

# Toonumbar Operations Plan

February 2019

# Contents

<b>1. Highlights</b>	<b>3</b>
<b>2. Dam storage</b>	<b>4</b>
2.1 Toonumbar Dam storage	4
<b>3. Supplementary access</b>	<b>4</b>
3.1 Commentary	4
<b>4. Water availability</b>	<b>5</b>
4.1 2018/2019 water availability for Richmond	5
4.2 Resource assessment	6
<b>5. Rainfall</b>	<b>8</b>
<b>6. Inflows</b>	<b>10</b>
<b>7. Operational surplus</b>	<b>11</b>
<b>8. Storage forecast</b>	<b>11</b>
<b>9. Outage planning</b>	<b>13</b>
<b>10. Prognosis</b>	<b>13</b>

# 1. Highlights

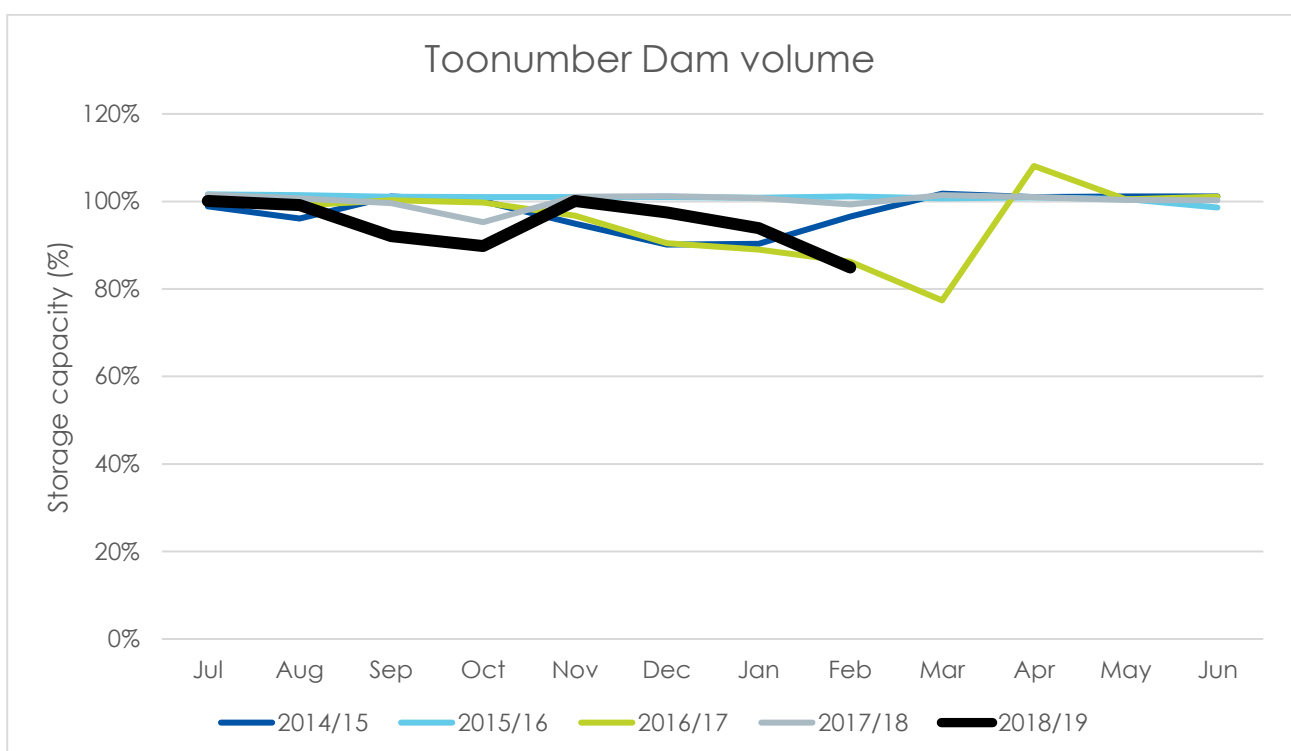
- The Toonumbar Operations Plan allows for delivery of full allocations for all customers in 2018-19.



## 2. Dam storage

### 2.1 Toonumbar Dam storage

The below figure shows the Toonumbar Dam behaviour for the current water year (2018-19) and for the last four water years. The dam was around 100% full at the start of the current water year (2018 - 19) and by the end of September 2018, it has fallen slightly to about 90% and risen again to 100% in October. The dam is around 86% full at the end of January 2019.



## 3. Supplementary access

### 3.1 Commentary

There are no Supplementary access licenses available under the Water Sharing Plan for the Richmond River Area.

## 4. Water availability

### 4.1 2018/2019 water availability for Richmond

This information was current as 1 February 2019.

Licence category	Share component	AWD volume	Usage	Balance
Domestic and stock (domestic)	6	6	0	6
Domestic and stock (stock)	8	8	0	8
Regulated river (general security)	9,531	9,471	393	9,137
Regulated river (high security)	123	123	10	113
<b>Grand total</b>	<b>9,668</b>	<b>9,608</b>	<b>403</b>	<b>9,264</b>

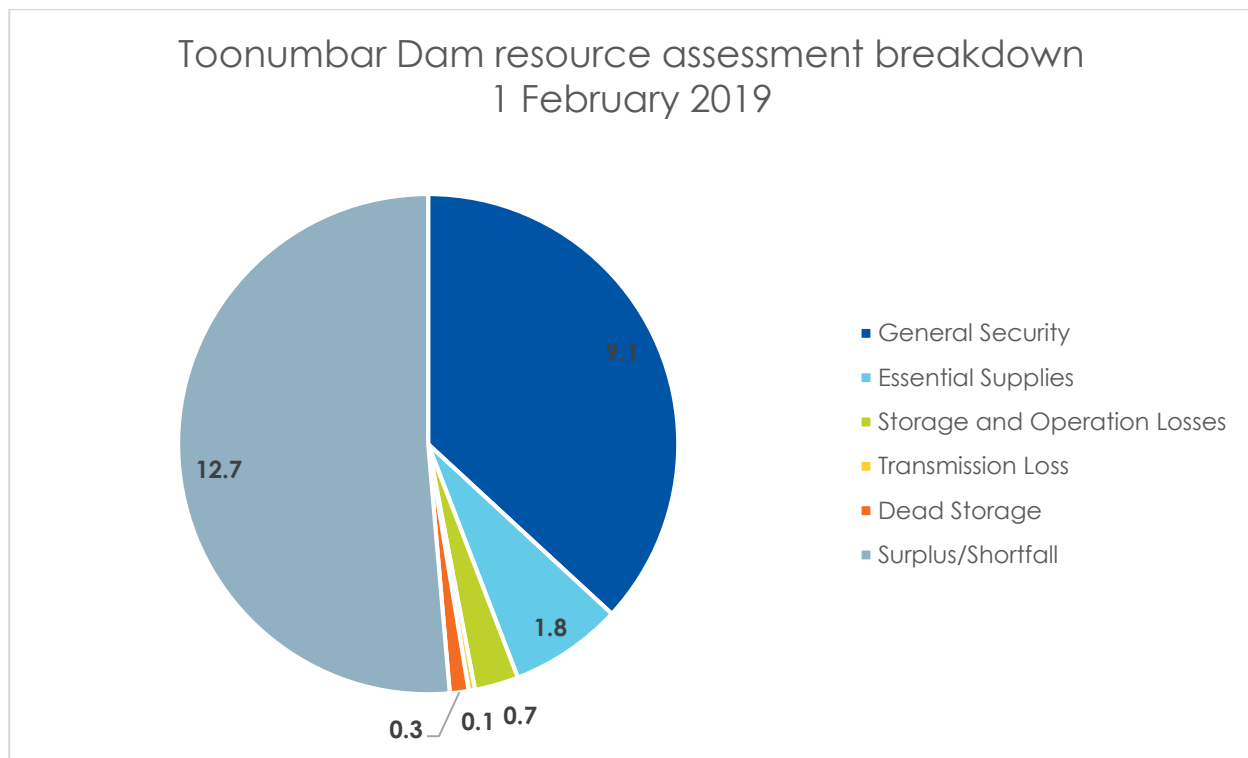
Note: Volumes in the table are in ML.

#### General security available water determination

Date	AWD (ML/share)	Total
1-Jul-18	1	100%

In the current water year (2018-19), 100% Available Water Determination (AWD) has been announced on 1<sup>st</sup> July 2018 for all water users including General Security (GS), High Security (HS) and Domestic and Stock (D&S). Carryover is not available to any license categories in the Richmond River system.

## 4.2 Resource assessment



Note: volumes in the pie chart are in GL

Resource Assessment	Feb 2019	Jan 2019	Dec 2018	Nov 2018	Sept 2018	Aug 2018	March 2018	Feb 2018
Storage Volume	9.4	10.4	10.8	11.1	9.9	11.1	11.2	11.2
Plus minimum inflows	15.3	16.8	6.3	7.3	10.1	13.3	2.1	3.3
Less dead storage	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Less storage & operation loss	0.7	0.9	0.9	1.0	1.2	1.1	0.3	0.4
Less essential supplies	1.8	2.0	2.1	2.3	2.5	2.6	1.9	2.3
Less transmission loss	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2
Less General Security Allocation	9.1	9.9	9.9	9.9	9.9	10.2	10.2	10.2
Allocation	100%	100%	100%	100%	100%	100%	100%	100%

Note: Volumes in the table are in GL.

#### **4.2.1 Significance of this resource assessment**

The resource assessment at 1 February 2019 confirms deliverability of all remaining allocations to the end of water year 2018-19. The assessment also indicates that there is surplus in resources of about 12 GL in this current water year. No new AWD is possible for 2018-19 as the Water Sharing Plan limits the cumulative AWDs to 100%.

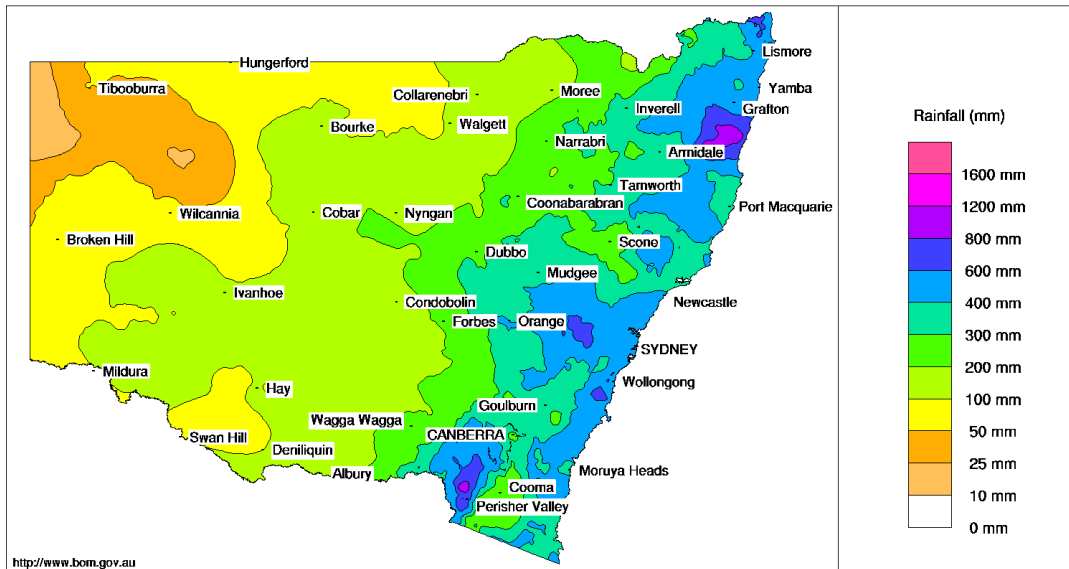
#### **4.2.2 Resource assessment process**

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 above resource assessment table is for the planning horizon from 1 February 2019 to 30 June 2019.

# 5. Rainfall

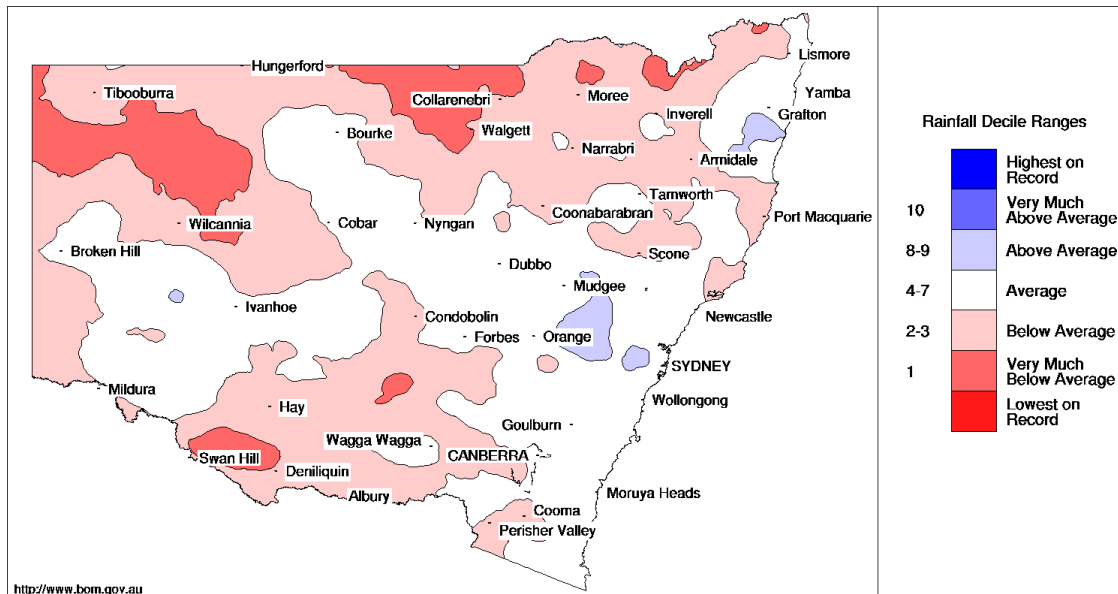
## 5.1 6-month rainfall

New South Wales Rainfall totals (mm) 1 August 2018 to 31 January 2019  
Australian Bureau of Meteorology



http://www.bom.gov.au © Commonwealth of Australia 2019, Australian Bureau of Meteorology ID code: AWAP Issued: 27/02/2019

New South Wales Rainfall Deciles 1 August 2018 to 31 January 2019  
Distribution Based on Gridded Data  
Australian Bureau of Meteorology



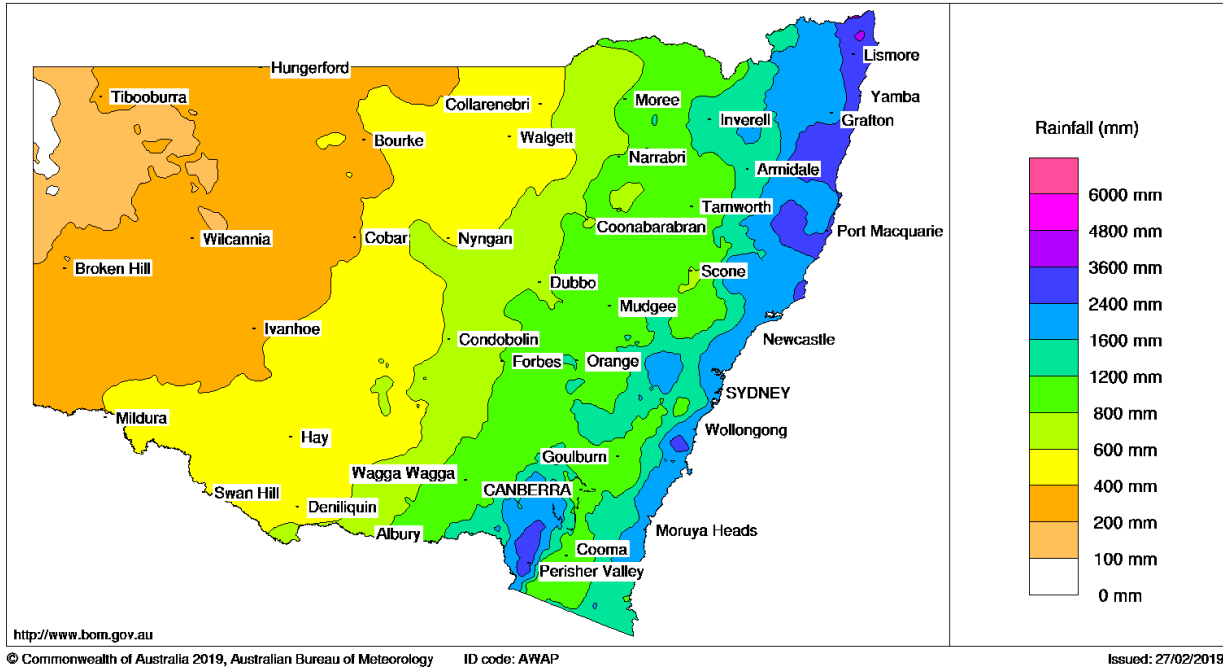
http://www.bom.gov.au © Commonwealth of Australia 2019, Australian Bureau of Meteorology ID code: AWAP Issued: 27/02/2019

From the above figures the last 6-month total rainfall lies in the range of 400 to 600mm, which is average to below average (average 6-month total rainfall is around 600 mm).

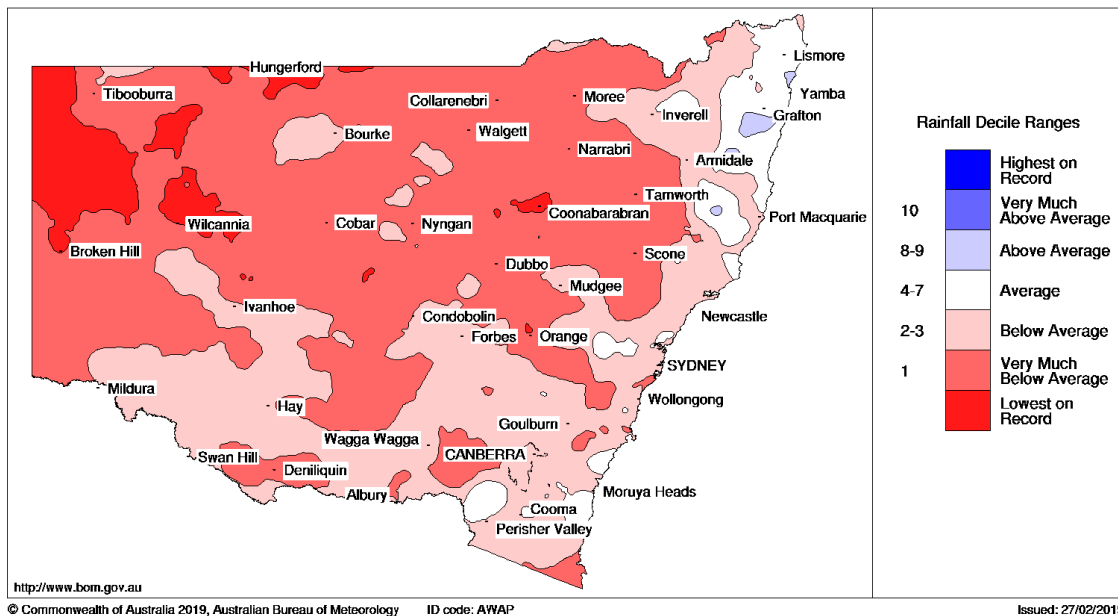


## 5.2 24-month rainfall

New South Wales Rainfall totals (mm) 1 February 2017 to 31 January 2019  
Australian Bureau of Meteorology



New South Wales Rainfall Deciles 1 February 2017 to 31 January 2019  
Distribution Based on Gridded Data  
Australian Bureau of Meteorology

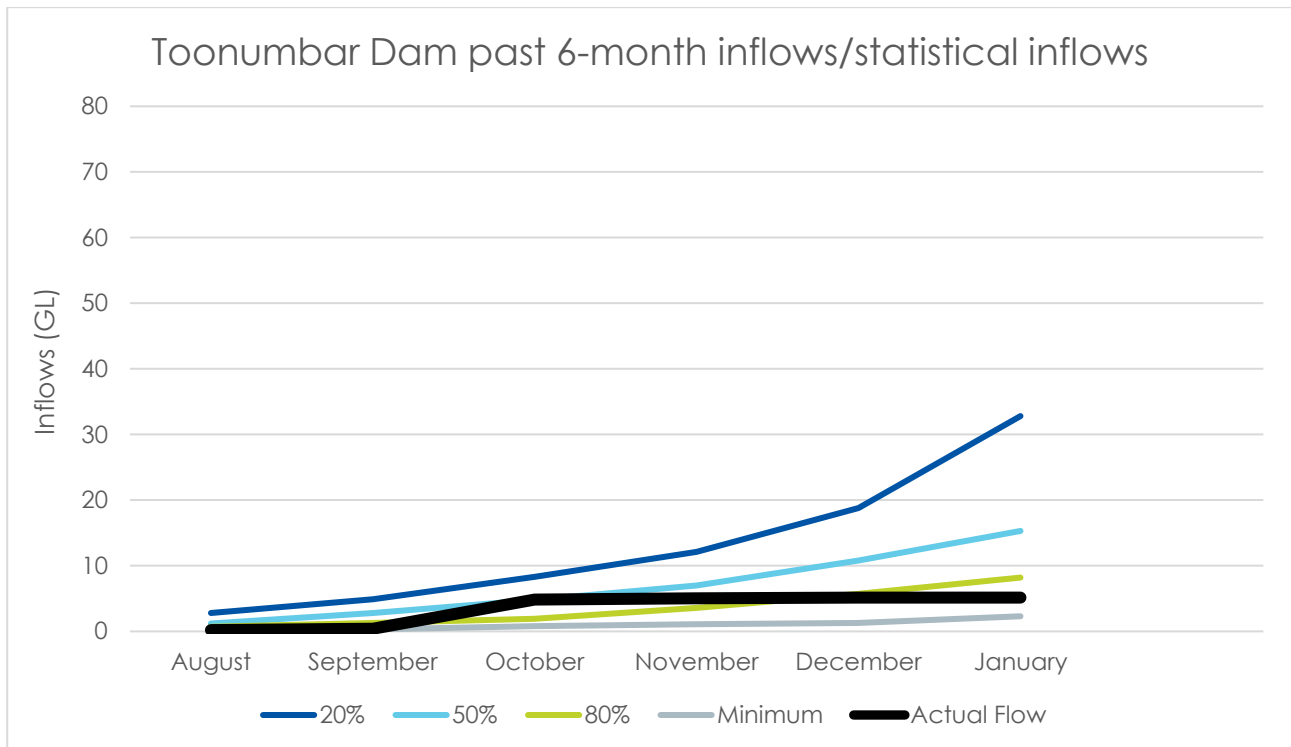


From the above figures the last 24-month total rainfall lies in the range of 1600 to 2400mm, which is average to below average.

## 6. Inflows

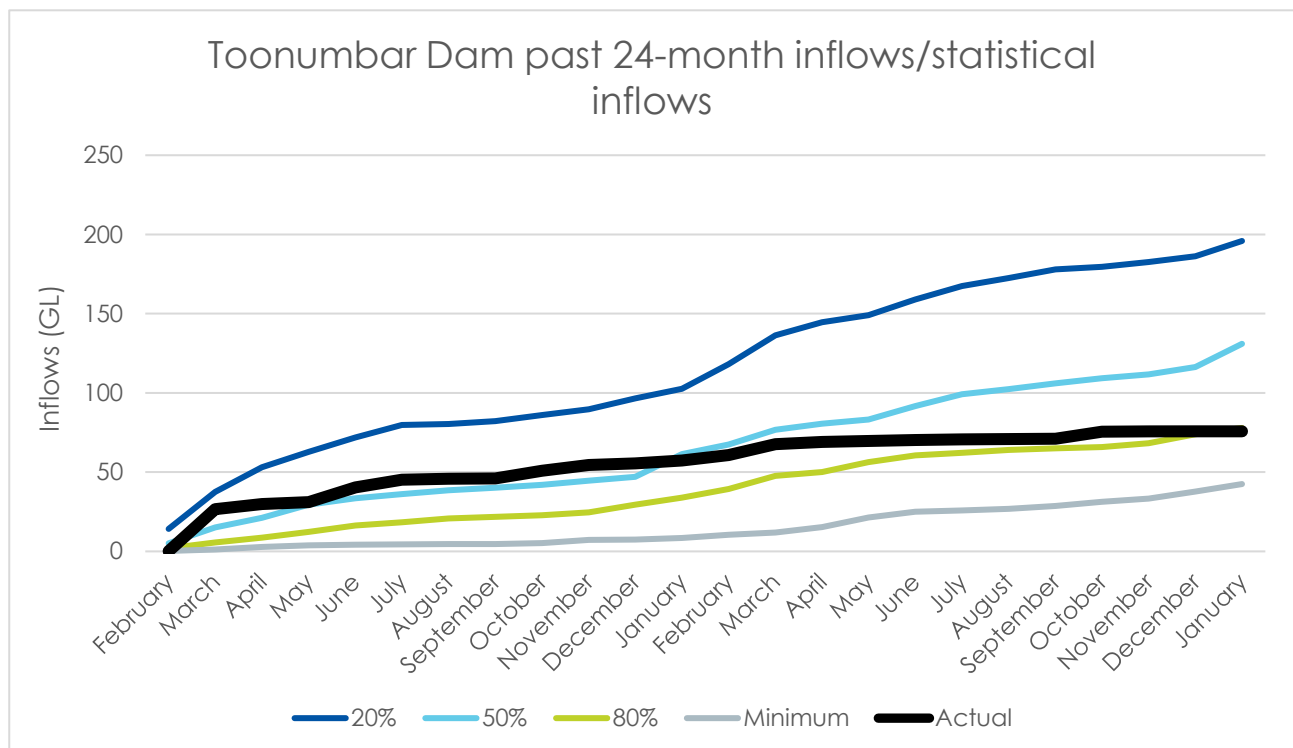
### 6.1 Toonumbar Dam inflows

#### 6.1.1 Toonumbar Dam past 6-month inflows/statistical inflows



Inflows are consistent with rainfall over the past 6 months period. Actual 6 month inflows were around 5.15 GL which lies in between 80<sup>th</sup> percentile and minimum inflow conditions.

### 6.1.2 Toonumbar Dam past 24-month inflows/statistical inflows



In the last 24 months, only around 76 GL of inflows were recorded which is close to the 80<sup>th</sup> percentile inflow condition.

### 6.3 Downstream tributary inflows

There are no significant downstream tributary inflows in this water year.

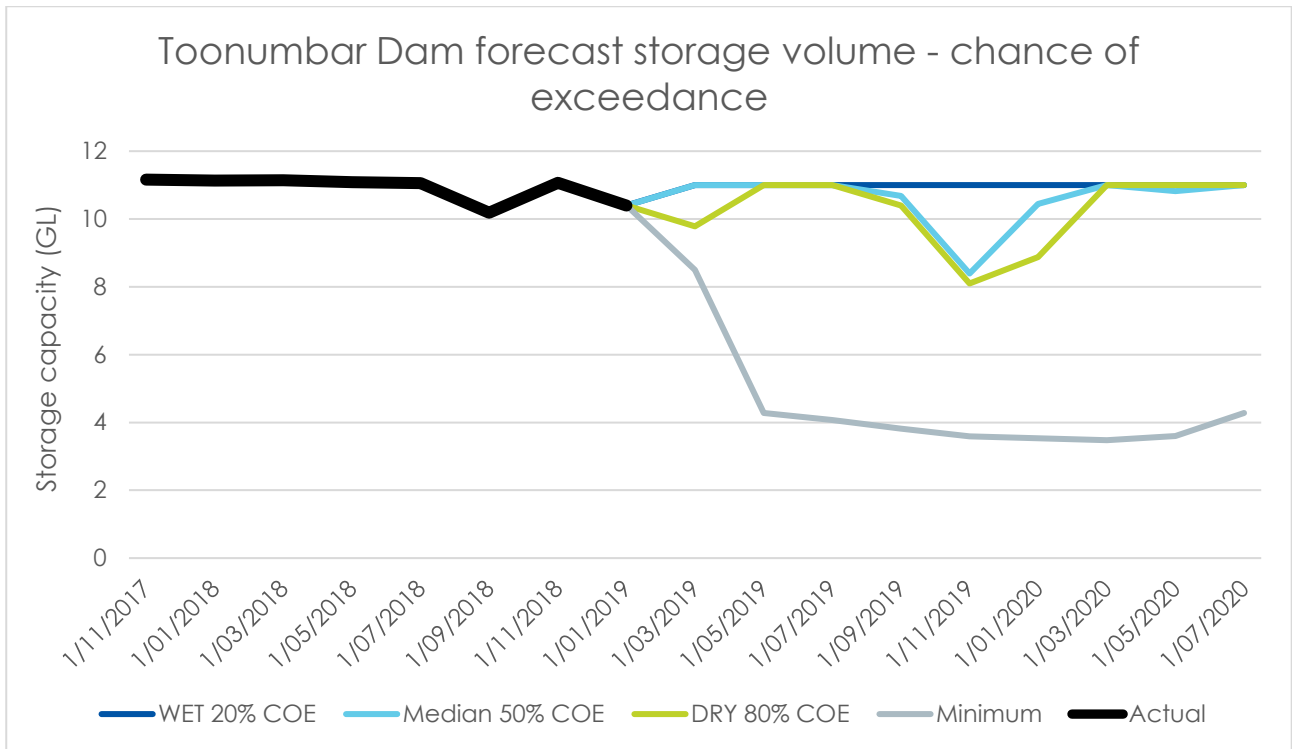
## 7. Operational surplus

### 7.1 Operational surplus for Toonumbar Dam

N/A

## 8. Storage forecast

### 8.1 Toonumbar storage forecast



Assessment done end of January 2019

The above figure demonstrates the possible scenarios of Toonumbar Dam until June 2020. The scenarios are based on different expected inflow conditions. For example, with 20<sup>th</sup>, 50<sup>th</sup> and 80<sup>th</sup> percentile inflow the dam may be full (100%) at the end of June 2019. With the minimum inflow conditions, the dam would be around 4 GL by the end of June 2019. 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 indicate that there is only a 20% of chance that the dam volume will be greater than the projected level, and there is 80% chance that the dam volume will be less than the projected level.

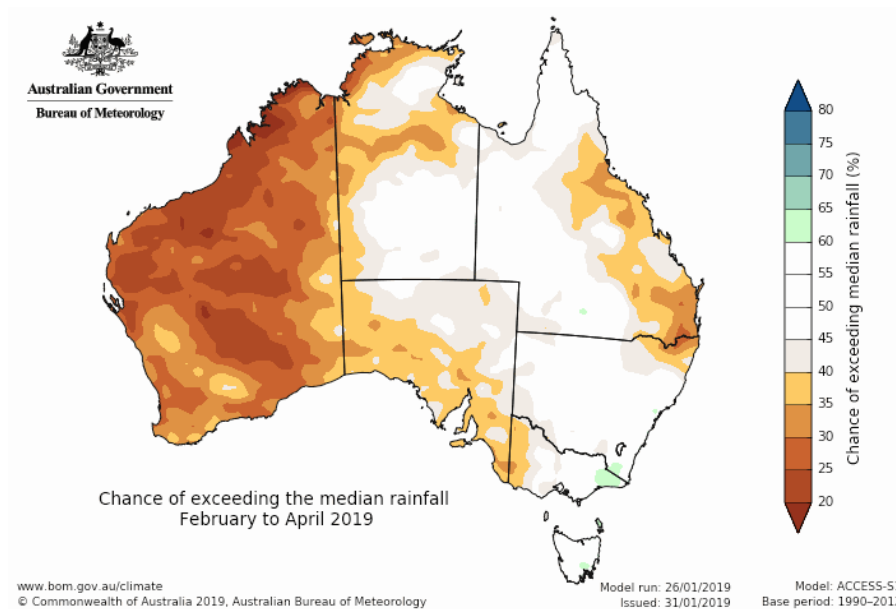
## 9. Outage planning

Item	Time	Description
Toonumbar Dam	N/A	None

At this time there are no planned outages that will affect the delivery of water to customers.

## 10. Prognosis

All licence category available water determinations have reached their limit of 100%.



The above figure shows an increased likelihood of drier than average rainfall over the next three months.

## More information

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