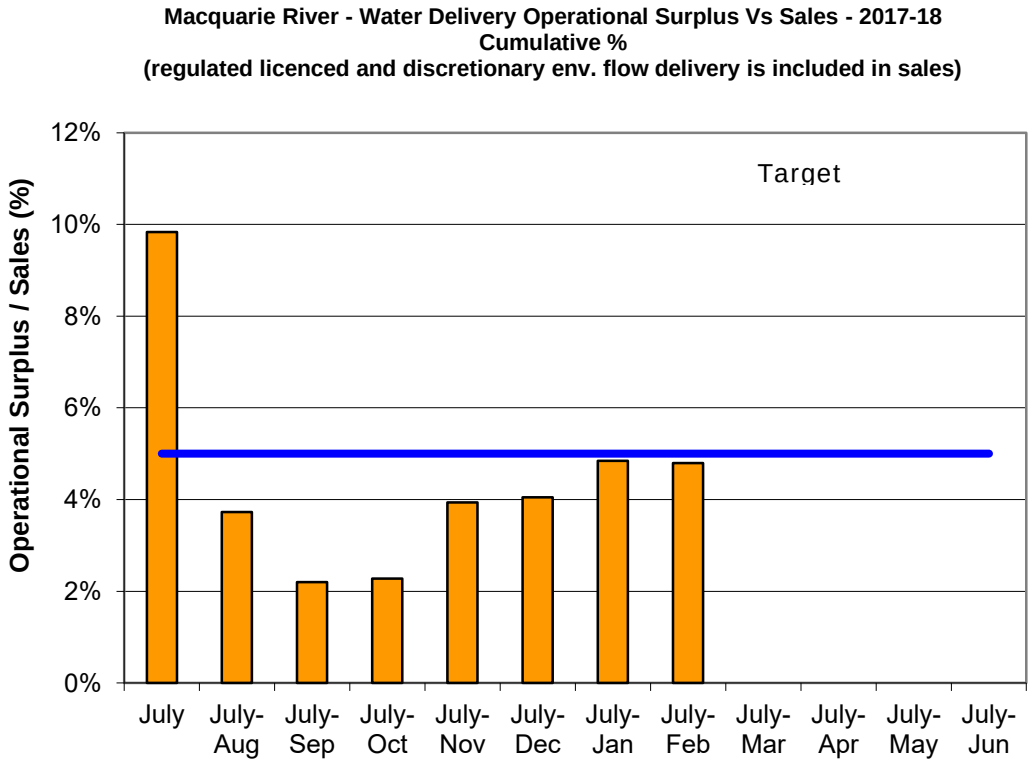
Inflows are consistent with rainfall over the past 6 months. Actual inflows for the last 6 months were around 500 ML which is equal to 99% inflow conditions.

Dry condition throughout has resulted in very less inflows into Windamere dam. Over the past 12 month period the actual inflow were only around 1.2 GL which is just less than 99% inflow conditions.



Operational Loss

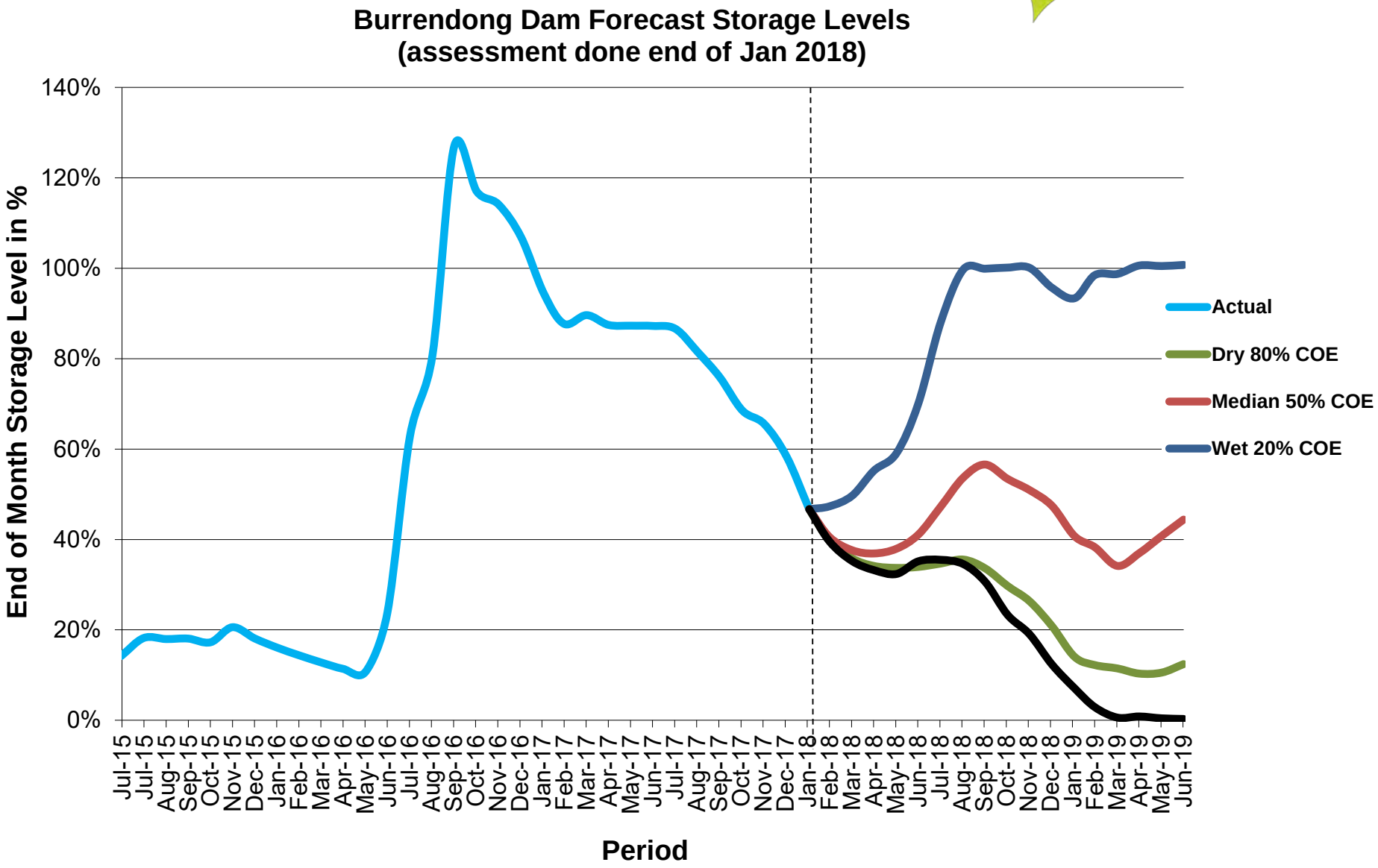
Operational loss is water above that which could reasonably be expected to pass the last extraction point on each given river/creek being supplied with regulated flow (*dam releases and controlled tributary inflows – not supplementary flows*)



Macquarie Cumulative Totals				
	Sales + Environmental delivery (Excluding Supplementary)	Operational Surplus	Actual	Target
July	7,170	705	10%	5%
July-Aug	37,066	1,383	4%	5%
July-Sep	94,229	2,073	2%	5%
July-Oct	189,139	4,307	2%	5%
July-Nov	218,388	8,606	4%	5%
July-Dec	278,886	11,293	4%	5%
July-Jan	371,712	18,001	5%	5%
July-Feb	424,826	20,382	5%	5%
July-Mar			0%	5%
July-Apr			0%	5%
July-May			0%	5%
July-Jun			0%	5%

Note: Data updated to 25th of Feb

Storage Forecast



System Operations Plan

- Plan to deliver under 400 GL of Licenced irrigation and environmental water in 2017-18

- Irrigation demand is gradually reducing and the cotton watering would probably finish by early March 2018.

- About 135 GL has been delivered to Marshes from both licenced and EWA allocations in 2017-18.

- Next Delivery of S&D flows will likely to be in late Autumn to Winter 2018.

System Outage Plan

Dam maintenance impacting supply

- Planned outage – none.
- Fluctuations in river flows due to investigation works for reinstating Cold Water Pollution temperature curtain.

Weirs

- Planned outage – none.

Regulators

- Planned outage – none.

Prognosis

Chances of Improvement

The chances of improved General Security allocation, based on different inflow scenarios are as follows:

Potential Inflow Conditions		Macquarie	
		Total General Security AWD (%)	
		30-June-18	1-Nov-18
Dry	(80% inflows: 4 chances in 5)	38% and carry over from 2016-17	0% and carry over from 2017-18
Average	(50% inflows: 1 chances in 2)	38% and carry over from 2016-17	16% and carry over from 2017-18
Wet	(20% inflows: 1 chances in 5)	65% and remaining carryover from 2016-17	85% and remaining carryover from 2017-18