

Was this the worst drought on record?

From 2017 to 2020, NSW experienced record-breaking drought that affected the whole state. Between January 2017 and December 2019, NSW temperatures were the warmest and rainfall was the lowest on record.

The drought was the worst on record, in terms of storage inflows into Carcoar Dam for any 36 month consecutive period over the historical record from the 1890's until now. The inflows for the period January 2017 to December 2019 were 2% less than the previous record, which occurred from August 2007 to July 2010.

However, the majority of water accessed by water users in the Belubula system is from tributary flows downstream of Carcoar Dam.

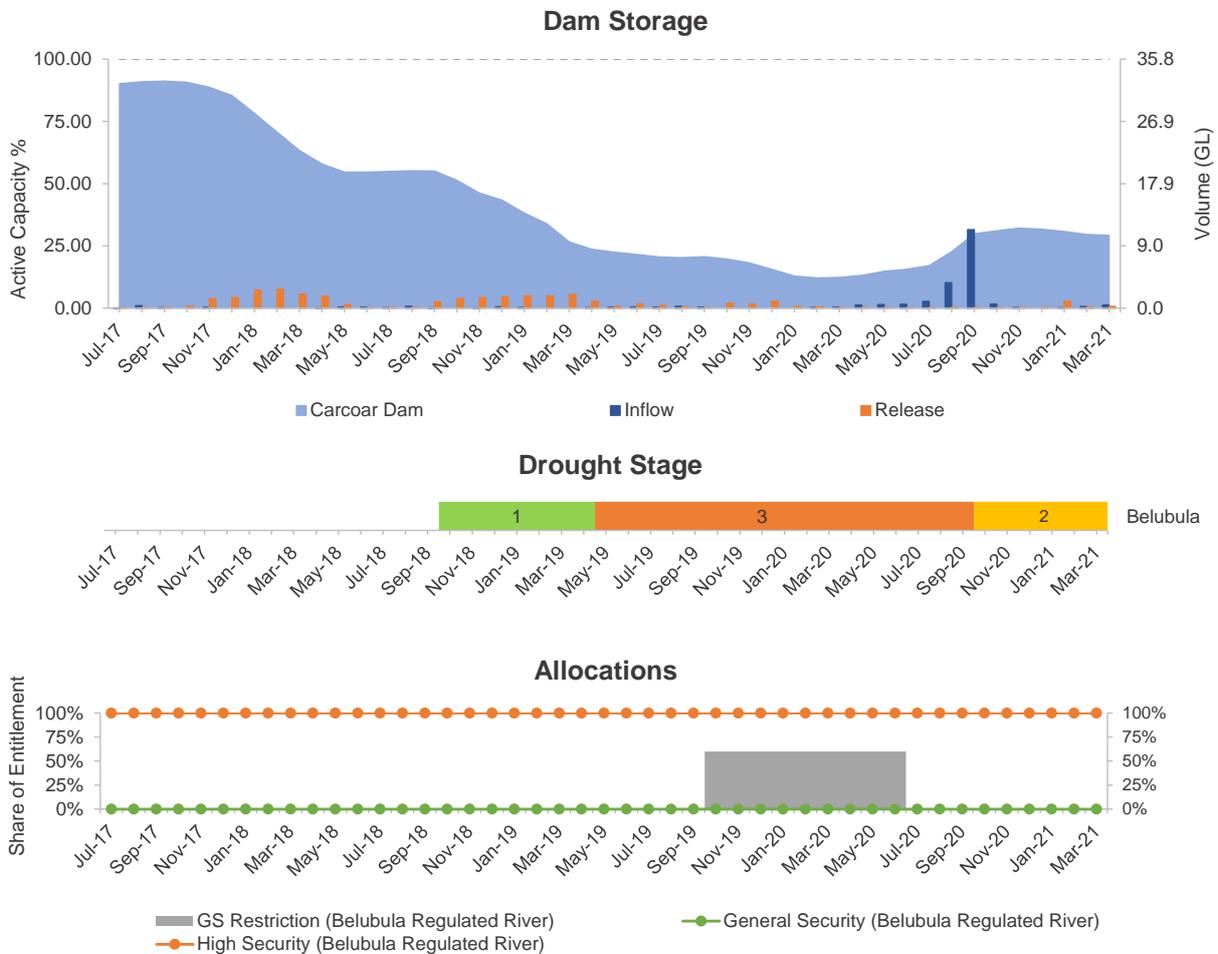


Figure 1 - Monthly storage, drought stage and water allocations for the Belubula Valley

Measures implemented

July 2017

Carcoar Dam was holding 90%. High security allocations were 100%, general security was 0%. Most general security licence holders were carrying over substantial volumes from the previous year.



May 2019

The Belubula Valley was declared to Stage 3 – Critical Drought with Carcoar Dam at 30%.

The environmental rule of maintaining a constant flow of 10 megalitres (ML)/day at the end of the system could not be met. An average flow of 10 ML/day over 60 days was applied.



October 2019

Regulated releases were provided for via pulse releases. Downstream requirements relied on tributary flows.



General security allocations were 0%.

A temporary water restriction was applied to general security carryover accounts, restricting access to 40% of the carryover account balance until June 2020.



June 2020

The suspension of the end of system flow target in the water sharing plan was extended to December 2020.



October 2020

Carcoar reached 31% and the Belubula was eased to Stage 2 – Recovering from Drought.



July 2018

Carcoar Dam had dropped to 55%. High security allocations remained at 100%, and general security at 0%. General security carryover was 69%



July 2019

Carcoar was holding 21%. 100% town water, domestic and stock and high security allocations were provided. General security allocations were still 0%.

The end of system flow target in the water sharing plan was suspended. This plan suspension limited access by irrigators to uncontrolled flows until the target was met from tributary flows.

Regulated releases were only provided part way down Belubula River as far as the Needles.



February 2020

Carcoar Dam was at its lowest level during the drought at 12%.

July 2020

Some improvements in storage levels were experienced with Carcoar Dam reaching 16%. High security allocations remained at 100% and general security at 0%.



April 2021

Belubula eased to Stage - 1 Normal Operations as although no general security allocations had been announced, good flows were occurring downstream of the dam allowing regular announcements for supplementary and uncontrolled flow access.



Government assistance and funding

The following government assistance and funding was provided:

- \$1 million to the Central Tablelands Water for planning of augmentation of Lake Rowlands.
- \$95,000 was also awarded to Central Tablelands Water for the construction of a permanent pumping station.
- A business case is being developed by WaterNSW on a proposal to link Lake Rowlands and Carcoar Dam via a pipeline.
- Fixed water charges for general security, unregulated rivers and aquifer access licences were waived from July 2018 to June 2021.

Drought information sessions

Drought information webinars were held in December 2019 and May 2020. Further information can be found at: www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/drought-update/information-sessions

Lessons learnt

Changes being implemented

- The NSW Government is committed to earlier communication with communities when conditions indicate that we may be approaching drought. Clear and early communication will allow landholders and water users to better prepare for potential restrictions and ensure that applications for groundwater approvals and drought infrastructure are in place early.
- To better identify when we are moving into drought (or flood) WaterNSW is developing a framework for measuring risk. This framework will use a variety of indicators such as rainfall deficit, soil moisture and streamflow conditions to provide an early warning of drought or flood to enable the community to be better prepared.
- During the drought, the WaterNSW Insights Portal was launched to provide more specific information to water users on allocations, notices, and measures in their area. This is being further updated to include groundwater. Further information at: waterinsights.waternsw.com.au/
- The department is developing Regional Water Strategies that use climatic modelling to understand the risks associated with more severe climate conditions. These long-term strategies will assess and prioritise policy, operational and infrastructure options that will ensure regions are better prepared for future droughts and a more variable climate. Further information at: www.industry.nsw.gov.au/water/plans-programs/regional-water-strategies
- The NSW Water Strategy sets the strategic direction for water service delivery and resource management in NSW over the long-term. Actions for improving drought planning, preparation and resilience are set out in the NSW Water Strategy Implementation Plan. Further information at: www.dpie.nsw.gov.au/water/plans-and-programs/nsw-water-strategy
- The individual valley Incident Response Guides and the Extreme Events Policy are being updated by reviewing the measures that were applied during the drought, this will improve our future response to drought.

- The Town Water Risk Reduction Program has been developed to enable Local Water Utilities to manage town water risks more effectively. The program will reduce water quality, water security and environmental risks in town water systems in regional NSW. More information can be found at: www.industry.nsw.gov.au/water/plans-programs/risk-reduction
- The department, WaterNSW and the Natural Resource Access Regulator are working together to align the licencing and approvals process to make it easier, quicker and consistent for applicants.