

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.

This drought was the worst in terms of storage inflows for any 24 month and 36 month consecutive periods for the Border Rivers over the historical record from the 1890's until now.

The 24 month inflows into Pindari Dam for the period February 2018 to January 2020 were 49% less than the previous worst recorded period June 1918 to May 1920. The 36 month inflows for the period July 2017 to June 2020 were 13% less than the previous worst period February 1935 to January 1938.

The 24 month inflows into Glenlyon Dam for the period February 2018 to January 2020 were 24% less than the previous worst recorded period February 1993 to January 1995. The 36 month inflows for the period July 2017 to June 2020, were 13% less than the previous worst recorded period November 1992 to October 1995.

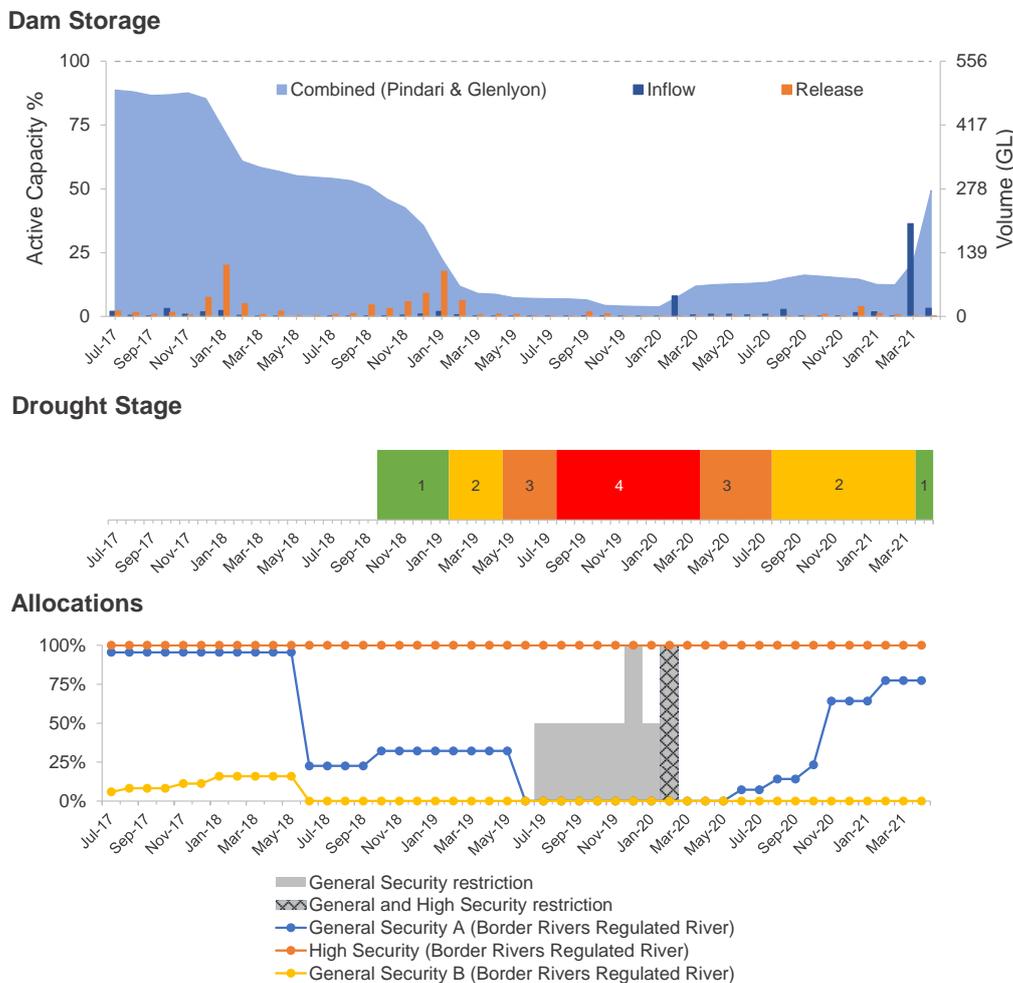


Figure 1 - Monthly storage, drought stage and water allocations for the Border Rivers

Measures implemented – July 2017 to July 2019

July 2017

Pindari Dam was holding 100% and Glenlyon Dam 75%. High Security allocations were 100%, general security A class 100% and B class 8%



July 2018

Pindari Dam had dropped to 59% and Glenlyon Dam to 49%. High security allocations remained at 100%, general security A class received 23% and B class received 0%.



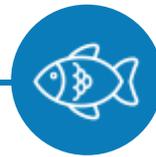
March 2019

Minimum releases only were made from Pindari Dam to supply the town of Ashford.



May 2019

The Border Rivers was declared to be in Stage 3 – Severe Drought with a combined storage of 7%.



April 2018

The Northern Connectivity Event saw environmental water holders release 4.3 gegalitres (GL) from Glenlyon Dam to top up refuge pools, support native fish and provide connecting flows to the Barwon-Darling.

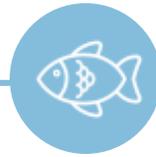
February 2019

The Border Rivers was declared to be in Stage 2 – Emerging Drought with Pindari Dam and Glenlyon Dam holding a combined storage of 12%.



April 2019

During the Northern Fish Flow Event, 7.4 GL of environmental water was released from Glenlyon Dam. This helped to maintain refuge pools along the Border Rivers and provided flows into the Barwon Darling.



July 2019

The Border Rivers was declared to be in Stage 4 - Critical Drought.



High security allocations remained at 100% and general security A class allocations were 0%.

A temporary water restriction was placed on 50% of remaining general security A and B class water in accounts.

Releases were not able to be made past Goondiwindi.

Measures implemented - September 2019 to April 2020

September 2019

Final dam release was made from Glenlyon Dam for town water supply only to Boggabilla Weir.



November 2019

Fish deaths were reported in Reedy Creek, Dumaresq River, Tenterfield Creek and Millers Creek. Deaths ranged from tens to hundreds and were a result of low dissolved oxygen levels.



Olive perchlet and southern purple spotted gudgeon were rescued and taken to Grafton Hatchery for breeding programs.

January 2020

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



Access to 50% of general security A and B class water in accounts was allowed.



October 2019

Restrictions were imposed on domestic and stock licence holders and basic landholder rights upstream of Mungindi Weir.

December 2019

Access to all general security A and B class water in accounts was fully suspended to conserve remaining water for critical supplies.



February 2020

The Northern Basin temporary restriction was extended to the Lower Macintyre Floodplain however some temporary exemptions were permitted to manage perceived risks to infrastructure assets located on the floodplains.



Temporary water restrictions on river pumping and floodplain harvesting in the Border Rivers ceased in the second half of February with flows extending along the length of the river.

The temporary water restriction on general security A and B class water in accounts was repealed.

April 2020

Border Rivers Valley was de-escalated to Stage 3 - Severe Drought.



Due to repairs to a lower outlet valve in Pindari Dam, no releases were able to be made under the translucency rule despite sufficient inflows.

Measures implemented – August 2020 to May 2021

August 2020

General Security A class received an allocation of 14%.



October 2020

An environmental stimulus flow of 4.4 GL was released from Pindari Dam.



February 2021

Border Rivers remained in Stage 2 – Recovering from Drought. Pindari was at 12% and Glenlyon 13%.

General security A class allocations reached 78%.



April 2021

The Border Rivers was declared to be in Stage 1 – Normal Operations.



September 2020

Translucency releases re-commenced from Pindari Dam, including payback of the previous volume.



December 2020

A block release from Pindari Dam commenced for general security water orders, the Boomi replenishment flows and for environmental water deliveries.



The Northern Water Hole Top Up release occurred with 2.9 GL of environmental water being released from Pindari Dam to top up water holes along the river and into the Barwon-Darling.

March 2021

High rainfall resulted in Glenlyon Dam increasing to 46% up from 14% in a week and Pindari Dam to 48% up from 13.3%, with very high flows downstream of the storages causing flooding.



May 2021

100% A class allocation and 47% B class general security allocation was announced. This was the first B class allocation since January 2018.



Government assistance and funding

The following government assistance and funding was provided:

- \$4.37 million to improve the water security for Tenterfield, including drilling for groundwater.
- \$7 million was committed for the construction of a new water treatment plant on Tenterfield Dam.
- \$500,000 was provided to commission an emergency town water supply bore for Glen Innes.
- \$189,000 was provided for emergency infrastructure upgrades to the bore supplying Mungindi.
- Ashford received \$132,600 for the treatment of elevated manganese during low flow periods.
- Bonshaw was provided with \$114,000 for the construction of a new bore.
- The NSW and Commonwealth Governments are investing \$24 million in the final business case for building the 100 gigalitres (GL) Mole River Dam, 20 km south-west of Tenterfield.
- 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 \$2,000 domestic water carting rebate was made available to eligible water users in the Macintyre River downstream of Goondiwindi and the sections of the Boomi River, where regulated flows could not be provided during the drought.

Drought information sessions

Drought information sessions were held in Goondiwindi in May and November 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.
- 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/
- 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.