Regional water availability report

Weekly edition
31 December 2018

waternsw.com.au

Contents

1. Overview

WaterNSW manages and operates 42 dams and storages to deliver water for environmental, domestic, town water, stock, industrial and irrigation purposes across the state.

WaterNSW storages provide supplies to all the major river systems in Western NSW, Greater Sydney, the Southern Highlands, Shoalhaven Bay as well as the Hunter, Bega, and Iron Pot valleys in coastal NSW.

The total active storage percentage of rural water supplies on 31 December 2018 was 38.9% of the total active storage capacity. This was a decrease of 1.2% from last week.

The total storage level of urban water supplies on 31 December 2018 was 61.3% of the total storage capacity. This was an increase of 0.4% since last week.

2. System risks

- The Lower Namoi single block release strategy from October through to December 2018 is complete at Keepit and cease to flow conditions are now extending downstream of the dam to Boggabri..
- In the Macquarie the temporary water restriction remains in place and only 70% of remaining carryover can be delivered with the current stored volumes and the new, lower inflows. The actual inflows to Burrendong Dam since the last AWD in August 2017 total about 49 GL. This is only 26% of the previous record low inflow of about 189GL for the 17 months ending in December.
- Due to drought conditions, end of system daily environmental flow requirements in the Belubula River are being met intermittently, and customers are regularly advised of rescheduling requirements.
- Cease to flow conditions continue in the Barwon Darling system as it remains dry.
- Block releases are under way in the Gwydir valley to deliver the small volumes remaining in customer accounts as conditions remain dry.
- Grouping of water orders and an early cessation to deliveries in the western section of the Border rivers will be required if conditions remain dry in 2018/19.
- Menindee Lakes continues to be below the 480/640GL trigger for NSW control, and four temporary block banks have been constructed to extend drought security beyond December 2018. Releases from the remaining water in Lake Pamamaroo is being used to fill these banks. Cease to flow, between these banks, is expected in coming weeks. These lower flows increase

the possibility of; access problems with very low flows and decreasing water quality with increase in; salinity, pH and Algae.

3. Climatic Conditions

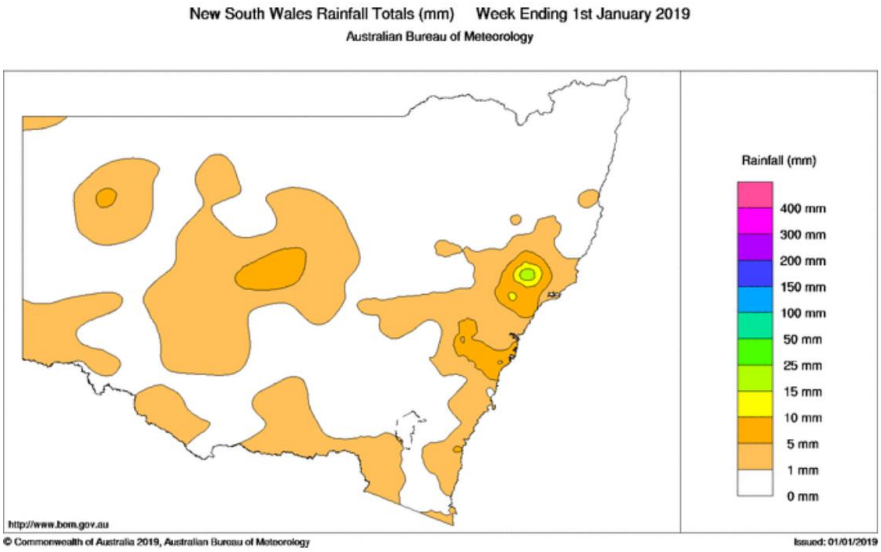


Figure 1 - Weekly rainfall totals for New South Wales

During the week, ending 1st January, negligible rainfall was received over the state, the exception being falls of around 10 – 25 mm around the Hunter region.

For the week commencing 31 December, A stationary high-pressure system over the Tasman Sea extends a ridge towards southeast Queensland, while a broad trough lies over southern and western New South Wales. This pattern will evolve very slowly over the following day or two, with the trough decaying by Thursday. Another trough may affect southern districts on the weekend.

For the first part of the week, the majority of the state should receive 1 mm of rainfall with the south east coast forecast to receive around 5 mm. The western and north western parts of the state is again forecast to remain dry.

For the second part of the week, most of the coastal regions of the state should receive 1–5 mm. The rest of the state is again forecast to remain dry.

Temperatures are expected to soar into heatwave conditions again during the week

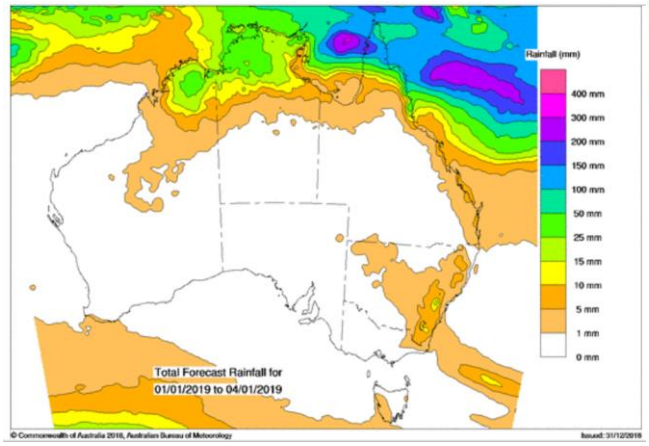


Figure 2a – First 4-day Forecast (1 – 4 Jan 19)

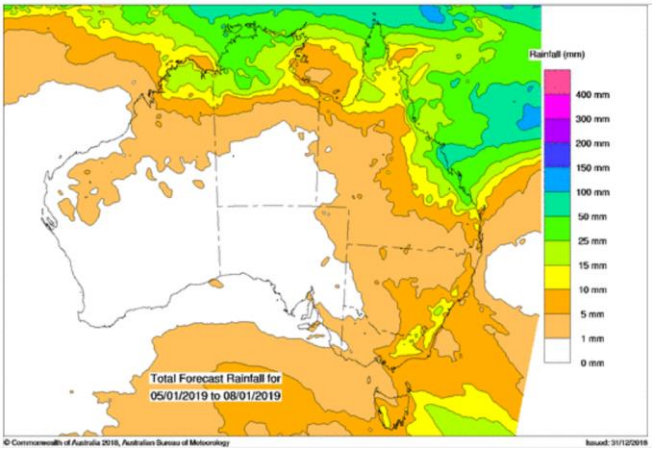


Figure 2b – Following 4-day forecast (5 – 8 Jan 18)

January to March is likely to be drier than average for eastern mainland Australia.

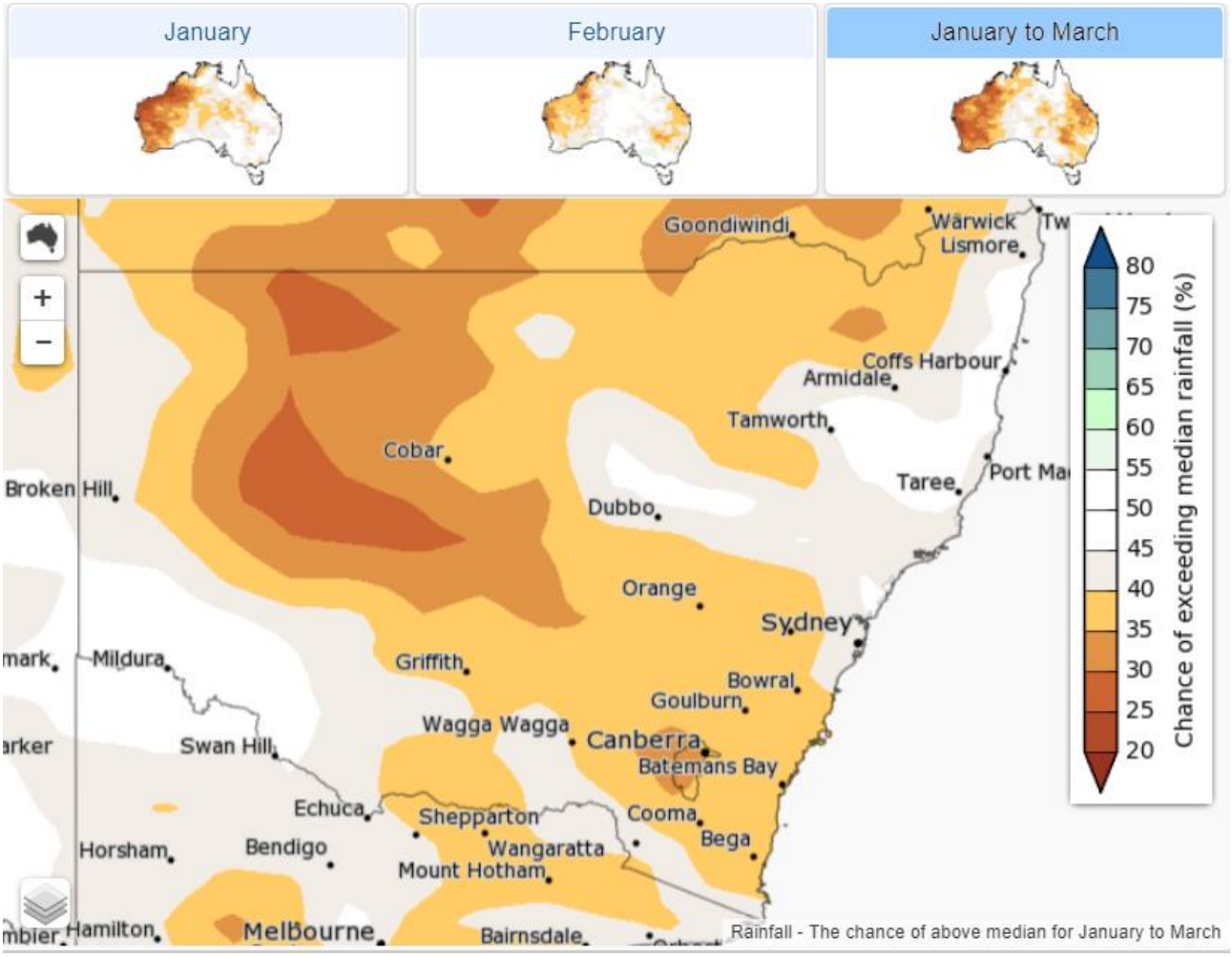


Figure 3 – 3-month rainfall outlook

4. Southern valley based operational activities

4.1 Murray valley

Storage and release status

- Hume Dam is currently 39% of active capacity, releasing about 12,700ML/d. Releases from Hume Dam are likely to stabilise around 11,000ML/day. Transfers from Hume Dam to Lake Victoria are continuing to ease.
- Release downstream of Yarrawonga Weir is about 9,500ML/day and is likely to remain steady.
- Forest regulators are expected to be closed this week as the flow is within channel capacity.
- The Edward River Offtake is currently about 1,560ML/d and will remain below the channel capacity of 1,600ML/day.
- The Gulpa Creek Offtake is currently about 330ML/d and will remain below the channel capacity of 350ML/day.
- Stevens Weir level will remain steady at about 4.44m to manage the level upstream of Wakool Canal offtake, which is about 1.7m. Flow downstream of Stevens Weir is about 2,600ML/day and is expected to remain steady.
- Flows in the Colligen Creek (330ML/day), Yallakool Creek (400ML/day) and Wakool River (50ML/day) are likely to vary marginally in line with Stevens Weir pool height.
- The combined Wakool – Yallakool flows are augmented with supply from Mulwala Escape at Wakool so that the flows are maintained at about 600ML/day in the Wakool system.
- Supply through Perricoota Escape (90ML/day) and Wakool Escape (100ML/day) are expected to continue for the next few weeks.
- Supply to Edward River is also augmented with Billabong Escapes at Finley, (250ML/day), which is likely to continue for the next few weeks.
- Flow at Moulamein is currently at about 2,400ML/day and is likely to remain relatively steady.
- Flow in Niemur River at Mallan School is currently about 600 ML/d and is likely to remain relatively steady.
- Merran Creek flows upstream of its confluence with Wakool is about 110ML/day and is likely to vary marginally.
- Flow in Wakool River at Stoney Crossing is currently at about 1,140ML/day and is likely to remain relatively steady.
- Flows at Balranald are currently about 270ML/day and will reduce gradually to about 200ML/day over the week.

- Lake Victoria is currently holding about 523 GL or 73% of active capacity. The flow to South Australia is about 12,050ML/d.

Environmental water operations

- Returns to Edward River upstream of Toonalook from the environmental water delivered into the Barmah – Millewa forest is currently averaging about 1,250ML/d. The combined flows from Edward Offtake, Gulpa Creek regulator and the forest inflows produce up to 3,100ML/day at Toonalook.
- Environmental water delivery to Wakool-Yallakool and Colligen-Neimur Creek systems as per the hydrograph provided by Fisheries have been suspended. The flows are now managed to maximise the delivery to Murray using the Edward Wakool system subject to channel capacity in the Wakool system.

Water availability

- The latest Water Allocation Statement by DOI-Water confirmed that the general security allocation of zero, while Available Water Determinations (AWD) are 100% for towns, 97% for high security, and 50% for Conveyance. Average carryover into 2018-19 is estimated to be about 31% of general security share components.

Drought operation measures

- System inflows over the last five months of this water year (July to November) have been tracking in the lowest 9 per cent of historical record. However, the NSW share of system inflows has been much less than Victoria's, meaning that the NSW resource has tracked drier than overall system inflows over this period. At this time of year, resource improvements must be used to ensure next year's (2019/20) high priority commitments before further allocating to general security users.
- As per the recently released NSW Extreme Events Policy for all surface and ground water sources in the NSW Murray Darling Basin, the NSW Murray regulated river water source is assessed to be in Stage 1. There are no account restrictions in force in the valley and water supplies are being managed according to the water sharing plan rules. As mentioned above there is currently a shortfall for delivery of next year's high priority needs, but recovery is expected with summer and autumn inflows.

Water quality

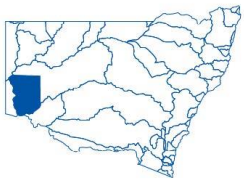
- Potential Blue Green Algae issues:
  - Results for 12/12/18 show a minor detection of Microcystis sp. at the Dam Wall but otherwise the assemblage is dominated by benign cyanobacteria. The overall phytoplankton density at all sites is moderate. Storage remains at green alert.

- For more information visit: Water Quality Algae

Planned supply interruptions:

- None.

4.2 Lower Darling valley



Storage and release status

- The lakes currently hold about 1% of active capacity. The total storage is about 69 GL.
- Lake Menindee has been dry since 6 Feb 2018.
- Lake Cawndilla and Lake Tandure are below active storage levels from end of November 2018
- Release from Lake Pamamaroo is about 320ML/d, primarily to meet the flow targets of about 300ML/d at Weir 32 to fill the temporary block banks.
- The following is the tentative plan for releases from upper storages to fill the banks:
  - Weir 32 target will remain at 300ML/d to maintain filling rates at the block banks but is expected to reduce as the Lake Pamamaroo outlet capacity reduces as the lake level falls.
  - Current level at the block bank near Karoola is about 2.56m and rising slowly. The pipes in the bank are partially open (approximately 75%).
  - Current level at the block bank near Jamesville is about 3.52m, The pipes at the bank are closed.
  - Current level at the block bank near Ashvale is about 0.81m. The pipes at the bank are closed.
- The average pan evaporation rate at Menindee over the last week was about 17.2 mm/d equivalent to about 7,100ML from the lakes over the week.

Water availability

- The total storage of Menindee Lakes reached the 480GL trigger for NSW control of the lakes on 16 December 2017. The releases from the storages will be managed as per the Lower Darling Operations Plan until the storage volume next exceeds 640GL. For more information visit: Lower-Darling Operational Plan.

Drought operation measures

- A temporary water restriction came into effect on 4 December limiting the take of water to; town water, domestic and stock, permanent plantings, and, from Copi Hollow, high security licences. Gazette

- As per the NSW Extreme Events Policy for all surface and ground water sources in the NSW Murray Darling Basin, the Lower Darling regulated river water source is assessed to be in Stage 4, as restrictions limit access to water for critical needs only.
- Four temporary block banks viz. Karoola, Court Nareen, Jamesville and Ashvale have been constructed to ensure supply to domestic, stock and permanent plantings. Releases from Lake Pamamaroo outlet are targeted to fill these banks.
- Pumping from Lake Pamamaroo to top-up Copi Hollow ceased on 10/12/18.

Water quality

- The RED ALERT continues for Lake Wetherell, Lake Tandure, Lake Pamamaroo and Copi Hollow and for the Darling River at Menindee and Weir 32.
  - Media release: Water Quality Algae.

Planned supply interruptions:

- None.

4.3 Murrumbidgee valley

Storage and release status

- Burrinjuck Dam is currently at 44% of active capacity, releasing about 1,500 ML/d. Releases from Burrinjuck Dam have been increased to meet increased system demands.
- Blowering Dam is currently at 42% of active capacity, releasing about 8,700 ML/d under Tumut river channel capacity limit at Oddy's bridge.
- The current diversion into Yanco Creek is about 350 ML/d and is likely to remain relatively steady.
- Delivery to Billabong system via Finley Escapes is about 250ML/day and is likely to remain at this maximum capacity for the next few weeks.
- The Beavers Creek Offtake is targeting a flow of at least 60ML/day in December at Kywong.
- Berembed Weir is currently at about 4.34m and will be used to capture any system surplus to be re-used by next week.
- Bundidgerry storage is currently at 3.9m and is forecast to remain relatively steady.
- Gogeldrie Weir is currently at 5.7m. The weir is being actively used for re-regulation to capture any system surplus and then to meet downstream system demands while maintaining sufficient head to supply water to meet the irrigation demand to Sturt Canal and Coleambally Main Canal.
- Tombullen storage is at about 0.5m and is being actively used for re-regulation, with capture of system surplus due to rainfall rejections and then to reuse the captured water to meet downstream system demands.
- Hay Weir is currently at about 6.8m and will gradually rise to about 7.5m over the week.

Environmental water operations

- Maude Weir is currently at 5.8m and will be maintained relatively steady. The weir is being used to deliver environmental water orders of about 400ML/day into South Caira channel.
- Redbank Weir is at about 5.4m to supply environmental water to Yanga wetlands until late-January. The environmental delivery to Patterson's Pipe that commenced on 29 November is expected to continue until mid-January. The supply of environmental water to assets via North Redbank Channel through Glen Dee offtake commenced on 17 December 2018 and is planned to conclude by 10 January 2019.
- Flows at Balranald are currently about 270ML/day and will reduce gradually to about 200ML/day over the week.

Water availability

- For Inter Valley Transfer (IVT) account from Murray to Murrumbidgee refer to WaterNSW website IVT Ordering.
- The latest Water Allocation Statement by DOI-Water confirmed the Available Water Determinations (AWD) are 100% for towns and 95% for high security, while general security is now 7%. Carryover into 2018-19 is a volume equivalent to 22% of general security share components

Drought operation measures

- As per the NSW Extreme Events Policy for all surface and ground water sources in the NSW Murray Darling Basin, the Murrumbidgee regulated river water source is assessed to be in Stage 1. There are no account restrictions in force in the valley and water supplies are being managed according to the water sharing plan rules. The shortfall for delivery of next year's high priority needs is currently around 300,000 ML.

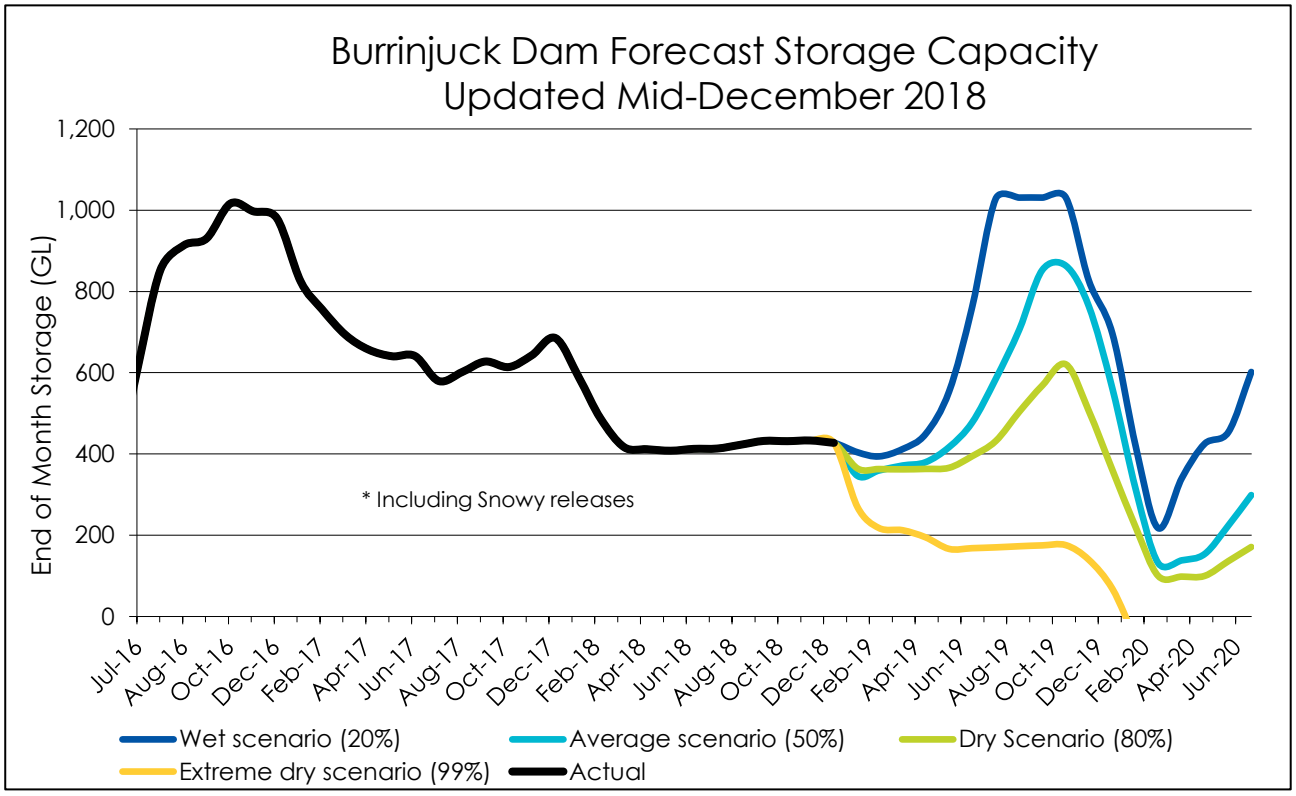
Water quality

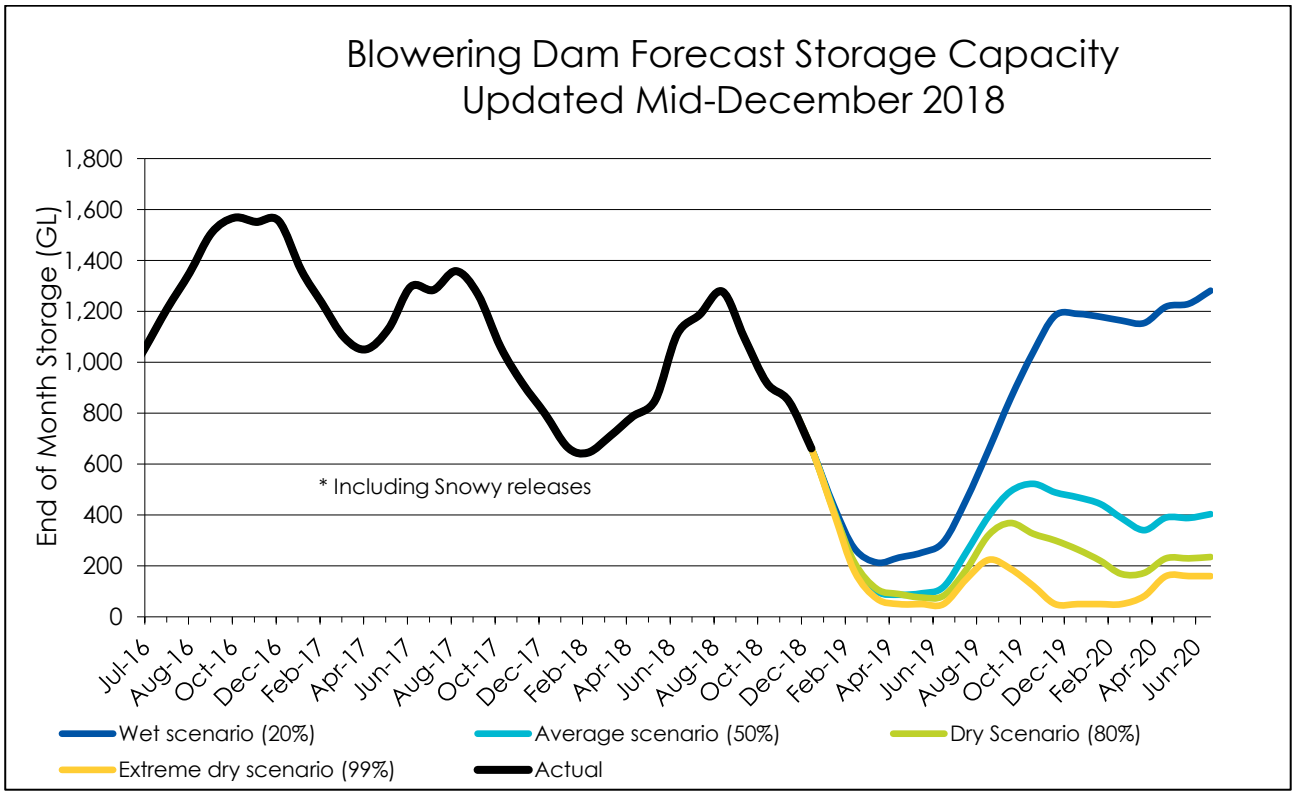
- Potential Blue Green Algae issues:
  - Blowering Dam: Latest results (04/12) show minor counts of benign cyanobacteria (Aphanothece sp.). Downstream results showed no cyanobacteria. Storage remains at green alert.
  - Burrinjuck Dam: December sampling results showed only benign cyanobacteria at sites near the Dam Wall and downstream – no potentially toxic species were detected. Upstream locations showed only flood and green alga were detected, storage remains at green alert.
  - Hay Weir Buoy, Maude Weir Buoy and Redbank Weir Buoy sites have a Red alert status.
  - Lake Wyangan North in Griffith and Lake Albert in Wagga Wagga also have a Red alert status.
  - The Murrumbidgee River at Balranald has an amber alert status.
  - Other sites have no alerts.
  - For more information visit: Water Quality Algae.

Planned supply interruptions:

- Planning is underway for the maintenance of Tarabah Weir as the maintenance is team is awaiting a suitable window of low flows.
- Nimmie-Caira offtake structures: Replacement of the existing actuators and cabling at the Nimme Creek Regulator is expected to be undertaken between 17 December 2018 and 30 January 2019. For safety reasons, power supply to other regulators viz. South and North Caira

offtakes will also be impacted. During power outage period gates can still be operated manually.





5. Central valley based operational activities

5.1 Lachlan valley

Storage and release status

- Carcoar Dam is currently 41% of capacity and currently releasing 100ML/d. Releases are forecast to remain around 90ML/d this week.
- Wyangala Dam is currently 44% of capacity and currently releasing 3,500ML/d. Releases are forecast to remain around this rate this week.
- Lake Cargelligo is currently 61% of capacity and the level is likely to remain between 40% and 80% during the irrigation season. Media release on Lake Cargelligo operation can be accessed at Link
- Releases downstream of Brewster Weir are currently 1,100ML/d. Releases are forecast to remain around this rate this week.

Environmental water operations

- The tributary inflows from the recent rain totalled about 4,000 ML and this is being delivered as Environmental Water Allowance (Wyangala), supplemented by an additional 3,000 ML of releases from Wyangala Dam. This small fresh event, when in the Upper Lachlan consisted of about 7,000 ML over 10 days and will become a large fresh below Booligal of 12 to 14 days. This water is currently passing through Hillston.
- As of 25 July 2018, Lake Brewster main storage is effectively empty. Starting on the 27 September environmental water has been delivered into the outflow wetlands, with the goal of building the seedbank through a full growth cycle of wetland vegetation.
- Due to drought conditions, end of system daily environmental flow requirements in the Belubula River are only met intermittently.

Water Availability

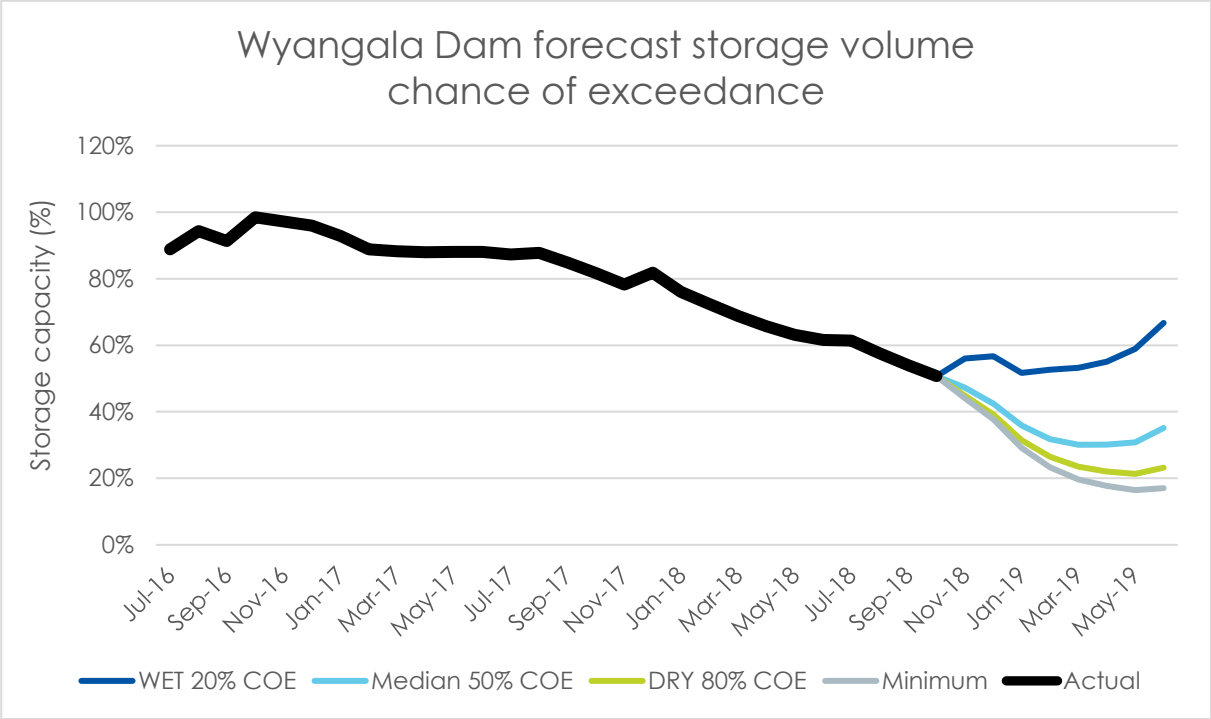
- The 14th December Water Allocation Statement confirmed zero for general security and the initial Available Water Determinations (AWD) of 100% for towns, S&D and high security. Carryover into 2018-19 in Lachlan River is about 369GL, equivalent to about 62% of general security share components.
- It is estimated that a combined dam and tributary inflow volume of more than 260,000 ML was required in December before a further allocation could be made in the Lachlan River. Inflows received in December were about 29,000ML.

Water Quality

- Latest BGA samples show that Willandra Weir, Lake Brewster outlet channel, Lake Brewster Regulator C, Lake Cargelligo Outlet and Boatshed are all on green alert.
- Some river flow is being circulated through the Lake Cargelligo with the intention of improving water quality in the channels connecting the lakes and the river.

Planned supply interruptions:

- Nil.



5.2 Macquarie valley

Storage and release status

- Burrendong Dam is currently 14% of capacity and currently releasing 2,250ML/d. Releases are forecast to increase this week to around 3,000ML/d to meet irrigation demand.
- The level in Burrendong Dam is expected to drop steadily to about 4% by the end of summer. Burrendong Dam has been drawn below 10% on five similar occasions (June 1995, Jan 1998, Apr 2003, May 2004 and Jan 2007).
- Windamere Dam is currently 38% of capacity and currently releasing 100ML/d. Releases will increase this week to 900ML/d for the commencement of the bulk water transfer to Burrendong Dam. Predicted river heights
- The transfer will take place in two distinct stages. The first phase of the transfer will be in January/February 2019 totalling about 35 gigalitres. If conditions remain dry, a second phase of the transfer will occur in spring 2019, leaving a minimum of 70GL in Windamere Dam, which provides a very secure supply for local demand for the next seven years.
- An information session on bulk water transfer was held in Mudgee on 4 December 2018 and stakeholders were advised to register for the Early Warning Network to receive customer notices and other relevant communications on the bulk water transfer.

Environmental water operations

- Delivery of environmental flows commenced at Burrendong Dam on 12 July 2018 and have been completed from the dam with the recession ending the deliveries on 11 December at Marebone.

Water availability

- The timing of all S&D deliveries in 2019 will depend on rainfall events, dam inflows, and contributions from downstream tributaries.
- The initial Available Water Determinations (AWD) for 2018-19 are 100% for towns, S&D and high security, while general security is zero.
- Carryover into 2018-19 in the Macquarie River was about 316GL or 52% of general security share component. Carryover into 2018-19 in the Cudgegong River was about 102% of share component.
- Reduction for storage evaporation has been applied to accessible carryover balances as of 31 Dec 2018 in Macquarie and Cudgegong Rivers for the second quarter of 2018-19 (end Dec) on both General and High Security Licences and to accessible EWA accounts. Evaporation

reduction is not applied to the suspended portion of the carryover accounts. Macquarie River at 4.2% and Cudgegong River at 1.5% of balances.

It is estimated that inflows of around 325 GL were required in December before an increment in Available Water Determination could be made. Inflows received in December were around 7 GL.

Drought operation measures

- The Temporary Water Restriction Order restricts access to 70 per cent of the 1 July 2018 balance of general security and environmental accounts (including EWA) in the Macquarie. The resources in Burrendong Dam plus minimum expected inflows, and planned bulk water transfer from Windamere Dam, only provide for this 70 per cent.
- The Order states that Macquarie regulated river (general security) access licences will be restricted to 70 per cent of the volume of water in the carryover sub-account account as at 1 July 2018. Cudgegong regulated river access licences, including general security, are not restricted.
- As inflows are received during the year, subject to meeting high priority commitments such as town water supply and basic landholder rights for 2019-20, the amount of water in the drought reserve may be reduced and be made available to customers.
- Deliveries in 2018-19 require water conservation initiatives to reduce losses. This involves implementation of water order debiting and, where feasible, block releases of irrigation orders in lower parts of the Macquarie River. Customers are reminded that those who repeatedly extract less water than indicated in their approved water order will have their account debited for the full amount ordered, rather than the amount extracted. Please view the approved water order debiting rules as below: Fact Sheet.
- The end of November resource assessment indicated that the access to water in the drought reserve is only likely to be reviewed before June in "Average" conditions and before January under "Wet" conditions.
- DOI (Water) in their Water Allocation Statement (WAS) for December 2018 stated that dam Inflows in excess of 60,000 ML are required by the end of January 2019 to secure higher priority needs for the 2019/20 water year before the current restrictions on carryover will begin to be eased. The December WAS has also made reference to the NSW Extreme Events Policy, which introduces a staged approach to managing extreme events such as severe droughts or poor water quality events, and to the associated Incident Response Guides (IRGs). The December WAS has also confirmed that the Macquarie regulated river water source is assessed to be in Stage 3 of the drought stages with stage 4 the highest level under the Incident Response Guides.
- Inflows in excess of 60,000 ML by the end of January 2019 is required to secure higher priority needs under Stage 4 drought management operations during the 2019/20 water year. Should

this inflow volume arrive before February 2019, any additional resources will then be used to ease some of the current account restrictions on carryover and EWA active accounts. Further inflows will then be used to improve the drought management operations in 2019-20 from stage 4 to stage 3 prior to easing the current restrictions and drought management operations further. The Macquarie–Castlereagh incident response guide can be viewed at Incident response guide Macquarie.

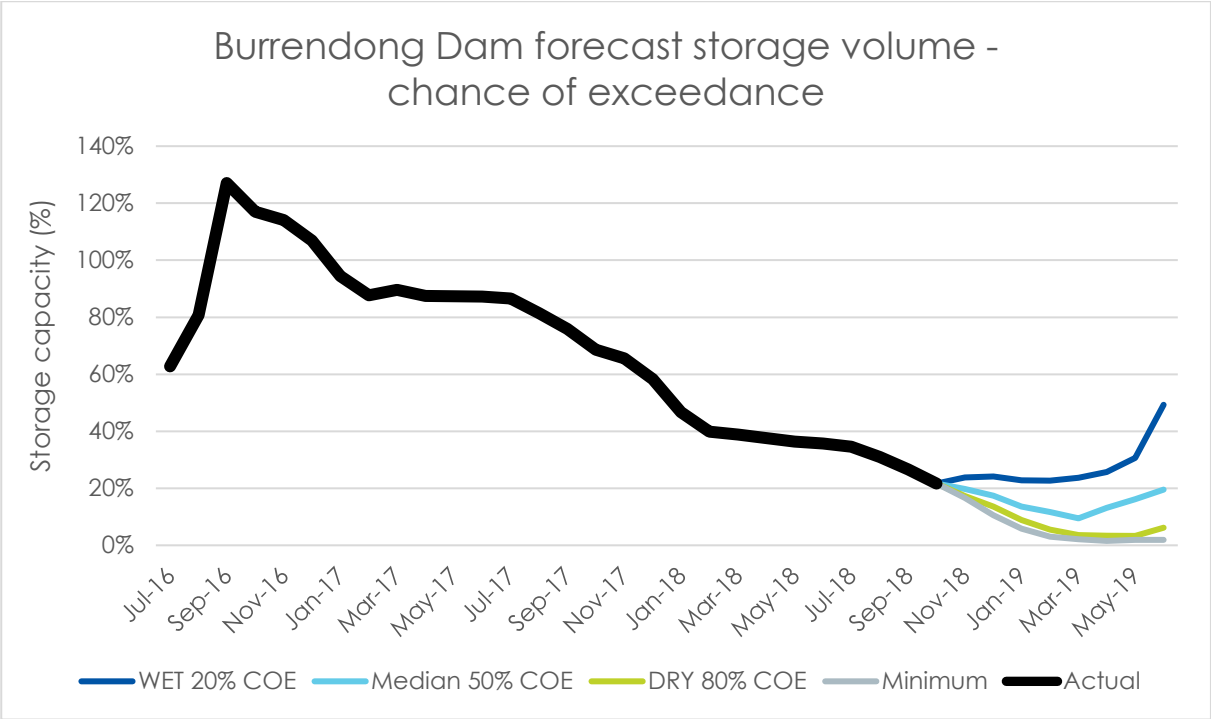
- The actual inflows to Burrendong Dam since the last AWD in August 2017 total about 49 GL. This is only 26% of the previous record low inflow of about 189GL for the 17 months ending in December.
- This drier than historical minimum inflow confirms that the system has entered into a new drought of record for Burrendong Dam, and the next few months inflows will be important for planning this season's operations.

Water quality

- Burrendong algal results for the 11th Dec show no presence of potentially toxic species. Assemblage at Station 1 has a minor benign cyanobacterial presence. Mookerawa was dominated by flood alga, whereas the Cudgegong showed flood alga, diatoms and green alga. Storage is now at Green alert. However weekly sampling will continue as part of the curtain reinstatement.
- Windamere algal results for the 19th Nov shows a minor presence of toxic species at Dam Wall and mid lake, however storage remains on green alert.
- A second trash rack is now installed at Windamere Dam in preparation for the bulk water transfer. The position of the trash racks is currently 8-14 m below the surface.
- Works to reinstate the temperature curtain at Burrendong Dam have been completed and the commissioning phase has commenced. The commissioning of the curtain operation will allow the continuation of this trial as the water near the surface of the lake begins to warm.

Planned supply interruptions:

- Nil


Burrendong Dam forecast storage volume - chance of exceedance
Storage capacity (%)
140%
120%
100%
80%
60%
40%
20%
0%
Jul-16
Sep-16
Nov-16
Jan-17
Mar-17
May-17
Jul-17
Sep-17
Nov-17
Jan-18
Mar-18
May-18
Jul-18
Sep-18
Nov-18
Jan-19
Mar-19
May-19
WET 20% COE
Median 50% COE
DRY 80% COE
Minimum
Actual

6. Northern valley based operational activities

6.1 Namoi valley

Storage and release status

- Split Rock Dam is at 5% of active capacity and is currently releasing around 65 ML/d, as the recent bulk water transfer to Keepit Dam is complete. Releases are likely to range from around 50 to 70 ML/d over the week.
- Keepit Dam is at less than1% of active capacity and releases have ceased. Cease to flow conditions are now extending downstream of the dam to Boggabri.
- Chaffey Dam is at 42% of active capacity and currently releasing 140ML/d. Releases are forecast to reduce to around 100ML/d later in the week.
- This season's block release from Keepit to the Lower Namoi has now been finalised and the delivery of water to downstream locations is almost complete. The delivery of general security water was made only to the Namoi River upstream of Gunidgera Weir, and to the Pian Creek upstream of Greylands Weir.
- No flow has been present in the Namoi River at Walgett (Station No 419091) since March 2018. Flows from Keepit Dam and the Namoi weirs continue to progress towards Walgett, however any flows that do arrive are not expected to arrive until mid-January.
- The Pian Creek replenishment flow was not able to be delivered in the usual manner so unless conditions improve, other supply arrangements will need to be made.
- Supply on demand applies for the Upper Namoi and the Peel Valley.

Environmental water operations

- Environmental water was delivered as part of the lower Namoi block release. This water was ordered and delivered downstream of Gundigera Weir over the last two months.
- In the Peel valley there is currently 1.9GL of planned environmental water plus a small amount of held environmental water. There are not any current orders for the release of water from either of these accounts.

Water availability

- There is currently about 84GL deficit before there is likely to be an AWD increment in the Lower Namoi valley.
- The Available Water Determinations (AWD) for the Lower Namoi are 100% for towns and high security, while general security is zero. Carryover into 2018-19 was estimated to be approximately 19% of general security share components.
- The Available Water Determinations (AWD) for the Upper Namoi are 100% for towns, high security, and general security.
- The initial Available Water Determinations (AWD) for the Peel are 100% for towns and high security, while general security initially was 29%, with an increase in October to a total of 38%.

Drought operation measures

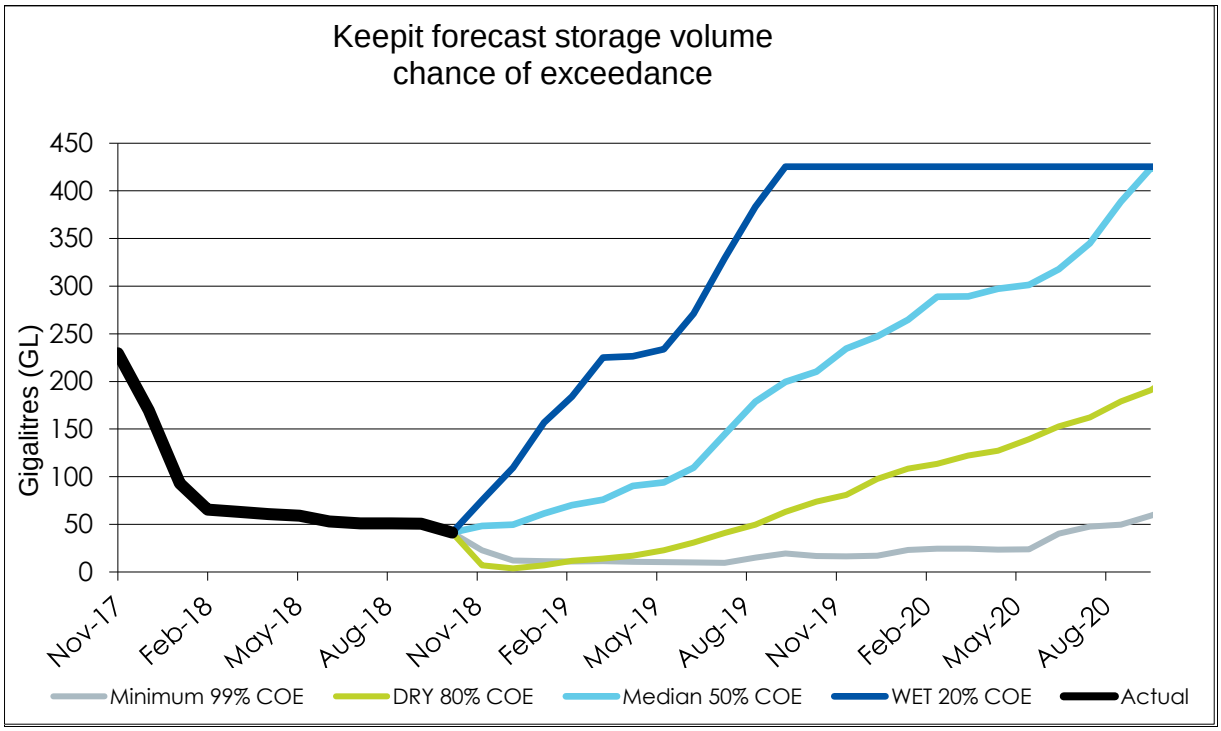
- Temporary Water Restrictions in the Namoi that imposed limits to trade and use have now been fully removed.

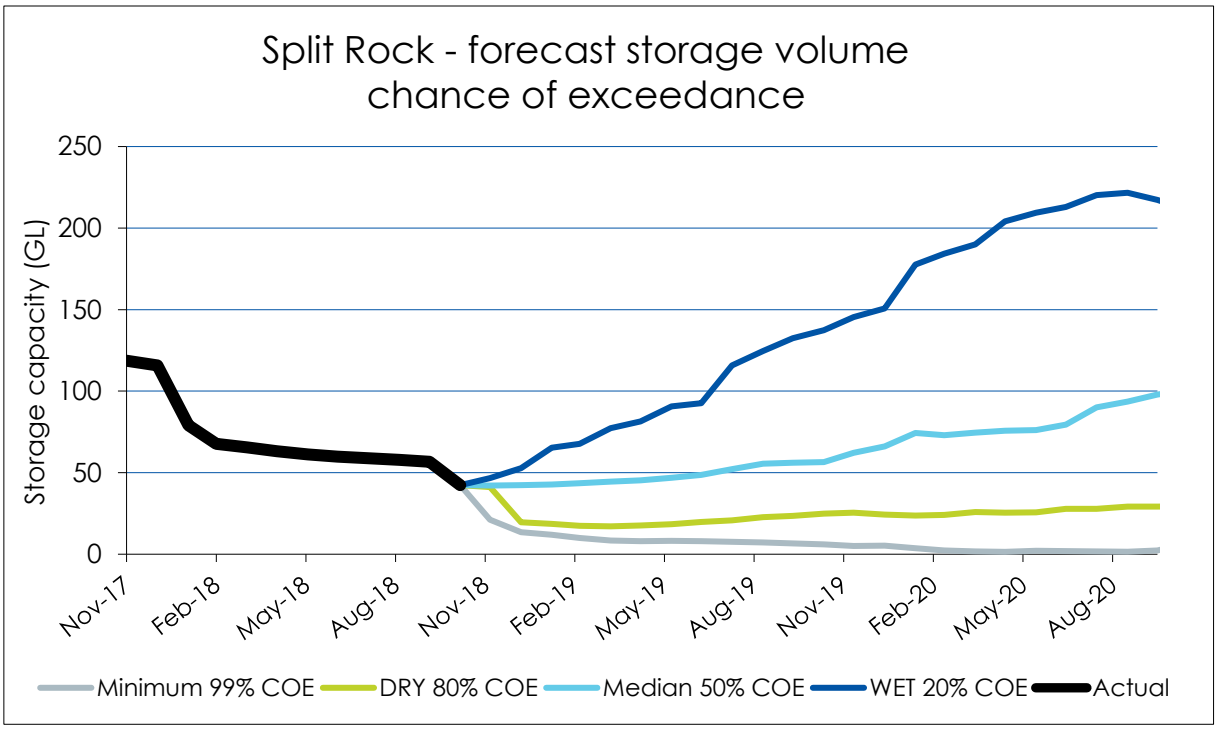
Water quality

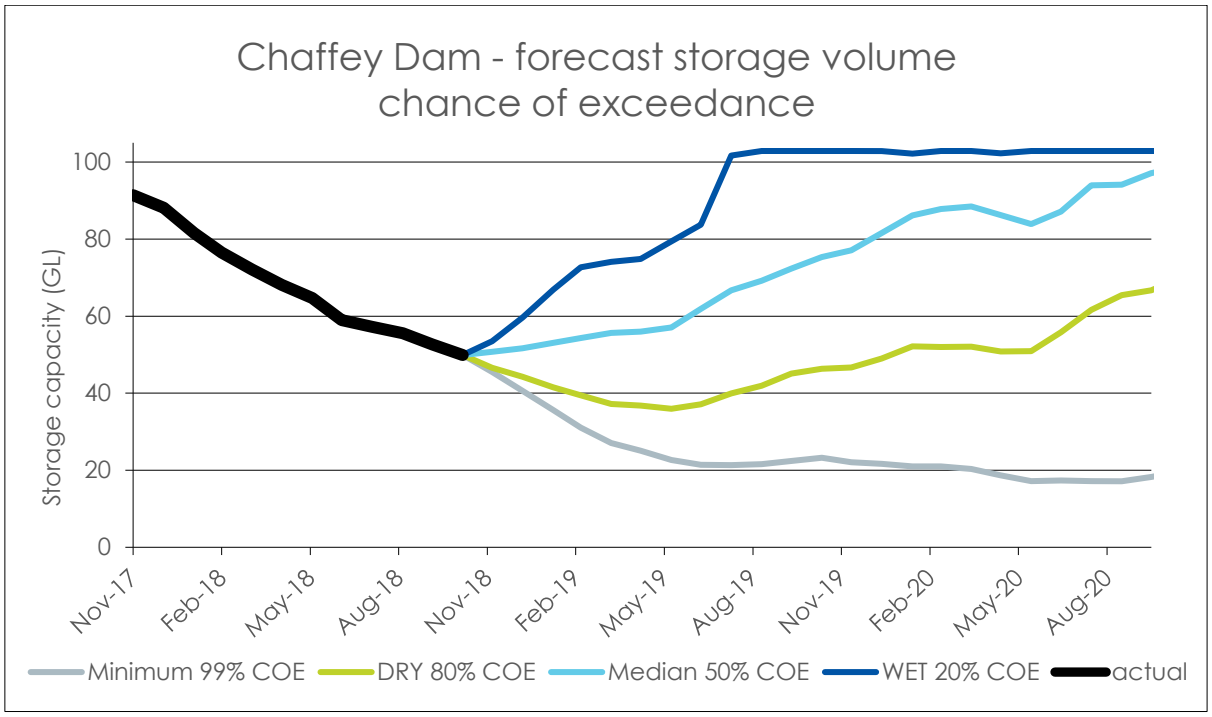
- Recent sampling for BGA indicates that Keepit Dam and Chaffey Dam are on a green alert while Split Rock Dam is on amber alert.

Planned supply interruptions:

- Mollee fish way is currently unavailable due to infrastructure failure.


Keepit forecast storage volume
chance of exceedance
Gigalitres (GL)
450
400
350
300
250
200
150
100
50
0
Nov-17
Feb-18
May-18
Aug-18
Nov-18
Feb-19
May-19
Aug-19
Nov-19
Feb-20
May-20
Aug-20
Minimum 99% COE
DRY 80% COE
Median 50% COE
WET 20% COE
Actual


Split Rock - forecast storage volume
chance of exceedance
Storage capacity (GL)
250
200
150
100
50
0
Nov-17
Feb-18
May-18
Aug-18
Nov-18
Feb-19
May-19
Aug-19
Nov-19
Feb-20
May-20
Aug-20
Minimum 99% COE
DRY 80% COE
Median 50% COE
WET 20% COE
Actual


Chaffey Dam - forecast storage volume chance of exceedance
Storage capacity (GL)
100
80
60
40
20
0
Nov-17
Feb-18
May-18
Aug-18
Nov-18
Feb-19
May-19
Aug-19
Nov-19
Feb-20
May-20
Aug-20
Minimum 99% COE
DRY 80% COE
Median 50% COE
WET 20% COE
actual

6.2 Gwydir valley

Storage and release status

- Copeton Dam is at 17% of active capacity and is currently releasing around 1,800 ML/day and this is expected to briefly increase to 2,100ML/d and revert back to 1,800 ML/d towards the end of the week.
- Block releases for the western effluent streams are scheduled. See updated Customer Notice.

Environmental water operations

- Around 60 GL (in total) of environmental water is being delivered to the Gwydir and Gingham, with the final 10 GL currently being delivered to the Gingham.
- Of this 60 GL of environmental water, half is being supplied from the ECA and half from the CEWO (Commonwealth Environmental Water Office)
- In the Mallowa Creek, the delivery of the second batch of 10GL of CEWO's environmental water is underway and flow has reached the targets at the end of system. Flows have been reduced to about 50ML/d.

Water availability

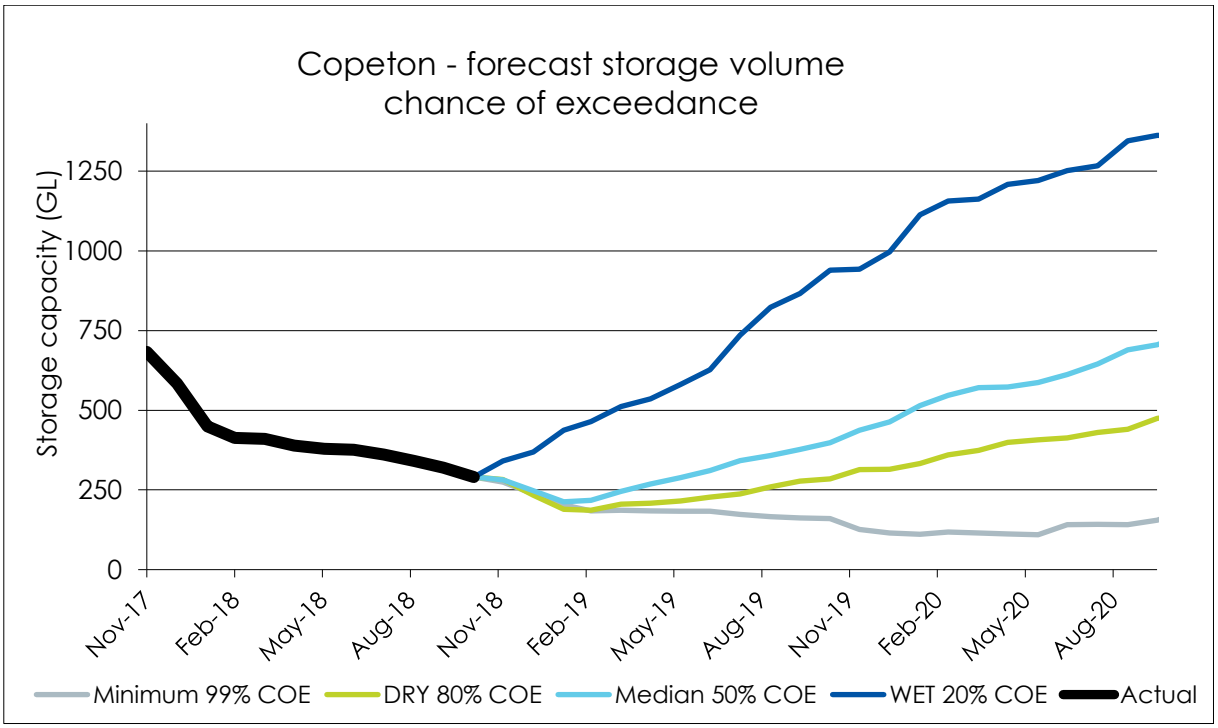
- The initial Available Water Determinations (AWD) are 100% for towns and high security, while general security is zero. Total carryover into 2018-19 was estimated to be up to 22% of general security share components.
- Carryover of general security for industry production was limited to roughly 40 GL (about 8% of general security share components).
- Carryover of general security for environmental use is roughly 71 GL (about 14 % of general security share components), in addition roughly 75 GL is available for the Environmental Contingency Allowance (ECA).
- Recent Blue Green Algae (BGA) sampling at Copeton shows Copeton at green alert level.

Drought operation measures

- Block releases for the western effluent streams are scheduled. See updated Customer Notice.

Planned supply interruptions:

- No supply interruptions are expected.


Copeton - forecast storage volume
chance of exceedance
Storage capacity (GL)
1250
1000
750
500
250
0
Nov-17
Feb-18
May-18
Aug-18
Nov-18
Feb-19
May-19
Aug-19
Nov-19
Feb-20
May-20
Aug-20
Minimum 99% COE
DRY 80% COE
Median 50% COE
WET 20% COE
Actual

6.3 Border rivers

Storage status

- Pindari Dam is at 30% of capacity and releasing 2,225ML/d. Releases are forecast to decrease later in the week.
- Glenlyon Dam is at 34% of capacity and releasing 940ML/d. Releases are forecast to increase this week.
- Releases from Boggabilla Weir are currently around 1,600 ML/day and are forecast to increase as irrigation demand increases.

Environmental water operations

- No current held environmental water orders nor triggers for planned environmental water.

Water availability

- The Available Water Determinations (AWD) are 100% for towns and high security, while general security A-class is 32.8% and general security B-class is zero. Total carryover into 2018-19 was around 53% of general security share components.

Drought operation measures

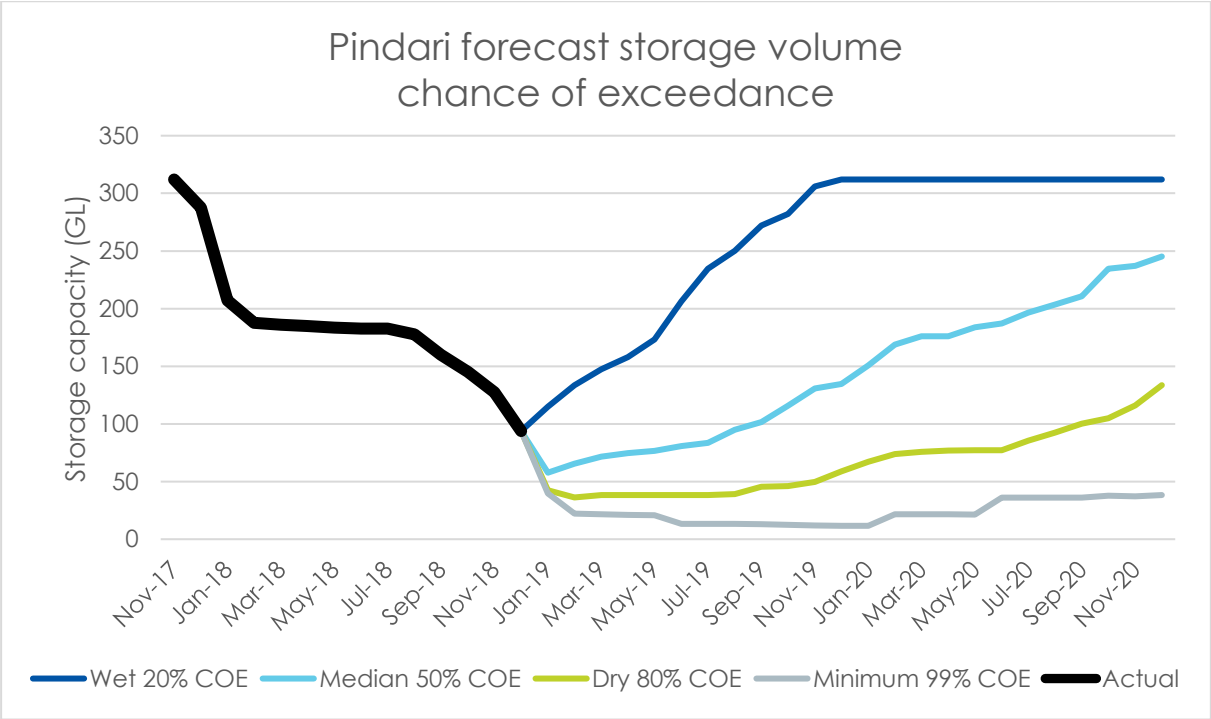
- Deliveries west of Boomi will be grouped together and undertaken in distinct blocks throughout the 2018/19 growing season.

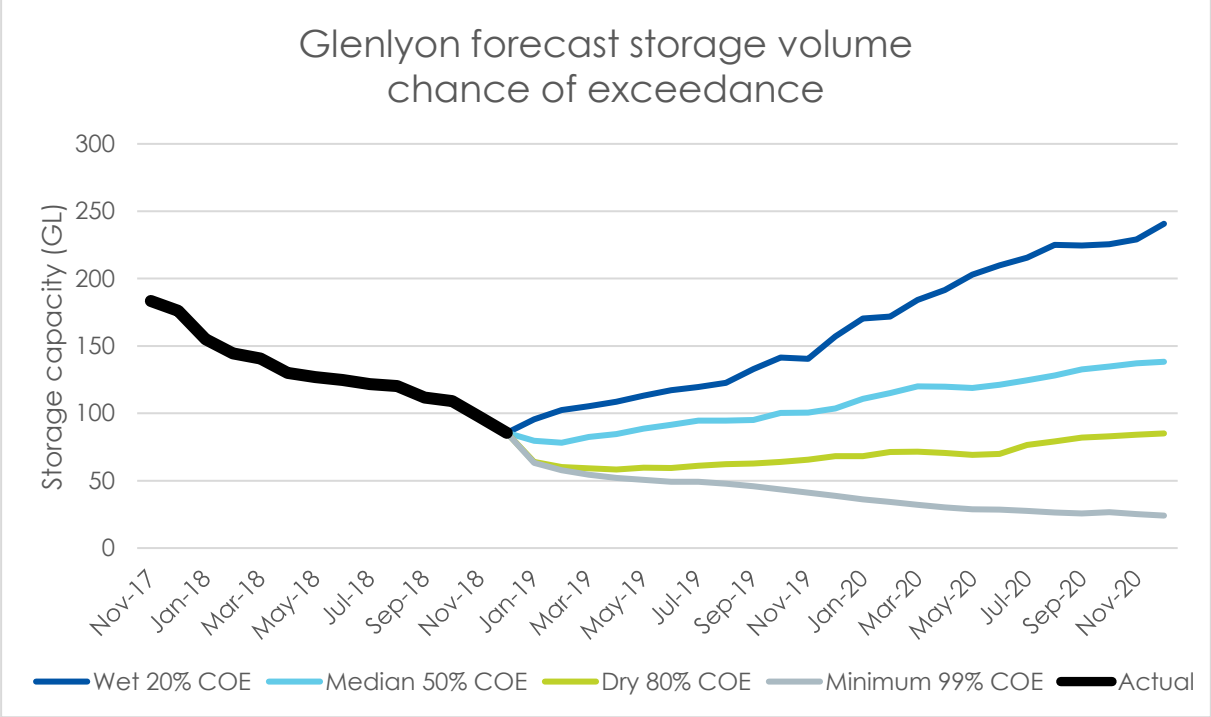
Water quality

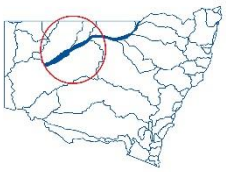
- Recent Blue Green Algae (BGA) sampling at Pindari shows that Pindari alert level is changed from amber to red.

Planned supply interruptions:

- No supply interruptions are currently forecast.


Pindari forecast storage volume
chance of exceedance
Storage capacity (GL)
350
300
250
200
150
100
50
0
Nov-17
Jan-18
Mar-18
May-18
Jul-18
Sep-18
Nov-18
Jan-19
Mar-19
May-19
Jul-19
Sep-19
Nov-19
Jan-20
Mar-20
May-20
Jul-20
Sep-20
Nov-20
Wet 20% COE
Median 50% COE
Dry 80% COE
Minimum 99% COE
Actual


Glenlyon forecast storage volume
chance of exceedance
Storage capacity (GL)
300
250
200
150
100
50
0
Nov-17
Jan-18
Mar-18
May-18
Jul-18
Sep-18
Nov-18
Jan-19
Mar-19
May-19
Jul-19
Sep-19
Nov-19
Jan-20
Mar-20
May-20
Jul-20
Sep-20
Nov-20
Wet 20% COE
Median 50% COE
Dry 80% COE
Minimum 99% COE
Actual



6.4 Barwon-Darling River system

River flow status

- The river system from Presbury to Wilcannia is currently at cease to flow condition and is forecast to remain this way until there is a significant rainfall event.
- Some minor flow appearing at Mungindi is from operational surplus in the Border Rivers.
- The small flows at Geera were from Macquarie River environmental flows, however these have now ended as environmental releases to the Macquarie Marshes ceased on 11 December 2018.
- Weir pool levels are expected to continue to fall due to evaporation, town water use and Basic Landholder Rights extractions.

Environmental water operations

- There are no current Held Environmental Water (HEW) flows in the Barwon Darling system.
- Planned Environmental Water (PEW) is water in the system that is below the commence to pump conditions for access licences.

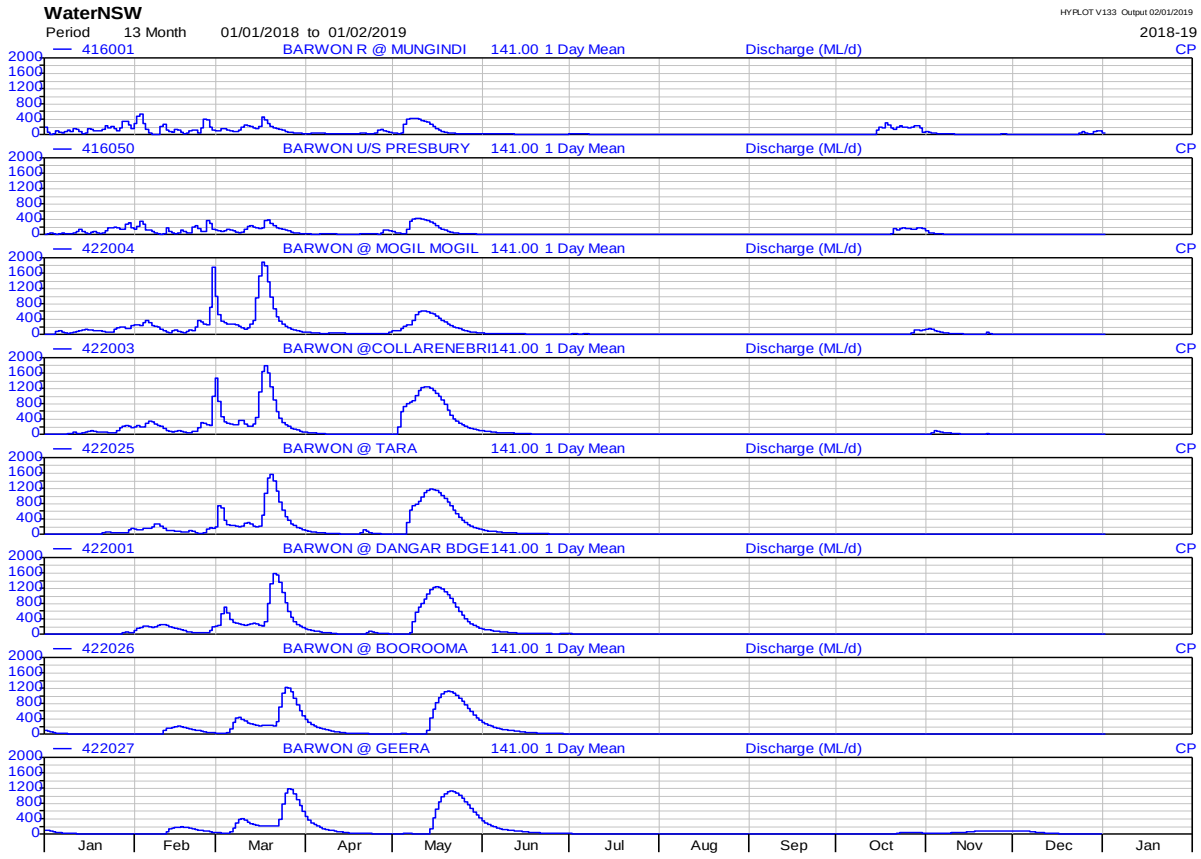
Water Availability

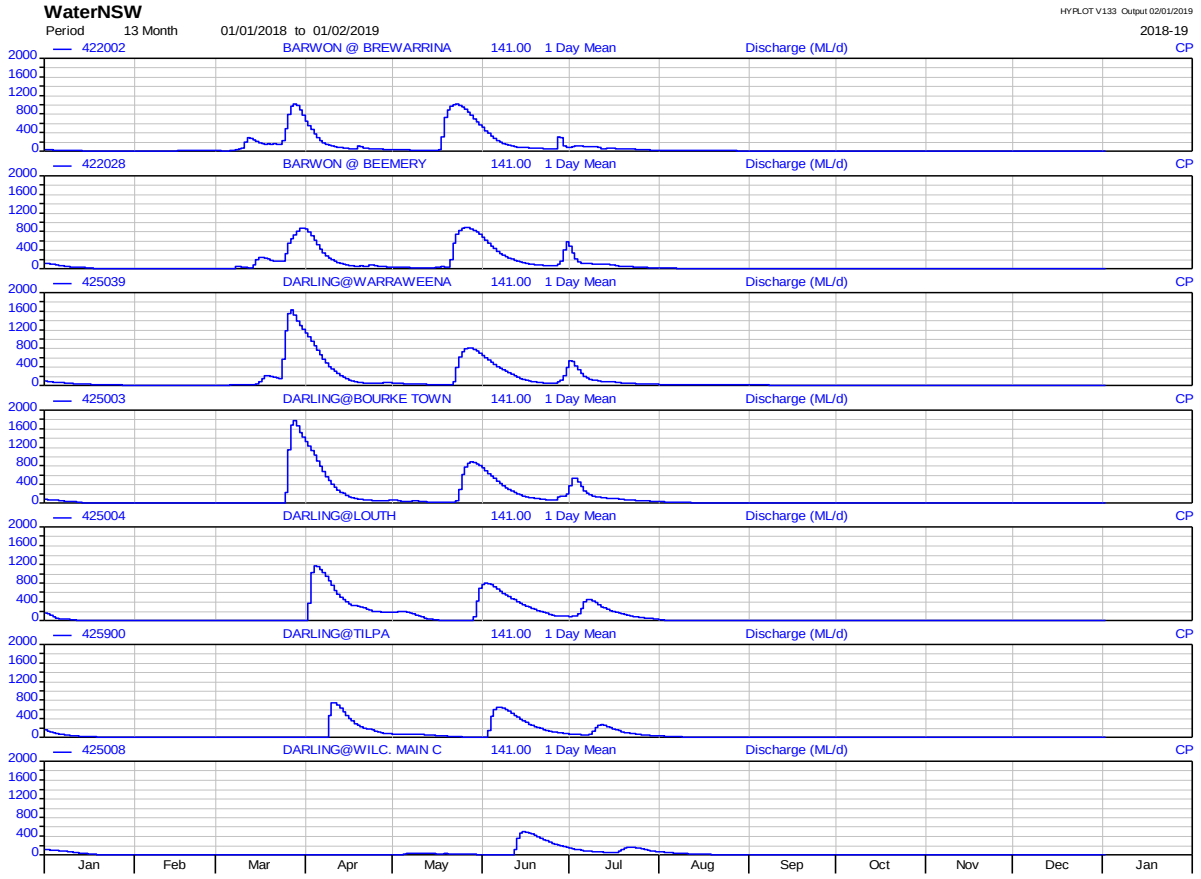
- The table below sets out the river management zones and access availability using daily average data to 6 am, these are provided as an indication only and access may have changed during the 24-hour period.

Drought operation measures

- As per the NSW Extreme Events Policy for all surface and ground water sources in the NSW Murray Darling Basin, the Barwon Darling unregulated river water source is assessed to be in Stage 3. Temporary water restrictions may be required to ensure critical water needs.

River section	Gauging station	Classification						
		25-12-18	26-12-18	27-12-18	28-12-18	29-12-18	30-12-18	31-12-18
Mungindi to Boomi river conf	416001 - 416050	No access	No access	No access	No access	No access	No access	No access
Boomi river confluence to U/S Mogil Mogil Weir	416050 - 422004	No access	No access	No access	No access	No access	No access	No access
Mogil Mogil Weir	422004	No access	No access	No access	No access	No access	No access	No access
D/S Mogil Mogil to Collarenebri	422,004- 422003	No access	No access	No access	No access	No access	No access	No access
Collarenebri to U/S Walgett Weir	422003 - 422025	No access	No access	No access	No access	No access	No access	No access
Walgett Weir	422001	No access	No access	No access	No access	No access	No access	No access
D/S Walgett to Boorooma	422001- 422026	No access	No access	No access	No access	No access	No access	No access
Geera to Brewarrina	422027- 422002	No access	No access	No access	No access	No access	No access	No access
Brewarrina to Culgoa river junction	422002- 422028	No access	No access	No access	No access	No access	No access	No access
Culgoa river junc to Bourke	425039- 425003	No access	No access	No access	No access	No access	No access	No access
Bourke to Louth	425003- 425004	No access	No access	No access	No access	No access	No access	No access
Louth to Tilpa	425004- 425900	No access	No access	No access	No access	No access	No access	No access
Tilpa to Wilcannia	425900- 425008	No access	No access	No access	No access	No access	No access	No access
Wilcannia to U/S Lake Wetherell	425008	No access	No access	No access	No access	No access	No access	No access


WaterNSW
HYPLOT V133 Output 02/01/2019
Period 13 Month 01/01/2018 to 01/02/2019
2018-19
416001 BARWON R @ MUNGINDI 141.00 1 Day Mean Discharge (ML/d) CP
416050 BARWON U/S PRESBURY 141.00 1 Day Mean Discharge (ML/d) CP
422004 BARWON @ MOGIL MOGIL 141.00 1 Day Mean Discharge (ML/d) CP
422003 BARWON @COLLARENEBRI 141.00 1 Day Mean Discharge (ML/d) CP
422025 BARWON @ TARA 141.00 1 Day Mean Discharge (ML/d) CP
422001 BARWON @ DANGAR BDGE 141.00 1 Day Mean Discharge (ML/d) CP
422026 BARWON @ BOOROOMA 141.00 1 Day Mean Discharge (ML/d) CP
422027 BARWON @ GEERA 141.00 1 Day Mean Discharge (ML/d) CP
2000
1600
1200
800
400
0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan


WaterNSW
HYPLOT V133 Output 02/01/2019
Period 13 Month 01/01/2018 to 01/02/2019
2018-19
422002 BARWON @ BREWARRINA 141.00 1 Day Mean Discharge (ML/d) CP
422028 BARWON @ BEEMERY 141.00 1 Day Mean Discharge (ML/d) CP
425039 DARLING@WARRAWEENA 141.00 1 Day Mean Discharge (ML/d) CP
425003 DARLING@BOURKE TOWN 141.00 1 Day Mean Discharge (ML/d) CP
425004 DARLING@LOUTH 141.00 1 Day Mean Discharge (ML/d) CP
425900 DARLING@TILPA 141.00 1 Day Mean Discharge (ML/d) CP
425008 DARLING@WILC. MAIN C 141.00 1 Day Mean Discharge (ML/d) CP
2000
1600
1200
800
400
0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan

7. Coastal valley based operational activities

7.1 Bega river

Storage and release status

- Brogo Dam is at 81% of capacity and currently releasing 15ML/d. Releases are forecast to remain around this rate this week.
- Regulated conditions are present throughout the system.

Environmental water operations

- No current additional operations.

Water availability

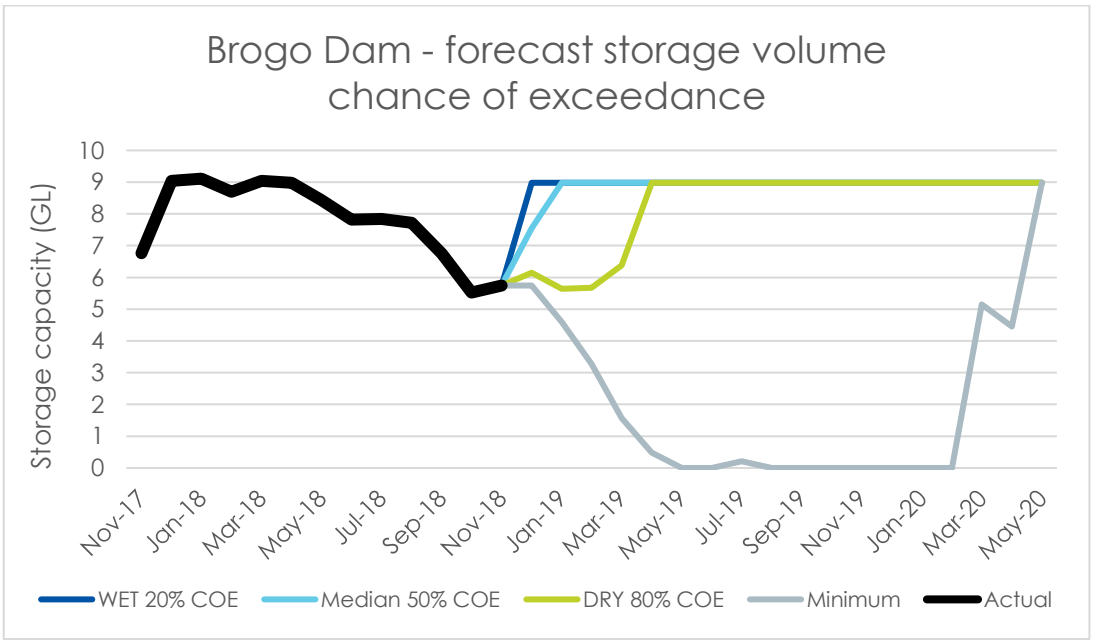
- An AWD increment of 5% announced on 20 Dec 2018 takes the total availability for the general security licences for the year to 35%.
- General security availability likely to increase with further inflows to Brogo Dam.

Water quality

- Recent BGA sampling at Brogo indicates a green alert level is maintained.

Planned supply interruptions:

- Nil



7.2 Hunter valley

Storage and release status

- Glenbawn Dam is currently at 60% of capacity and releasing around 850ML/d. Releases are forecast to remain around this rate during the week.
- Glennies Creek Dam is at 62% of capacity and releases are currently around 150ML/d. Releases are forecast to remain around this rate during the week.
- Lostock Dam is at 99% of capacity and releasing 25ML/d. Releases are forecast to remain around this rate.

Environmental water operations

- No current additional operations.

Water availability

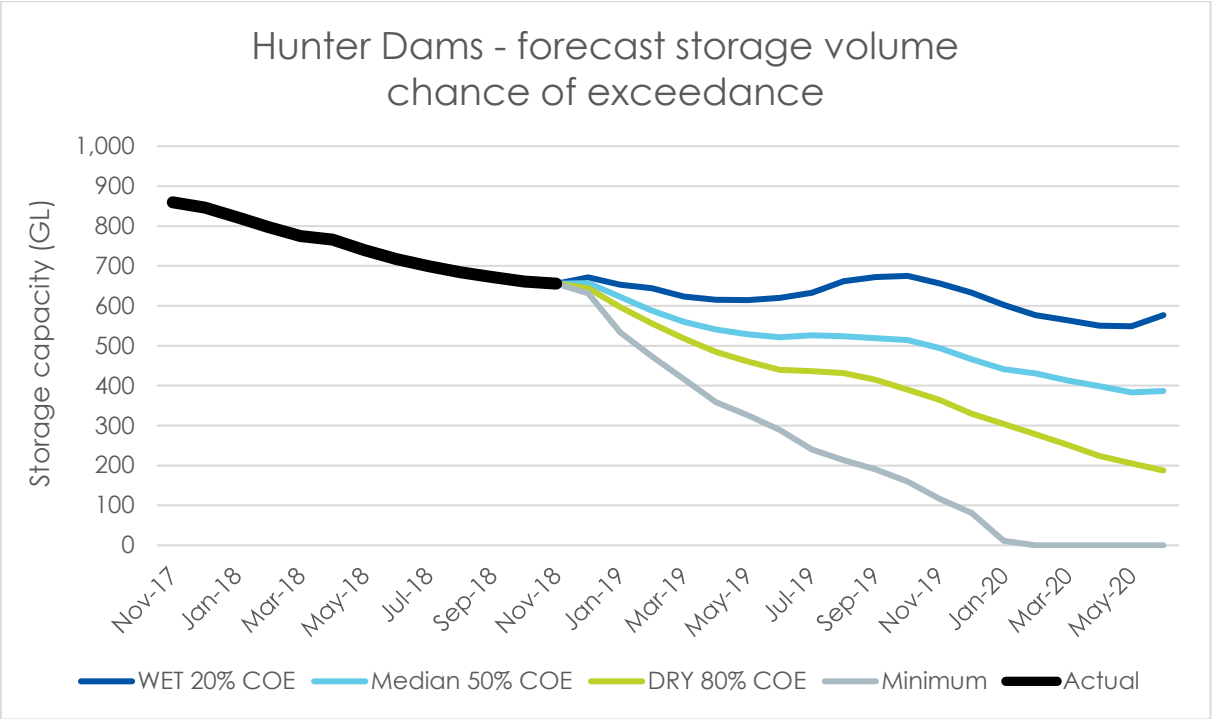
- All licence categories have 100% availability

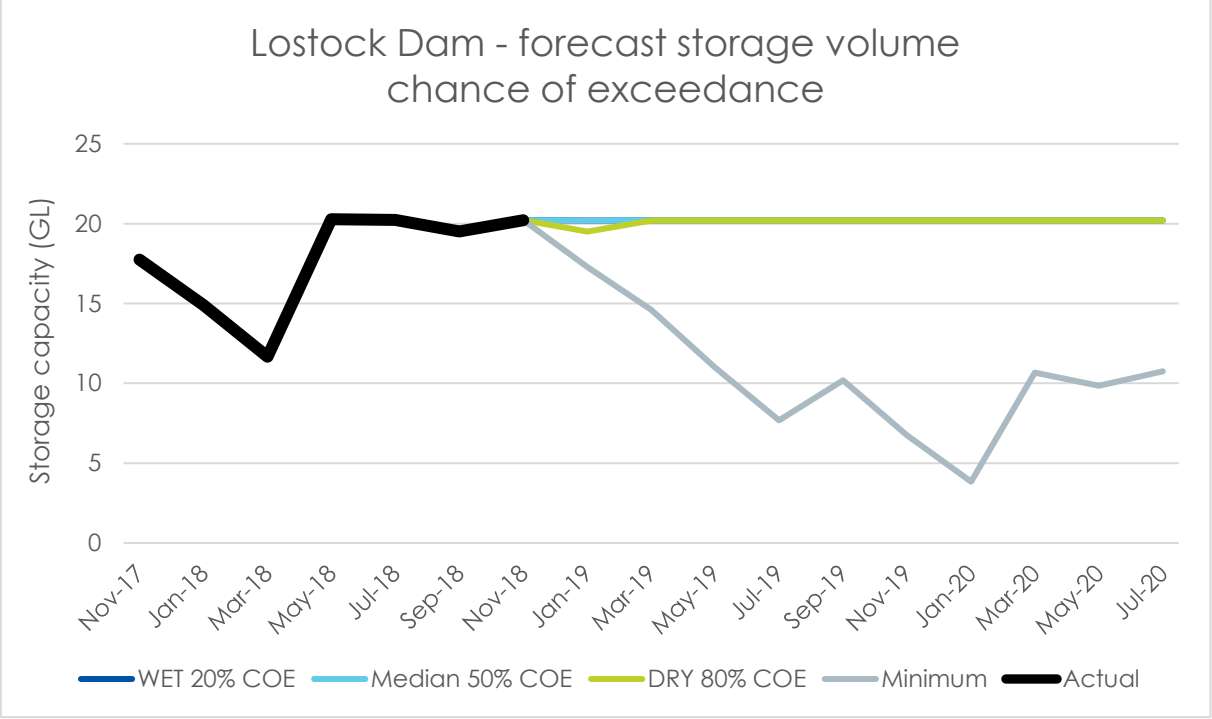
Water quality

- Recent BGA sampling at Hunter storages indicates a green alert is maintained at Glenbawn and Glennies Creek and Lostock.

Planned supply interruptions:

- Nil


Hunter Dams - forecast storage volume chance of exceedance
Storage capacity (GL)
1,000
900
800
700
600
500
400
300
200
100
0
Nov-17
Jan-18
Mar-18
May-18
Jul-18
Sep-18
Nov-18
Jan-19
Mar-19
May-19
Jul-19
Sep-19
Nov-19
Jan-20
Mar-20
May-20
WET 20% COE
Median 50% COE
DRY 80% COE
Minimum
Actual


Lostock Dam - forecast storage volume chance of exceedance
Storage capacity (GL)
25
20
15
10
5
0
Nov-17
Jan-18
Mar-18
May-18
Jul-18
Sep-18
Nov-18
Jan-19
Mar-19
May-19
Jul-19
Sep-19
Nov-19
Jan-20
Mar-20
May-20
Jul-20
WET 20% COE
Median 50% COE
DRY 80% COE
Minimum
Actual

7.3 Toonumbar Dam

Storage and release status

- Toonumbar Dam is at 94% off capacity and releasing 18ML/d. Releases are forecast to remain steady for the week ahead.

Environmental water operations

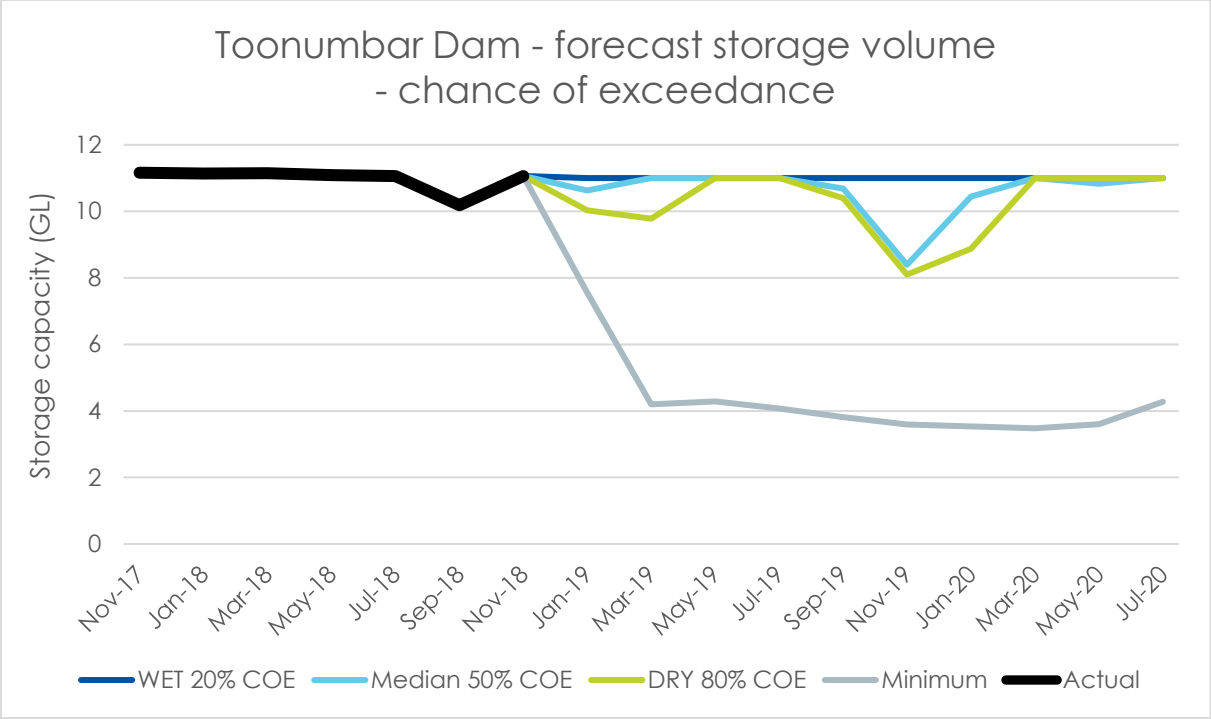
- No current additional operations.

Water availability

- All licence categories have 100% availability.

Water quality

- Recent BGA sampling at Toonumbar indicates that a green level is present.



Planned supply interruptions:

- Nil

Rural dam levels

The following table shows the status of water supplies at 31 December 2018.

River Valley	Cap-acity	Current Status		Weekly	Comments	Likeli-hood	Allocations for 2018/19		
Storage Dam, Nearest Town	(GL)	% of active cap-acity	Active (GL)	change (GL)	Supply Issues	of fill and spill	High Security	Gen. Security	Est Carry-over @ 1/7/18
Border Rivers									
Glenlyon Dam, Stanthorpe	254	34%	85	-3	Regulated releases	<20%	100%	2.7%	53%
Pindari Dam, Inverell	312	30%	93	-13	Regulated releases	<20%	100%	2.7%	53%
Gwydir Valley									
Copeton Dam, Inverell	1346	17%	227	-9	Regulated releases	<5%	100%	0%	22%
Namoi Valley									
Keepit Dam, Gunnedah	419	0%	2	0	Releases ceased	<20%	100%	0%	19%
Split Rock Dam, Manilla	394	5%	18	-0	Regulated releases	<5%	100%	100%	N/A
Chaffey Dam, Tamworth	98	42%	41	-1	Regulated releases	<50%	100%	38%	N/A
Macquarie Valley									
Burrendong Dam, Wellington	1155	14%	157	-16	Regulated releases, restricted c/over	<20%	100%	0%	52%
Windamere Dam, Mudgee	367	38%	140	-1	Regulated releases	<5%	100%	0%	102%
Lachlan Valley									
Wyangala Dam, Cowra	1216	44%	530	-24	Regulated releases	<20%	100%	0%	62%
Carcoar Dam, Carcoar	36	41%	15	-1	Regulated releases	10%	100%	0%	67%
Murrumbidgee Valley									
Burrinjuck Dam, Yass	1025	44%	450	-4	Irrigation & eWater	25%	95%	7%	22%
Blowering Dam, Tumut	1604	42%	674	-59	Irrigation & eWater	20%	95%	7%	22%
Murray Valley									
Dartmouth, Mitta Mitta (Vic)	3837	69%	2658	-29	Transfers to Hume	N/A	N/A	N/A	N/A
Hume Dam, Albury	2982	39%	1149	-42	Irrigation, eWater & L Vic	<25%	97%	0%	31%
Lower Darling									
Menindee Lakes, Broken Hill	1684	1%	22	-9	Releases to fill temporary block banks	N/A	100%	0%	15%
Hunter Valley									
Glenbawn Dam, Scone	750	60%	448	-5	Regulated releases	20%	100%	100%	21%
Glennies Ck Dam, Singleton	282	62%	174	-1	Regulated releases	20%	100%	100%	21%
Lostock Dam, Gresford	20	99%	20	-0	Spill	100%	100%	100%	N/A
Coastal Area									
Toonumbar Dam, Kyogle	11	94%	10	-0	Regulated releases	100%	100%	100%	N/A
Brogo Dam, Bega	9	81%	7	0	Regulated releases	80%	100%	30%	N/A
TOTALS	**17,798**	38.9%	6919	-216					

WaterNSW has water resources in Dartmouth, Hume and Glenlyon Dams. TWS = Town Water Supplies

1 Gigalitre (GL) = 1,000 Megalitres (ML) 1 ML = 1,000,000 litres

More information

Subscribe to our customer information (weekly water availability reports, e-newsletters, etc.) at **waternsw.com.au/subscribe**.