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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 27 January 2020 was 23.2% of the total active storage capacity. This was a decrease of 0.2% since last week.

The total storage level of urban water supplies on 27 January 2020 was 42.3% of the total storage capacity. This was a decrease of 0.3% since last week.

2. System risks

Water allocations for the year have been reduced for some high security, carryover water and conveyance licences due to reduced water availability and deliverability constraints. (see summary on back table and link to detailed operational updates for impacted valleys.)

Menindee Lakes continues to be below the 480/640GL trigger for NSW control, and the four temporary block banks constructed to extend drought security beyond January 2019 are now empty. The cease to flow conditions increase the possibility of decreasing water quality and fish deaths, with increases in salinity, pH and algae, and reduced dissolved oxygen.

In the Lower Namoi, releases from Keepit Dam ceased in December 2018 and cease to flow has recommenced in the whole river from Keepit to Walgett after rainfall in March 2019.

In the Upper Namoi, preserving supplies for town water supplies means that formal restrictions on general security licences took effect on 6 December and pulse releases will be used to supply water to Manilla. Current Split Rock Dam release is zero due to some storm water inflows below the dam.

The Peel valley is in drought stage 4 and drought works are underway, including the implementation of works to restrict flows below Dungowan village from 1 December 2019, to secure water supply for Tamworth. Recent storms have reinstated flows downstream of Tamworth.

In the Macquarie the combination of current storage volumes and a continuation of zero inflows will mean that there isn’t enough water to maintain river flows to the whole valley for all of 2019/20. With the continuation of low inflows to the system the priority is to extend supply for towns and critical industries. To secure water for these requirements cease to flow conditions have been implemented for the river below Warren for Duck and Crooked Creeks, as well as ceasing flows in Gunningbar Ck from 8 December, below the Albert Priest Channel offtake. Recent storm water
have allowed recommencement of flows downstream of Warren and in Duck and Gunnigbar Creeks. Releases from Windamere to Burrendong are being rescheduled due small inflows and may recommence in late February/March 2020 leaving 70GL in Windamere by about April 2020.

The Lachlan system continues to experience very low inflows. The low inflows since winter mean the system has entered a new low inflow record, hence 1 July restrictions to 57% of general security account balances. The Wyangala Dam forecast is for very low levels by June 2020 if zero inflows occur. Willandra Ck flows have ceased from December to March.

Due to drought conditions, end of system daily environmental flow requirements in the Belubula River have been suspended, and customers are regularly advised of deliverability constraints. Brogo / Bega supplies have a temporary water restriction for general security since 8 January and Brogo Dam’s remaining volume is reserved for town water supply.

Toonumbar Dam supplies have been extended by small inflows from recent storams and can continue to supply till April 2020 when Toonumbar will be depleted and releases will cease.

### 3. Climatic Conditions

![Weekly rainfall totals for New South Wales](https://www.bom.gov.au)
This week’s weather forecast

A trough of low pressure extends from western Queensland into inland New South Wales, while a weak ridge extends across the state's south. Little change to this pattern is forecast during the following few days, with districts east of the inland trough forecast to experience humid and unsettled weather. The next high pressure system is expected to move from the Bight to the Tasman Sea during the second half of the week, bringing increased temperatures into the region.

Rainfall across New South Wales for February to April has a slightly more likely chance of being drier than average for most of NSW.
4. Southern valley based operational activities

4.1 Murray valley

Storage and release status

- Hume Dam is currently 19% of active capacity, releases currently are about 11,000ML/d.
- Release downstream of Yarrawonga Weir is about 9,000ML/day.
- The Edward River Offtake flow is currently about 1,580ML/d, flow will target flows just below 1,600 ML/d during the week.
- The Gulpa Creek Offtake flows are at about 250ML/d, the flow below the regulator may be increased gradually in discussions with National Parks and Wildlife Services team to verify the channel capacity.
- Stevens Weir level is about 4.52m and will marginally vary to accommodate a specific environmental water flow into Yallakool system. Water level upstream of Wakool Canal offtake is about 1.85m.
- Flow downstream of Stevens Weir is about 2,500ML/day. In order to address the Barmah choke constraint, the delivery via Edward river is being maximised. However, the target is being reviewed currently in view of the reduced system losses in the Murray River.
- Flows in the Colligen Creek (190ML/day) are likely to remain steady to meet the system demands. However, the flows in Yallakool Creek (240ML/day) and Wakool offtake may be revised to address the current concerns on water quality.
- Flow in Niemur River at Mallan School is currently about 140ML/d and will remain steady next two weeks.
- Merran Creek flows upstream of its confluence with Wakool is about 145L/day and is likely to remain at about 145 ML/d during the week.
- Flow in Wakool River at Stoney Crossing is currently at about 430 ML/day and is likely to remain steady over the week.
- Flow at Bairanaid is currently about 1,300ML/d and will vary between 1,200 and 1,500ML/day as Inter Valley Trade water will be delivered on top of the end of system targets until end of February 2020.
- Lake Victoria is currently holding about 330GL or 40% of active capacity. The flow to South Australia is about 8,100ML/d.

Environmental water operations

- eWater delivery continues into Wakool-Yallakool system and into Colligen-Niemur system to match a specific hydrograph requested by environmental water managers to support fish
habitat and water quality aspects. However, when the system demands are higher than the eWater flows then the diversions will increase to match the system demands.

Water availability

- The latest Murray Water Allocation Statement confirmed that general security allocation remains unchanged. High security licences have 97%, while general security licences have 0% allocation. General security licence holders have full access to water carried over from 2018-19, which is a volume equivalent to about 18% of general security share components. Allocations are 100% for local water utility, domestic and stock and high security sub-categories (town water supply, research, and community and education). Regulated river (conveyance) has increased to 45%.

Drought operation measures

- The NSW Murray regulated river water source has advanced to Stage 2, meaning drought operational planning has commenced in preparation for extreme dry conditions that may continue through 2019-20.

Water quality

- Potential Blue Green Algae issues:
  - There are no red alerts to report for the Murray or Lower Murray, other than on Wakool River at Stoney Crossing (N1004)
  - Recent Blue Green Algae (BGA) sampling at Lake Hume shows Lake Hume at Green alert level.
  - For more information visit: Water Quality Algae

Planned supply interruptions:

- Maintenance activities are underway in the Stevens weir gates and super structure under the Coatings Programme. However, the maintenance activity is not expected to impact the normal river operations and Weir levels.
4.2 Lower Darling valley

Storage and release status

- The lakes currently hold less than 0.5% of active capacity. The total active storage is about 5.8GL.
- Lake Tandure, Lake Cawndilla, Lake Menindee and Lake Pamamaroo are currently dry.
- The release from Wetherell reduced on 12 Feb 2019 and flows at Weir 32 have ceased from mid-February 2019.
- Current levels at the block banks near Karoola, Jamesville and Ashvale are very low and effectively empty.
- The average pan evaporation rate at Menindee over the last week was about 13 mm/d equivalent to about 220ML lost 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 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.
- Water allocations for 2019/20 are 50% for stock and domestic licence holders and local water utility licence holders, 30% for high security licence holders and 0% for general security licence holders. While water has been allocated for users, delivery will be dependent upon inflows to the system as limited water available locally.
- Lower Darling water users are restricted to use water for critical human needs and permanent plantings only. The restriction will be eased or removed if flow situation improves in the future.

Drought operation measures

- A temporary water restriction came into effect on 4 December 2018 limiting the taking of water to town water, domestic and stock, permanent plantings, and, from Copi Hollow, high security licences. Gazette
- The Lower Darling regulated river water source is assessed to be in drought Stage 4, as restrictions limit access to water for critical needs only.
- Four temporary block banks viz. Karoola, Court Nareen, Jamesville and Ashvale were constructed to extend supply to domestic, stock and permanent plantings. The water level behind the banks is now quite low and inadequate for this summer’s supplies.
- Pumping by Essential Water to Broken Hill is now met from the Wentworth to Broken Hill pipeline and pumping from Copi Hollow has ceased.
The release from Lake Wetherell to Weir 32 has ceased as well as to the Lower Darling River and this will impact the river conditions including in Weir 32. River users are reminded to monitor the river levels, to look for water quality alerts and be aware of snags and other obstructions that may appear while the river pool levels continue to fall.

**Water quality**

- Red Alert for Wilcannia (N1042) and Lake Wetherell (site 1, 3 and 4).
- Amber Alert for Lake Wilcannia (site 2), Copi Hollow (site N1094) and Darling river at Weir 32 (site N1171).
  - For more information visit: [Water Quality Algae](#).

**Planned supply interruptions:**

None.
4.3 Murrumbidgee valley

Storage and release status

- Burrinjuck Dam is currently at 31% of active capacity, releasing about 300ML/d. The releases are expected to remain at minimal transparent flows of 300ML/day this week.
- Blowering Dam is currently at 38% of active capacity, releasing about 4,500 ML/d. The release is likely to vary, in line with irrigation demand and continuation of IVT water delivery at Balranald and Darlot.
- The operational target at Kywong in Old Man Creek is 60ML/d in December to March period, current flow is 80ML/d and is likely to remain steady.
- Berembed Weir is currently about 4.96m and will be managed to meet any increase in downstream demands. The minimum operating level of Berembed Weir is planned to be about 3.8m during the season.
- Bundidgerry storage is currently at 3.83m and is likely to increase to about 3.95m, which is the operational target for the season.
- Gogeldrie Weir is currently at 6.08m and will vary marginally to meet downstream demand.
- The operating level of Hay Weir is targeted to be about 7.0m during the holiday season; but the level may vary ±0.5m depending on system demands. Currently it is at 7.62m. The levels are expected to remain steady during the planned Hay Fishing Classic event in early February.
- Maude Weir is at about 4.38m. The gates at Maude weir have been reinstated for environmental water delivery to the Lowbidgee wetlands via North Caira regulator.
- Currently, the Redbank Weir level is about 1.4m. The weir gates will be reinstated to capture the current system surplus due to rain rejection.
- Flow at Balranald is currently about 1,300ML/d and will vary between 1,200 and 1,500ML/day as Inter Valley Trade water will be delivered on top of the end of system targets until end of February 2020.
- The current diversion into Yanco Creek is about 300 ML/d and is likely to remain steady.
- Supply to Mid-Murray via Billabong system continues with the target at Darlot made up of Planned eWater minimum flows, IVT clearance and operational delivery via MIL escapes.
- Supply to Yanco-Billabong system via Coleambally Irrigation Escapes (CCD and DC800) have currently ceased.
Environmental water operations

- Planned environmental releases as per the transparency rules is being delivered from Burrinjuck dam
- Planned environmental water flow rules are fully complied with at both Balranald and Darlot.
- Environmental water deliveries to Lowbidgee wetland assets to support bird breeding via North Caira channel has commenced from this week and expected to continue for about 10-days.

Water availability

- For Inter Valley Transfer (IVT) account from Murray to Murrumbidgee refer to WaterNSW website IVT Ordering.
- The Murrumbidgee inter-valley trade (IVT) account balance is at 87.2 GL as of 1 pm on 28 January. Trade out of the Murrumbidgee will reopen as per revised terms and conditions that can be found on the WaterNSW website.
- The Murray-Darling Basin Authority (MDBA) has requested that WaterNSW deliver a volume of up to 40GL for the month of February, this is in addition to the volume of 100GL requested for delivery from mid-October 2019 to end of February 2020. The delivery will be made at both Balranald and Darlot sites.
- WaterNSW is targeting a daily clearance rate of over 1,000 ML/day for the remainder of January and February. The IVT is delivered in excess of water orders by customers below Balranald and also the end of system flow requirements, meaning the flow at Balranald will be around 1,200 – 1,500 ML/day, until the end of February, while IVT delivery is occurring.
- As per the DPIE Water Allocation Statement there is no change to general security availability (which currently stands at 6%) in the Murrumbidgee regulated water source. Allocation is at 100% for towns and 95% for high security. General security licence holders in the Murrumbidgee have full access to water carried over from 2018-19, which is a volume equivalent to about 8% of general security share component.

Drought operation measures

- The Murrumbidgee regulated river water source is at drought Stage 1, meaning all allocated water can now be delivered under normal regulated river operations. Despite the small improvements, drought conditions continue to threaten.
- An operational update has been issued to advise river users on the low river levels due to the drought measures.

Water quality

- Potential Blue Green Algae issues:
– Lake Albert in Wagga Wagga is on an Amber alert for blue-green algae. More information can be obtained from the following link: Lake Albert - Wagga City Council.

– Lake Wyangan South in Griffith has a Red status for blue green algae. For more information select the following link: Murrumbidgee Irrigation.

– Lake Wyangan North in Griffith has a Red status for blue green algae. For more information select the following link: Lake Wyangan.

– Green alert is current for Burrinjuck Dam and Green alert downstream of the dam wall.

– Green alert is current for Blowering Dam and Green alert downstream of the dam wall.

– The Murrumbidgee River at Maude Weir Buoy and at Balranald are on an Amber alert status.

– The Murrumbidgee River at Redbank Weir Buoy is on a Red alert status.

– The Murrumbidgee River at The Hay weir at Leonard Street is on a Green alert status.

– Other sites have no alerts. For more information visit: Water Quality Algae.

Planned supply interruptions:

- Maintenance of Tarabah Weir is underway. However, the structure is being operated manually to deliver about 50ML/d below the structure.

- There is no power supply to Nimmie Creek, North Caira and South Caira offtake regulators. The structures can be operated manually.

- Planning for maintenance of Yanco Weir is underway. A viable solution to provide safe working conditions is being considered while maintaining continued uninterrupted supply to Yanco Creek system. More information will be available in the next four weeks.

- Planning for painting of the gates and super-structure of the Maude Weir under the coating Programme is in final stages.
5. Central valley based operational activities

5.1 Lachlan valley

Storage and release status

- Carcoar Dam is currently 12.6% of capacity and releasing 12ML/d.
- Wyangala Dam is currently 9.3% of capacity and releasing around 1,100ML/d. Releases are forecast to remain same during the week conditional to forecast rainfall.
- Lake Cargelligo is currently around 55.7% of capacity and the level is likely to remain steady through the week.
- Releases downstream of Brewster Weir are currently around 250ML/d. Releases are forecast to remain between 250-280ML/d during the week.
- Willandra Ck flow ceased from 1st December and if current conditions continue releases will resume in March 2020.

Environmental water operations

- About 22 gigalitres of water for the environment has been used for a spring pulse. The release of water from Wyangala Dam started on 16 September and have now ceased. The pulse has now passed Booligal. These flows are intended to improve native fish, plant and animal health. This flow has enabled the river to be linked to other key sites that will also be watered including Booberoi Creek, Yarrabandai Lagoon, Brewster Weir Pool and sites in and near The Great Cumbung Swamp. Further information about this watering event is available from the Commonwealth Environmental Water Office website at - Lachlan Spring flow.
- Currently some flows in Booberoi Ck are for environmental purposes. Any flows in excess of operational target of 40ML/d will be accounted as environmental water.
- Currently Water Quality Allowance (WQA) is being delivered in lower Lachlan by targeting 50ML/d at Booligal to mitigate risks and response to sustained poor water quality (low dissolved oxygen) which can pose a threat to water-dependent ecology. Any flows in excess of operational target of 30ML/d at Booligal will be accounted as WQA.
- Due to drought conditions, end of system daily environmental flow requirements in the Belubula River have been suspended and are only being met intermittently with the contribution from tributaries.

Water Availability

- It is estimated that a combined dam and tributary inflow volume of more than 419GL was required in January before a further allocation can be made in the Lachlan River. Inflows received in January so far were only around 1000 ML.
• The DPIE Water Allocation Statement (WAS) on 1 July 2019 announced that the water access licence holders are only allowed to access 57% of the volume of water in their accounts carried over from 2018-19 water year. The restriction will be eased or removed if inflow situation improves in the future.

• The temporary water restriction can be viewed at – http://www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions

• Local water utility and domestic and stock access licence holders on the Lachlan regulated river receive 100% of allocation.

• Regulated river high security water access licence holders receive an allocation of 87%, while regulated river general security access licence holders receive no allocation at this time.

• The detailed October WAS by Dept Planning, Industry & Environment can be viewed at: WAS

Inflows needed to improve deliverability of carryover

<table>
<thead>
<tr>
<th>2019-20 inflow period</th>
<th>Estimated cumulative inflows required prior to easing of restrictions (GL)</th>
<th>Inflows received since July 2019 (GL)</th>
<th>Additional inflows required to increase GS delivery to 75% and increase HS allocation to 92% (GL)</th>
<th>Additional inflows required for new GS AWD (GL) (no restrictions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>By end of January</td>
<td>175</td>
<td>9</td>
<td>208</td>
<td>419</td>
</tr>
<tr>
<td>By end of February</td>
<td>176</td>
<td>9</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>By end of March</td>
<td>176</td>
<td>9</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>By end of April</td>
<td>176</td>
<td>9</td>
<td>209</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Estimated water held in general security accounts on 1 July 2019 was 155,000 ML. Water delivery operations in 2019-20 provided under drought contingency planning (Stage 3). Minimum storage level of 5% is targeted at the end of 2019-20 water year to maintain critical supplies in 2020-21.

• These are indicative improvements only and are not guaranteed. Estimates may change based on weather variability, water management decisions and other events. This means water users should use this information with caution and at their own risk, as it projects many months ahead.

• The assessment for the table above is based on water delivery operations in 2019-20 provided under drought stage 3 and 2020-21 under severe drought stage 4. NSW extreme events policy can be viewed at Extreme Events Policy.

• In the Belubula, general security water access licence holders have 0% allocation but will have access to account water that has been carried over from the previous water year. A Temporary
Water Restriction under Section 324 of the Water Management Act 2000 has been gazetted on 1 October 2019. It allows access to 40% of the water in general security access licence account balance as at 30 September 2019. The remaining 60 per cent is moved to a drought subaccount and cannot be used. Please refer: Belubula WAS Oct 2019

While allocations for the Belubula River system have been announced by DPIE Water, the delivery of water is restricted due to the ongoing drought. Please refer: Belubula Ops Update Oct 2019

At the Belubula Landholders Association meeting on 21 January 2020 the following were agreed,

- Water delivery between Carcoar Dam and Needles is maintained to meet daily demand until end of February or early March 2020.
- Water delivery below Needles is via block releases. The next block release downstream of Needles will be scheduled for late February 2020. This is likely to be the last monthly block release for the summer.

High security and domestic and stock access licence holders on regulated Belubula receive 100% allocation.

Water Quality

- Latest BGA samples show that Curlew Waters, Lake Cargelligo TWS and Lake Cargelligo Boatshed are on amber alert. Lake Cargelligo Outlet is on Red alert.
- Wyangala storage results (14th Jan) show that overall productivity has increased across the storage. Abercrombie and Lachlan Rivers are now undergoing a Dolichospermum sp. and Microcystis sp. bloom. Downstream results show a reduction in biomass but it remains at amber alert awaiting another clear result. Upstream sites are now at red alert.
- Some flow is being circulated through the Lake Cargelligo inlet and outlet 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 at 1.6% of capacity and currently releasing around 40ML/d. Releases are forecast to increase to around 150-180ML/d during this week. Releases are primarily for town water supply and some Domestic and Stock demands.
- 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 26.8% of capacity and releasing 40ML/d. Releases are forecast to increase up to 90-100ML/d during this week.
- The recent storms and isolated stream flows have delayed the second phase of the transfer from Windamere to Burrendong to late February/early March 2020. The transfer will leave a minimum of 70GL in Windamere Dam, which provides a very secure supply for local demand for the next five to seven years.

Environmental water operations

- Translucent environmental water from Windamere Dam is deliverable all through the year when inflows to the dam meet the relevant triggers.
- Environmental water accounts in Burrendong have been suspended to extend supplies for towns and critical industries. [Link](#)

Water availability

- It is estimated that inflows of around 455 GL are required in January before an increment in Available Water Determination can be made. Inflows in January so far were only around 1,800ML.
- The recent rain has produced around 1,800 ML of inflows into Burrendong Dam. Rainfall in the catchment below Burrendong Dam has produced some inflows in the tributaries. The flows are being managed under the tributary flow management plan.
- WaterNSW have contacted several representatives of the regulated creeks and the Macquarie River below Warren from the Macquarie Cudgegong ROSCCo to ascertain the stock and domestic water requirements and also to understand the risks and benefits from diverting some of these flows into the creeks.
- WaterNSW have also met with the environmental agencies to discuss the critical environmental needs in the regulated creeks and river where the flows have stopped in response to drought operation.
- A Tributary management plan for this event is published on WaterNSW website and can be accessed from [here](#).
• Combination of some inflows into Burrendong dam and downstream tributary flows are likely to delay the Bulk Water Transfer from Windamere to late Feb/early March 2020.

• WaterNSW held the Bulk Water Transfer (BWT) Information Session on Thursday (16 Jan 2020) in Mudgee to provide an update the current situation and proposed the designed release pattern for the BWT in Feb.

Drought operation measures

• The Macquarie is in drought Stage 4, the highest level under the Incident Response Guide.

• The combination of current storage volumes and a continuation of zero inflows will mean that there isn’t enough water to maintain river flows to the whole valley for all of 2019/20. If zero inflows continue, then the priority will be to extend supply for towns and critical industries. Cease to flow has been implemented for the river below Warren and for Duck and Crooked Creeks on 28 August. If inflows do not occur at all this year and no drought measures are implemented, then all storage water will be depleted before the end of June 2020 and the whole river would then stop flowing.

• Flows into Duck and Crooked Creeks ceased on the 28th August. Construction of the temporary drought works were installed at the fishways.

• Flows into Gunningbar Ck below the Albert Priest Channel offtake ceased on 10th December.

• The Water Allocation Statement from DPIE on 1 July 2019 announced allocations for high security of 70% and high security access licence sub categories of 35%, while general security has 0%.

• Macquarie general security water access licence holders are also restricted from any access to water in their accounts carried over from the previous water year.

• The temporary water restriction can be viewed at - temporary water restrictions

• The timing of all S&D replenishments in 2020 will depend on further rainfall events, dam inflows, and contributions from downstream tributaries, rather than dam releases.

• Cudgegong general security carryover is not restricted.

• Any inflows received will 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 94 GL to end of Dec 2019. This is only 19% of the previous record low inflow of about 486.7 GL for the 29 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.
Water quality

- Burrendong Dam results for the 30th December shows an increase in Microcystis sp. at the Dam Wall raising it to red alert. Downstream continues to show large counts of Microcystis sp. The Mookerawa arm results are still pending and the Cudgegong arm is undergoing a large diatom bloom and is highly productive.

- Windamere results for 03/01 show a continuing presence of Microcystis cf. flos aquae (potentially toxic) at all upstream sites. Higher productivity was also noted mid-lake. Downstream showed a similar assemblage but at lower concentrations. Windamere remains on red alert awaiting another lower level result.

- Works to reinstate the temperature curtain at Burrendong Dam have been completed and the commissioning phase has commenced. The curtain is fully lowered due to low storage levels.

- An aerator has been installed to improve DO levels in Burrendong and had been commissioned.

Planned supply interruptions:

- Nil
6. Northern valley based operational activities

6.1 Namoi valley

Storage and release status

- Split Rock Dam is at 0.91% of active capacity and is currently not releasing any water.
- Keepit Dam is at less than 0.65% of active capacity and releases have ceased since December 2018.
- Chaffey Dam is at 14% of active capacity and currently releasing 40ML/d.
- The Pian Creek replenishment flow was not able to be delivered in the usual manner so other supply arrangements have been required.

Environmental water operations

- There are not any current orders for the release of environmental water in the Namoi. No water is available to environmental accounts in the Peel River.

Water availability

- There is currently a shortfall of more than 101GL before there is likely to be an AWD increment in the Lower Namoi valley.
- The Water Allocation Statement by DPIE (dated 22nd January 2020) confirmed that in the Peel Valley local water utility and domestic and stock allocation is 70%; high security and its sub categories is 50%, and general security is 0%.
- The latest Water Allocation Statement by DPIE (dated 10th January 2020) confirmed that in the Upper Namoi local water utility and D&S have 100%, high security has 75% and general security has 0% and are only allowed to access 75% of the volume of water in their accounts carried over from the previous water year.
- Lower Namoi local water utility and D&S have 100%, high security has 75% and general security has 0% and are not allowed to access water in their accounts as of 1 July 2019. The restrictions will be eased or removed if inflow situation improves in the future.

Drought operation measures

- The Peel valley is in drought stage 4. Drought measures are underway, including restricting flows below Dungowan from 30 November to secure town water supply. Current operational targets below Dungowan are for very low flows over the temporary weir once every 4 days.
- The Upper Namoi is now in drought Stage 4. In order to preserve supplies for town water needs, formal restrictions on general security licences were announced on 6 December. Holders of high security and stock & domestic licences upstream of Manilla will be able to access water when
pulse releases from Split Rock Dam are made to supply Manilla. For holders of High Security and Stock & Domestic licences downstream of Manilla, limited access to water is likely to only be available from river pools. Alternative arrangements may need to be made for Stock & Domestic water needs. Operations Update Upper Namoi

- The Lower Namoi is at Stage 4, the highest level under the Incident Response Guide.
- Deliverability of water in accounts is restricted, see detailed Operations Update Namoi 1-July
- Deliverability of this water will rely on tributary flows and/or improved storage volumes. No further block releases are planned for the Lower Namoi until inflows occur.

Water quality

- Split Rock Dam is on an Amber alert in the storage,
- Keepit Dam is on an Amber alert in the storage and Red alert downstream of the storage, and
- Chaffey Dam is on an Amber alert in the storage.

Planned supply interruptions:

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

Storage and release status

- Copeton Dam is at 7% of active capacity and is currently releasing 35ML/d. Releases are likely to increase to 120ML/d and then revert back to 35ML/d.

Environmental water operations

- Block release containing high security, ECA and environmental water, was finalised at the dam on 10th of January.

Water availability

- Whilst every endeavour will be made to supply further stock and domestic flows in the future, should conditions remain extreme, further releases from Copeton Dam for stock and domestic flows may not be feasible.
- Inflows of about 76.3GL are required to refill the Essential Requirements and Delivery Loss accounts before any increase in general security AWD is possible.
- The latest Water Allocation Statement by DPIE-Water (dated 10th January 2020) confirmed that the local water utility and domestic and stock access licence holders have 100% of entitlement. High security has 100% and general security have 0%. These licence holders have access to general security account water carried over from the previous water year.

Water quality

- Recent Blue Green Algae (BGA) sampling at Copeton shows Copeton on a Red level.

Drought operation measures

- The Gwydir is in drought Stage 3 as the drought is deepening and tougher measures are needed to protect critical human needs. Management action will focus on ensuring water is available for critical needs for as long as possible.
- However, deliverability will rely on downstream tributary contributions and infrequent block releases. Operations Update Gwydir 1-July

Planned supply interruptions:

- No supply interruptions are expected.
6.3 Border rivers

Storage status
- Pindari Dam is at 4% of capacity and releasing around 13ML/d (minimum release).
- Glenlyon Dam is at 3% of capacity. Releases ceased.
- Releases currently ceased from Boggabilla weir.

Environmental water operations
- No current additional releases for environmental water orders.

Water availability
- The Available Water Determination (AWD) for 2019-20 is 100% for towns and high security, while general security A-class and general security B-class is zero. Total carryover into 2018-19 is around 1.8% of general security share components but 50% of that is restricted until the inflow situation is improved.
- While allocations for the Border Rivers have been announced by DPIE - Water, the delivery of water is restricted due to the ongoing drought. Releases will be made to ensure supplies for towns including Goondiwindi and Boggabilla, however releases are not able to be made to supply Mungindi. No dam releases will be made for Glenlyon to Junction and downstream of the Junction to Mungindi section. Very limited access may be available for Pindari to the Junction customers. Access may be available from tributary inflows for all sections. Detailed water delivery arrangements are available in the operations update.

Drought operation measures
- The Border Rivers is in drought Stage 4. Customers are advised that if dry condition persists, future deliveries, including essential supplies, will be grouped together (block releases), and where possible with tributary flows, to improve delivery efficiencies.

Water quality
- Recent Blue Green Algae (BGA) sampling at Pindari shows a red alert level.

Planned supply interruptions:
- No supply interruptions are currently forecast
6.4 Barwon-Darling River system

River flow status

- Some rainfall was recorded along the upper sections of Barwon Darling catchment over the January long weekend, but no flow was recorded except Mogil station, due to prolonged dry conditions.
- The last significant rainfall was recorded near Bourke and surrounding areas over the weekend of 2nd and 3rd Nov 2019. Around 95mm was observed at Bourke and around 51mm at Brewarrina over two days. This rainfall generated flow at Beemery, Warraweena, Bourke and Louth. Flow reached Tilpa on 17 Nov 2019. Flows have now ceased at all locations.
- Substantial rainfall also occurred in the Warrego catchment during November 2019, which generated flow at Fords Bridge and Dicks Dam and additional inflow to the Barwon Darling system.
- A section 324 Temporary Water Restriction Order for A, B and C class licences from the Culgoa Junction to Menindee was issued on 4 Nov to protect the flow and this was extended to 31 Jan 2020.
- The Northern Fish Flow event and Warrego inflow replenished the weir pools along the Barwon Darling system into July 2019. The November 2019 rainfall event replenished Bourke, Louth and Tilpa weir pools and will further extend the water supply for critical human needs.
- The Barwon-Darling Rivers are an unregulated rivers, which travel through a very arid environment with significant losses from the system due to high evaporation and long travel times. It is very difficult to accurately forecast downstream flows as local conditions can vary significantly over the number of weeks it takes the water to travel along the river. In addition, sections of the river have ceased to flow for an extended time and significant losses will occur with wetting up the river bed along these sections and refilling weir pools and natural holes in the river. The below summaries are the total observed volumes from the November 2019 event.

<table>
<thead>
<tr>
<th>Location</th>
<th>Total observed volume (ML)</th>
<th>Flow arrival date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beemery</td>
<td>1,828</td>
<td>3 Nov 2019</td>
</tr>
<tr>
<td>Warraweena</td>
<td>5,210</td>
<td>3 Nov 2019</td>
</tr>
<tr>
<td>Bourke</td>
<td>7,531</td>
<td>4 Nov 2019</td>
</tr>
<tr>
<td>Louth</td>
<td>6,683</td>
<td>3 Nov 2019</td>
</tr>
<tr>
<td>Tilpa</td>
<td>3024</td>
<td>17 Nov 2019</td>
</tr>
</tbody>
</table>
Environmental water operations

- Releases of Held Environmental water to maintain fish refuge areas in the Barwon River from Copeton Dam commenced on 16 April and ceased on 23 June 2019. Releases from Glenlyon Dam commenced on 24 April and ceased on 13 May.

- A Section 324 temporary water restriction was in place to restrict irrigation access to this water which expired on 30 August 2019. New section 324 order issued on 4 Nov.

- Planned Environmental Water (PEW) is water in the system that is below the commence to pump conditions for access licences.

Water Availability

Cease to flow condition recommenced between Mungindi to Wilcannia.

Drought operation measures

- The Barwon Darling unregulated river water source is assessed to be in Stage 4.
WaterNSW

Period: 13 Month 01/01/2019 to 01/02/2020

Water availability weekly report

Period: 13 Month 01/01/2019 to 01/02/2020

<table>
<thead>
<tr>
<th>Station Name</th>
<th>Date</th>
<th>Discharge (ML/d)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARWON R @ MUNGINDI</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON U/S PRESBURY</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON @ MOGIL MOGIL</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON @ COLLARENEBR1</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON @ TARA</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON @ DANGAR RIDGE</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON @ BOOROOMA</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON @ GEERA</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>BARWON U/S PRESBURY</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>DARLING@WARRAWEENA</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>DARLING@BOURKE TOWN</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>DARLING@LOUTH</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>DARLING@TILPA</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
<tr>
<td>DARLING@WILC. MAIN C</td>
<td>141.00</td>
<td>1 Day Mean</td>
<td></td>
</tr>
</tbody>
</table>
Coastal valley based operational activities

7.1 Bega river

Storage and release status

• Brogo Dam is at 11% of capacity and releasing around 5 ML/d.

Environmental water operations

• No current additional operations.

Water availability

• An AWD of 40% for general security, and 100% for all other licence categories was announced on 1 July 19. All the remaining GS water is suspended from 8th Jan 2020.

• WaterNSW held a River Operations Stakeholder Consultation Committee (ROSCCo) in Bega on 4th Dec 2019 and advised the stakeholders of the current situation and future operations plan.

• The recent event did not produce any significant inflows into the storage.

Drought operation measures

• The Brogo/Bega regulated river water source is assessed to be in Stage 4.

• A temporary water restriction has been applied to Bega Brogo regulated river water source, which restricts general security access from the regulated river. The restriction will be eased or removed if the inflow situation improves in the future.

• The restriction can be found at: https://www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions

Water quality

• Recent BGA sampling at Brogo indicates an amber alert.

Planned supply interruptions:

• Nil
7.2 Hunter valley

Storage and release status

- Glenbawn Dam is currently at 39% of capacity and releasing around 200 ML/d. Releases are forecast to remain steady during the week.

- Glennies Creek Dam is at 38% of capacity and releases are currently around 150 ML/d. Releases are forecast to remain steady during the week.

- Lostock Dam is at 45% of capacity and releasing 40 ML/d.

Environmental water operations

- No current additional operations.

Water availability

- General Security licenses in the Hunter Valley received 95% allocation on the 1 July 2019 while all other categories received 100%.

- Paterson valley allocations are 100% for all licence categories.

Water quality

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

Planned supply interruptions:

- Nil
7.3 Toonumbar Dam

**Storage and release status**

- Toonumbar Dam is at 21% of capacity and releasing about 12 ML/d. Releases are forecast to remain steady in this week.

**Environmental water operations**

- No current additional operations.

**Water availability**

- All licence categories have 100% availability.
- WaterNSW held a River Operations Stakeholder Consultation Committee (ROSCCo) in Casino on 10th Dec 2019 and advised the stakeholders of the current situation and future operations Plan.
- With the current release pattern and assuming zero inflows to dam, releases will be able to continue to April 2020.
- Irrigators in the regulated section of Richmond River suggested to continue the release at the current rate or as per demand with no benefit in maintaining a reserve in storage.
- When resource in the dam cannot meet the demand, restrictions to general security accounts and suspension of stream flows need to be applied.
- Landholders and customers along the river need to consider their water plans for the worst-case scenario when flows may cease in May 2020.
- The recent rain event led to inflows into the storage equivalent to over 2% of capacity.

**Drought operation measures**

- The Richmond regulated river water source is assessed to be in Stage 2.

**Water quality**

- Recent BGA sampling at Toonumbar indicates a red alert.

**Planned supply interruptions:**

- Nil
### 8. Rural Dam Levels

The following table shows the status of water supplies at 27 January 2020.

<table>
<thead>
<tr>
<th>River Valley</th>
<th>Storage Dam, Nearest Town</th>
<th>Capacity (Gt)</th>
<th>Current Status</th>
<th>Weekly change (Gt)</th>
<th>Comments</th>
<th>Likelyhood of fill and spill</th>
<th>Allocations for 2019/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Border Rivers</td>
<td></td>
<td></td>
<td>% of active capacity</td>
<td>Active (Gt)</td>
<td>Supply Issues</td>
<td>High Security</td>
<td>Gen. Security</td>
</tr>
<tr>
<td>Glenlyon Dam, Stanthorpe (Qld)</td>
<td>253</td>
<td>3%</td>
<td>7</td>
<td>-0</td>
<td>C'over restricted to 50% Deliverability restricted</td>
<td>&lt;20%</td>
<td>100%</td>
</tr>
<tr>
<td>Pindari Dam, Inverell</td>
<td>312</td>
<td>4%</td>
<td>12</td>
<td>-0</td>
<td>C'over restricted to 50% Deliverability restricted</td>
<td>&lt;20%</td>
<td>100%</td>
</tr>
<tr>
<td>Gwydir Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copeton Dam, Inverell</td>
<td>1346</td>
<td>7%</td>
<td>89</td>
<td>6</td>
<td>Deliverability restricted</td>
<td>&lt;5%</td>
<td>100%</td>
</tr>
<tr>
<td>Namoi Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keepit Dam, Gunnedah</td>
<td>419</td>
<td>1%</td>
<td>3</td>
<td>0</td>
<td>Releases ceased</td>
<td>&lt;20%</td>
<td>75%</td>
</tr>
<tr>
<td>Split Rock Dam, Manilla</td>
<td>394</td>
<td>1%</td>
<td>4</td>
<td>-0</td>
<td>C'over restricted to 75%</td>
<td>&lt;5%</td>
<td>75%</td>
</tr>
<tr>
<td>Chaffey Dam, Tamworth</td>
<td>98</td>
<td>14%</td>
<td>14</td>
<td>1</td>
<td>Deliverability restricted</td>
<td>&lt;50%</td>
<td>50%</td>
</tr>
<tr>
<td>Macquarie Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burrendong Dam, Wellington</td>
<td>1154</td>
<td>1.6%</td>
<td>19</td>
<td>-1</td>
<td>C'over restricted to 0% Deliverability restricted</td>
<td>&lt;20%</td>
<td>70%</td>
</tr>
<tr>
<td>Windamere Dam,</td>
<td>367</td>
<td>27%</td>
<td>98</td>
<td>-1</td>
<td>Regulated releases.</td>
<td>&lt;5%</td>
<td>70%</td>
</tr>
<tr>
<td>Lachlan Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wyangala Dam, Cowra</td>
<td>1216</td>
<td>9%</td>
<td>114</td>
<td>-7</td>
<td>C'over restricted to 57%</td>
<td>&lt;20%</td>
<td>87%</td>
</tr>
<tr>
<td>Carcoar Dam, Carcoar</td>
<td>36</td>
<td>13%</td>
<td>5</td>
<td>-0</td>
<td>Deliverability restricted</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>Murrumbidgee Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burrinjuck Dam, Yass</td>
<td>1025</td>
<td>31%</td>
<td>315</td>
<td>-1</td>
<td>Min Planned eWater</td>
<td>40%</td>
<td>95%</td>
</tr>
<tr>
<td>Blowering Dam, Tumut</td>
<td>1604</td>
<td>38%</td>
<td>612</td>
<td>35</td>
<td>Regulated releases</td>
<td>&lt;10%</td>
<td>95%</td>
</tr>
<tr>
<td>Murray</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dartmouth, Mitta Mitta</td>
<td>3837</td>
<td>48%</td>
<td>1839</td>
<td>-32</td>
<td>Transfers to Hume</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Hume Dam, Albury</td>
<td>2982</td>
<td>19%</td>
<td>572</td>
<td>-22</td>
<td>Transfers to L Vic</td>
<td>&lt;25%</td>
<td>97%</td>
</tr>
<tr>
<td>Lower Darling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Menindee Lakes, Broken</td>
<td>1633</td>
<td>0%</td>
<td>7</td>
<td>0</td>
<td>Releases ceased</td>
<td>N/A</td>
<td>30%</td>
</tr>
<tr>
<td>Hunter Valley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glenbawn Dam, Scone</td>
<td>750</td>
<td>39%</td>
<td>293</td>
<td>-1</td>
<td>Regulated releases</td>
<td>&lt;20%</td>
<td>100%</td>
</tr>
<tr>
<td>Glennies Ck Dam,</td>
<td>282</td>
<td>37%</td>
<td>106</td>
<td>-1</td>
<td>Regulated releases</td>
<td>&lt;20%</td>
<td>100%</td>
</tr>
<tr>
<td>Lostock Dam, Gresford</td>
<td>20</td>
<td>43%</td>
<td>9</td>
<td>-0</td>
<td>Regulated releases</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Coastal Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toonumbar Dam, Kyogle</td>
<td>11</td>
<td>20%</td>
<td>2</td>
<td>0</td>
<td>Regulated releases</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Brigo Dam, Bega</td>
<td>9</td>
<td>11%</td>
<td>1</td>
<td>-0</td>
<td>Deliverability restricted</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>17746</td>
<td>23.2%</td>
<td>4118</td>
<td>-26</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

This will be the final Water Availability Report for 2019. Subscribe to our customer information (weekly water availability reports, e-newsletters, etc.) at waternsw.com.au/subscribe.