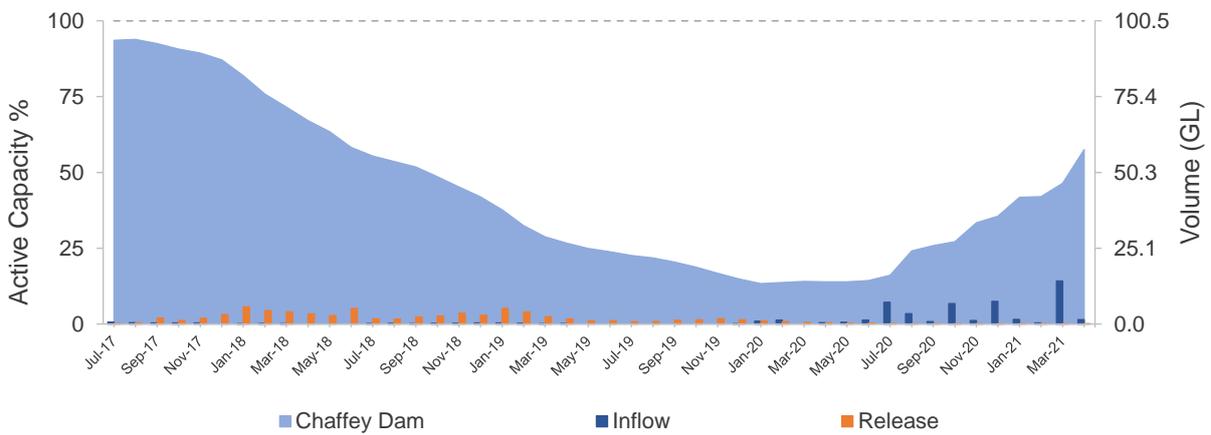


Was this the worst drought on record?

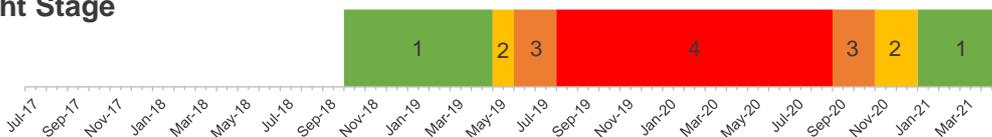
From 2017 to 2020, NSW experienced record-breaking drought that affected the whole state. Between January 2017 and December 2019, NSW temperatures were the warmest and rainfall was the lowest on record.

The drought was the worst in terms of storage inflows into Chaffey Dam for any 24 month and 36 month consecutive periods over the historical record from the 1890's until now. The 24 month lowest inflow period of 2018-2019 was 84% less than the previous lowest inflow period of 1939-1940. The 36 month lowest inflow period between 2017-2020 was 53% less than the previous worst period in 1894-1897.

Dam Storage



Drought Stage



Allocations

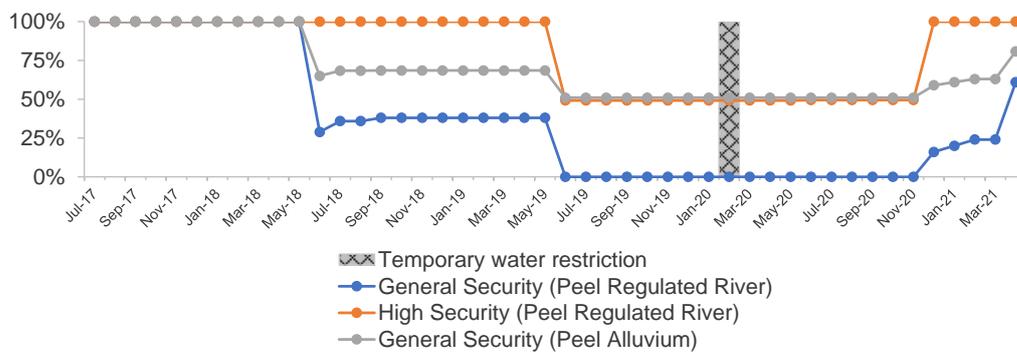


Figure 1 - Monthly storage, drought stage and water allocations for the Peel Valley

Measures implemented – July 2018 to December 2019

July 2018

Chaffey Dam was at 56% capacity. High security licences received a 100% allocation and general security received 29%.



May 2019

Peel Valley was declared to be in Stage 2 – Emerging Drought with Chaffey Dam at 25%



July 2019

Town water and domestic and stock allocations were announced at just 70% and high security licences 50%. General security received 0%.



September 2019

Some native fish were relocated to hatcheries to maintain genetic diversity through breeding programs and for return to the river system when conditions improved.



December 2019

The minimum environmental release rule from Chaffey Dam of 3 ML/day in the water sharing plan was suspended (until June 2020) to coincide with the operation of the temporary block bank at Dungowan. This enabled WaterNSW to commence pulse environmental releases to further conserve water.

Approximately 50 fish died including Murray cod, golden perch and catfish downstream of the temporary Dungowan Weir.



August 2018

Tamworth Regional Council guaranteed some town water under-use in 2018/19 and supported its re-allocation to assist farmers. This increased general security allocations to 36%.



June 2019

Peel Valley was declared to be in Stage 3 – Severe Drought with the need to commence drought measures.



August 2019

Peel Valley was declared to be in Stage 4 – Critical Drought with Chaffey Dam at 22%



November 2019

To reduce transmission losses for conserving dam water for town supplies, a temporary block bank was constructed at Dungowan. Flows were released from Chaffey Dam only to Dungowan, then piped via the existing Dungowan pipeline to Tamworth. Delivery of water downstream of Dungowan ceased and all downstream licence holders only had access to river water when tributary inflows occurred



Tamworth, Moonbi and Kootingal were declared critical towns under the Water Supply (Critical Needs) Act 2019, which assisted in expediting the approval for works such as the Chaffey Dam pipeline and the new larger Dungowan Dam, to be built 3 km downstream from the existing Dungowan Dam.

Measures implemented – January 2020 to January 2021

February 2020

The temporary water restriction on river pumping ceased as triggers for first flush flows were met in the Peel



January 2020

A temporary water restriction on most commercial pumping was applied across all the Northern Basin. This was to allow for replenishment of town, domestic and stock supplies and refuge pools, following widespread rain



June 2020

Operation of the Chaffey Dam to Dungowan pipeline commenced and was temporarily authorised. This allowed the pipeline to operate when Chaffey Dam was below 20%.



May 2020

Construction of the Chaffey Dam to Dungowan pipeline was completed enabling piping of water for Tamworth directly from the dam.



July 2020

With Chaffey Dam at only 14%, allocations were again at reduced levels. The amended water sharing plan was extended by two years, which included provision of the pipeline authorisation to replace the plan's environmental rule when in operation.



August 2020

Chaffey Dam reached 20% and the operation of the pipeline ceased. Inflows progressively increased.



An accumulated Environmental Water Account of 61.4 megalitres (ML) was released in pulses over four days, replenishing isolated pools that contained platypus and threatened fish species.

The temporary block bank at Dungowan was removed as it was no longer required with the operation of the Chaffey pipeline.

January 2021

Peel Valley was declared to be in Stage 1 – Normal Operations with Chaffey Dam increasing to 41% and the first general security allocation of 16% being announced. 100% town, domestic and stock and high security allocations were also made.



Government assistance and funding

The following government assistance and funding was provided:

- \$1.45 million to Tamworth Regional Council for the construction of a new 120 Megalitres (ML) raw water storage dam in Calala.
- \$5.3 million was committed for WaterNSW to construct the temporary block bank at Dungowan and for the assessment of the Chaffey Dam to the existing Dungowan pipeline.
- \$39 million was provided for the construction of the pipeline.
- Funding was also committed for the first stage of the construction of the new Dungowan Dam (total cost \$480 million).
- Fixed water charges for general security, unregulated rivers and aquifer access licences were waived from July 2018 to June 2021. Fixed charges were also waived for high security and domestic and stock licence holders along the regulated river.
- A \$2000 domestic water carting rebate was made available to eligible water users in the Peel Valley, where regulated river flows ceased.

Drought information sessions

Drought information sessions were held in Tamworth in May 2019. 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.
- A review of targets and principles for restricting commercial access when first flows occur after a prolonged drought and improved communication processes is underway
- 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

- Incident Response Guides and the Extreme Events Policy are being updated by reviewing the measures 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
- Planning and approval processes are underway for the larger Dungowan Dam.
- 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.