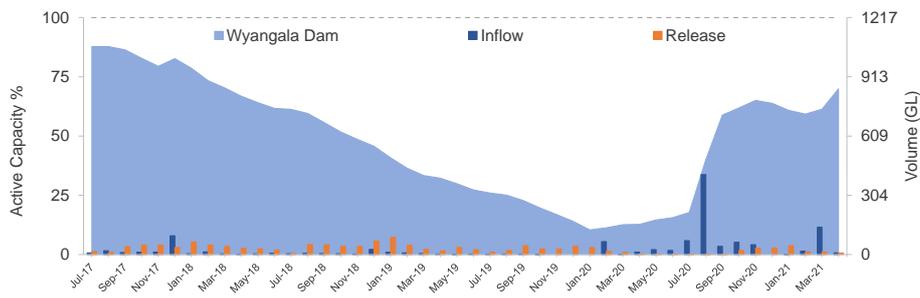


### Was this the worst drought on record?

From 2017 to 2020, NSW experienced a 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 for any 24 month and 36 month consecutive periods for Wyangala Dam over the historical record from the 1890's until now. For the 24 month period from January 2018 until the end of December 2019, inflows were 30% less than the previous record which occurred during the millennium drought, from January 2008 to December 2009. The 36 month inflows from February 2017 to January 2020, were 9% less than the previous record from August 2007 to July 2010.

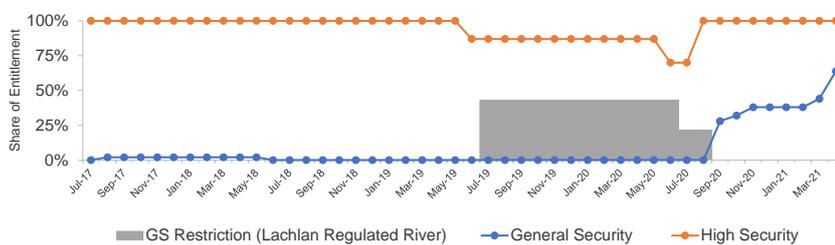
**Dam Storages**



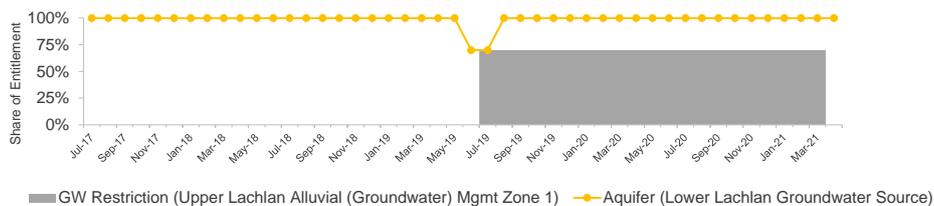
**Drought Stage**



**Allocations - Surface Water**



**Allocations - Groundwater**



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

### Measures implemented – July 2017 to December 2019

#### July 2017

Wyangala Dam was holding 88%. High security allocations were 100%, general security was 0%. Most general security licence holders were carrying over substantial volumes from the previous year



#### August 2017

A 2% general security allocation was made



#### July 2018

Wyangala Dam was holding 61% and Lake Brewster was effectively empty. High security allocations were 100%, and general security was 0%



#### January 2019

4.9 GL of the Lachlan Water Quality Allowance was released to manage possible impacts of blue-green algae on fish and riverine health



#### May 2019

The Lachlan Valley was declared to be in Stage 2 – Emerging Drought with Wyangala Dam at 30%.



#### July 2019

The Lachlan Valley was declared to be in Stage 3 – Severe Drought with Wyangala Dam at 26%.



High security allocations were reduced to 87%, town and domestic and stock remained at 100% and general security remained at 0%

#### September 2019

22 gigalitres (GL) of Environmental Water Allowance was released over four months to maintain critical refugia in Booberoi Creek and the wetlands in the Great Cumbung Swamp.



A temporary water restriction was placed on 43% of general security carryover.

#### December 2019

Releases to Willandra Creek and replenishment flows to the Lower Lachlan Creeks ceased.



### Measures implemented – January 2020 to December 2020

#### January 2020

End of system flow target was reduced from 70 megalitres (ML)/day to 30 ML/day. This was topped up by 5 GL from the Lachlan Water Quality Allowance to minimise water quality risks over the summer.



#### March 2020

Up to 100 dead fish including Murray cod and golden perch were found near Forbes. This was a result of a rapid reduction in dissolved oxygen and large volumes of organic material entering the river system following local rainfall.



#### July 2020

Wyangala Dam was at 17%, and high security allocations were reduced to 70%.



A temporary water restriction was placed on the Upper Lachlan Zone 1 to limit groundwater use to 30% of entitlement



#### February 2020

Wyangala Dam reached its lowest level during the drought at 8%

#### June 2020

The temporary water restriction on general security carryover was increased to further restrict access to 50% of that in the active accounts.



#### August 2020

Wyangala Dam improved to 31% capacity and high security allocations were increased to 100%.



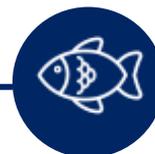
Stock and domestic replenishment flows resumed to Willandra Creek

The temporary water restriction on carryover accounts was repealed

Later in July, Wyangala Dam received 83 GL of inflows and the Lachlan Valley was eased to Stage 2 – Recovering from Drought.

#### September 2020

Wyangala Dam experienced significant inflows and reached 57% capacity. The Lachlan Valley was eased to Stage 1 – Normal Operations. The first general security allocation in three years was made, with a 28% allocation.



#### November 2020

DPI Fisheries and Oz Fish rescued 177 native fish in an at-risk area and relocated them to Wyangala Dam

#### December 2020

5.4 GL of the Water Quality Allowance was used to provide additional flows (to March 2021) to help meet the target of an average discharge rate of 100 ML/day at Booligal to help water quality.



### Government assistance and funding

The following government assistance and funding was provided:

- \$17 322 to Oxley, \$50 000 to Fifield and \$154 000 to Bribbaree Shire Councils for water carting.
- \$4 million to Parkes Shire Council for the planning of a pipeline to connect the Forbes and Parkes groundwater supply.
- \$20 million to Lachlan Shire Council to construct a pipeline connecting bores to the Condobolin town water supply.
- \$10 million to Cowra Council for the development of a 10 km pipeline to access water from the bore fields near Billimari.
- Fixed water charges for general security, unregulated rivers and aquifer access licences were waived from July 2018 to June 2021.

The Wyangala Dam Wall Raising Project is an option being considered by the NSW and Commonwealth governments for improving storage capacity in the Lachlan Valley. Further information at: [water.dpie.nsw.gov.au/water-infrastructure-nsw/dam-projects/wyangala-dam](http://water.dpie.nsw.gov.au/water-infrastructure-nsw/dam-projects/wyangala-dam)

### Drought information sessions

Drought information sessions were held in Forbes in May 2019 and Condobolin in October 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](http://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.
- Providing more clarity on when block releases are applied.
- 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/](http://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](http://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](http://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](http://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.