

# SA River Murray Flow Report



Report #27/2024

Issued 3.30pm 5 July 2024

This supersedes the previous Flow Report issued by the Department for Environment and Water (DEW) on 28 June 2024. The next Flow Report will be provided on Friday 12 July 2024.

## Flow outlook



The flow at the South Australian border is approximately 5 GL/day and will remain stable at around 5 GL/day over the coming week **depending on river operations**.

The current flow at the border comprises the full July Entitlement Flow (3.5 GL/day), water for the environment and interstate trade adjustments.

The flow over Lock 1 is approximately 3 GL/day and the flow over the coming week will increase to around 4 GL/day.

It is important to note that flow forecasts in this advice are based on the information available at the time of preparation. Advice may change as new gauging information becomes available or due to rainfall events or changed operations upstream.

## Water levels

Current water levels are updated daily and can be found on [WaterConnect](#).

## Upstream flows

The environmental water release that commenced from Menindee Lakes in late May peaked at around 3.8GL per day on 5 June is now complete and flows releases at Menindee Lakes are now back to normal. The lower quality water reached the River Murray at Wentworth around 19 June with most of the poorer quality water from the Darling being captured in Lake Victoria, where it is being held for a period of time in order to improve its quality. A small portion of the poorer quality water has bypassed Lake Victoria and increased turbidity is beginning to be observed near lock 6.

This release is part of a trial to improve environmental flow connectivity between the northern and southern parts of the Murray-Darling Basin.

A predominantly non-toxic species of blue-green algae which was present in the lower Darling River is likely to be flushed into the River Murray as a result of the environmental water pulse and may affect the water quality in the River Murray. WaterNSW has advised that the high turbidity of the environmental water pulse is expected to cause a reduction in algae numbers due to lower penetration of sunlight into the water column.

Water authorities are continuing to undertake increased water quality monitoring in the lower Darling River, Lake Victoria and the River Murray. Observations and water quality sampling undertaken to date indicates that the lower quality Darling River water appears to be substantially diluted when it joins the River Murray and, to date, levels of toxin producing Blue Green Algae remain well below alert thresholds. River users may notice a change in appearance and increase in odour of the River Murray in SA. A separate public advice will be issued by authorities if any health risks are detected. The effects on water quality in SA could continue until mid-July.

River operators are undertaking several mitigating actions for managing possible impacts. As mentioned, diversion of water into Lake Victoria is occurring to provide additional dilution. Releases from Lake Victoria are likely to increase over the coming week, while flow to SA is expected to remain around 5 GL/day and start to increase around mid-July.

The water level in some weir pools is also being lowered slightly, within normal operating range, to encourage the movement and mixing of the poorer quality water as it moves down the river. An exception is the water level in the Lower Lakes which is being raised (also within the normal operating range) to minimise the likelihood of poor quality water moving into Lake Albert, and to provide river managers with additional flexibility in barrage operations.

A separate environmental water release from the Goulburn River system in Victoria has commenced. Flows of good quality water from this event are expected to start reaching South Australia in mid-July, and will assist in freshening the quality of flow to South Australia. Water from the Darling River that is being stored in Lake Victoria will be released to coincide with the timing of the Goulburn River environmental water to further improve dilution. This will result in a minor increase to flows and a pulse which will persist from mid to late July.

Conditions are being actively monitored for water quality concerns, and further updates will be provided in the Flow Report each week.

More information on upstream conditions and forecasts can be found in the [Murray-Darling Basin Authority's Weekly Flow Report](#).

## Water for the environment delivery

Planning for the delivery of water for the environment in 2024-25 is continuing. This includes consideration of operations of the Chowilla, Pike and Katarapko floodplain environmental regulators.

At Chowilla floodplain, operation of the environmental regulator may be undertaken along with weir raising at Lock 6 with the scale of the potential operation dependant on the level of River Murray flows in late winter and spring. If River Murray flows remain too low, water for the environment will be delivered to Chowilla by pumping to priority wetlands across the Chowilla floodplain.

At Pike floodplain, a low level operation potentially up to 15.3 m AHD (75 cm above normal level at the Pike regulator) is proposed. The regulator operation is scheduled to commence in mid to late August. Targeted pumping may also be undertaken at two sites to water regenerating lignum and black box.

At Katarapko floodplain, areas of the floodplain wetlands are undergoing a drying phase. A low level operation may be undertaken to raise water levels behind The Splash regulator by up to 2.0 metres to 12.0 m AHD with a concurrent 10 cm raising of Lock 4. However, further monitoring and modelling is underway to confirm this operation.

Weir pool manipulation within normal operating ranges at the other SA locks and weirs is under consideration.

The floodplain environmental watering operations aim to sustain the significant improvements in condition and regeneration of trees, lignum and understorey vegetation and provide important habitat for frogs, waterbirds and other fauna. The decision to proceed with these operations will depend on River Murray flows, environmental water availability through the latter half of 2024 and approvals, and will be informed by the outcomes of environmental monitoring and consultation.

Planning is also underway, in conjunction with the MDBA, Commonwealth Environmental Water Holder, NSW and Victoria, for the delivery of water for the environment to provide enhanced flows to South Australia during spring. The boost to flows in spring as water temperatures rise, can provide important triggers for a range of ecological responses including fish movement and breeding by species such as Murray Cod and callop.

Small volumes of water for the environment are currently being delivered as part of SA's entitlement flow, as well as from the Darling and Murray (Hume releases). The Goulburn winter pulse is expected to arrive at the SA border within the next two weeks, and to peak at around 12,000 to 14,000 ML/day in mid-July.

## Murray Mouth

Dredging operations at the Murray Mouth continue. Dredging is undertaken to maintain connectivity (exchange of water) between the Coorong and the Southern Ocean. Dredging is currently being undertaken with a single large dredge which is operating 12 hours a day for 5 days a week.

Barrage releases, combined with dredging, help to maintain flow connectivity of the River Murray Channel to the Murray Mouth and assist in exporting salt from the river system.

Exclusion Zones established around the dredging operations are in place to ensure public safety. Refer to [Notice to Mariners No 61 of 2023](#).

## Barrage operations and water levels in the Lower Lakes

The water level in Lake Alexandrina is approximately 0.78 m AHD and Lake Albert is approximately 0.76 m AHD.

The Lower Lakes are being managed to target a daily average lake level between 0.7 m AHD to 0.8 m AHD during July 2024.

Barrage operations are being undertaken to encourage flow to the Coorong Lagoons. During adverse weather conditions, SA Water will operate the barrages to minimise the risk of seawater entering Lake Alexandrina, therefore minimising any negative salinity impacts from reverse flow events.

Gate openings at the barrages can now be viewed on [Water Data SA – Barrage dashboard](#).

Total daily flow releases from the barrages can also be found on [Water Data SA – Flows dashboard](#)

## River Murray Flood Mapping

The changes in the SA River Murray Channel and floodplains since the 1956 flood and subsequent events have led to a shifting relationship between flow and water level, making accurate forecasting challenging. These changes include new infrastructure and development, shifts in floodplain vegetation and land use, movement of the river channel and changes in river bathymetry.

The effects of these changes were observed during the 2022-23 River Murray flood event. Following the event, the State Government committed funding for the purpose of updating DEW's River Murray flood models, tools and datasets with current conditions, and the latest observations of water levels and flood behaviour during the 2022-23 flood.

DEW has updated the River Murray hydrodynamic models from Wellington to Lock 7 using the best available data, resulting in updated flood inundation datasets. DEW is working on making these updated datasets accessible to river managers, emergency services and the community, providing them with up to date information to assess potential flood impacts and prepare for future events. Additionally, model updates and dataset development for the Lower Lakes are ongoing. The bathymetric surveys outlined below are an example of the new data being captured that will be used to inform these updates.

For more information contact Casey Henderson, Senior Project Officer on [casey.henderson@sa.gov.au](mailto:casey.henderson@sa.gov.au).

## Bathymetric surveys – Lock 3 and Lock 6 reaches

DEW is progressing investigations into weir pool raising and lowering to achieve environmental objectives in the lock 3 and 6 reaches and has engaged contractors to undertake bathymetric surveys of the region.

A bathymetric survey is a water-based study that uses sensor technology (sonar), attached to watercraft, to map the depths and shapes of underwater terrain.

The surveys are being undertaken until July 2024 and will include the main River Murray channel and connected anabranches and wetlands in the Lock 3 reach (from Lock 3 to Lock 4) and Lock 6 reach (from Lock 6 to Lock 7).

Survey data will be used to create updated bathymetric digital elevation models (DEM) that will improve the accuracy of hydrodynamic models of the locks' weir pools under both regulated and flood flow conditions, and assist in the detection of potential submerged navigational hazards (e.g. sandbars). The data will also enable the detection of any changes to the river that may have occurred as a result of the 2022-23 River Murray flood event.

If you have any questions, please contact [DEW.SREProgram@sa.gov.au](mailto:DEW.SREProgram@sa.gov.au).

## Water quality

### Algal blooms within SA

A **Water Quality Alert for Lake Alexandrina** issued by SA Health remains current due to elevated levels of potentially harmful blue green algae present in the lake. This alert and other information can be found on the [SA Health website – Water Quality Alerts page](#).

Water samples taken from Lake Alexandrina (including Goolwa) on 27 – 28 June show elevated levels of potentially harmful blue green algae toxin across the lake.

The Water Quality Alert for Lake Alexandrina advises the public to avoid ingestion or contact with water in the lake, including the avoidance of recreational activities. The Water Quality Alert advises that Lake Albert does not currently pose a health risk.

DEW and SA Water will continue to monitor the location and movement of the algae.

Some level of blue-green algae on a large open water body like the River Murray is normal for this time of year when weather conditions are favourable for growth. Blooms can be transient, and their location and severity can be affected by a range of factors including wind direction, air and water temperatures and degree of water movement. SA Health encourages people to avoid contact with obvious green discoloured water as it may have health impacts.

SA Health and DEW will continue to monitor the situation and provide further advice and information to the public as conditions evolve.

## Algal blooms upstream of SA

A number of current alerts for blue-green algae have been issued by upstream authorities for the River Murray upstream of the SA border and the Lower Darling River. Details of the current alert locations can be found on the [WaterNSW website – Algae Alerts page](#).

## River Murray River Vessel Waste Disposal Stations

The Lock 3 River Vessel Waste Disposal Station has been out of commission since January 2020 due to a significant infrastructure failure. The nearest alternative waste facility is located at Waikerie. Normal boat hard waste (domestic or galley waste) can still be deposited at the Lock 3 facility at the present time.

Goolwa RVWDS Portaloo unit has been removed and is undergoing refurbishment. To prevent future issues and ensure correct operation, we kindly ask users to refrain from flushing foreign objects such as sanitary products, wipes, paper towels and cooking oil or fat. Flushing these items can cause serious damage to the equipment, including blockages and pump failures. Please only flush toilet paper to help maintain the equipment operational. Thank you for your cooperation.

The closest Portaloo disposal facilities are available at no charge at Coorong Quays, Hindmarsh Island by contacting them on 8555 7300. The remainder of the station is operating as normal. Updates will be provided as further information becomes available.

You can report any River Vessel Waste Disposal Station issues on 1800 799 065.

If you have any questions, please contact the DEW Engagement Team on [DEW.WIOCommunications@sa.gov.au](mailto:DEW.WIOCommunications@sa.gov.au)

## Intermediate remediation of the LMRIA levees project

In February, the Federal and State Governments announced \$17.1 million in funding to undertake intermediate remediation works to government-owned levees that were damaged in the 2022-23 River Murray flood event. In addition, the South Australian Government allocated \$14.2 million in state funds for the intermediate remediation of privately-owned levees. The intermediate remediation works will return the significantly flood-damaged sections of the LMRIA levees to their pre-flood height.

Intermediate remediation work has begun at Pompoota and Mypolonga and preparation for works at Long Flat has commenced. Full condition assessments, to determine the extent of the damage sustained by the levees during the flood event, are underway with the first stage of on-site visual inspections for the government-owned levees expected to be completed this week. The first stage of visual assessments for privately-owned levees as well as preparations for the 2<sup>nd</sup> stage involving further investigations and testing for government-owned levees are scheduled to commence in mid-July, subject to weather conditions.

Where intermediate remediation works are required for government levees, they will remain closed until the works are progressively completed and subsequent safe access is determined over the next 12-18 months. Any government-owned levee not requiring intermediate remediation work will remain closed pending the outcome of a full condition assessment and a safety risk assessment to ensure they are safe for public access. The government-owned levee banks are Cowirra, Neeta, Wall Flat, Pompoota, Mypolonga, Mobilong, Burdett, Long Flat, Monteith and Jervois. Access to private levees is at the landholder's discretion, however, access is not permitted where remediation works are being undertaken.

The safety of the public is of paramount importance and the Department for Environment and Water will keep the community informed of the progress of the project, including when levees may be accessible to the public, through its website and newsletter.

For more information please visit [Department for Environment and Water - Levees](#)

If you have any questions, please contact Lisa van der Linde, Communications and Engagement Officer on 0437 313 087 or [Lisa.vanderlinde@sa.gov.au](mailto:Lisa.vanderlinde@sa.gov.au).

## Salinity

Salinity levels throughout the River Murray in South Australia are within their typical range. Nonetheless, it is possible that some irrigators may record higher salinity readings at isolated locations. These higher readings are more likely to be observed at the bottom of the water column.

Irrigators are encouraged to monitor the [daily salinity levels](#) provided by SA Water as part of their business operations.

## Environmental news – Floodplain trees flourish after the flood

The results of our 2024 annual tree condition surveys at Pike floodplain are in and show us that the widespread flood of 2022/2023 continues to drive positive ecological outcomes. The condition of black box and river red gum trees improved again this year, compared with the results of the 2023 survey. Whilst the higher elevation black box still shows the stressful signs of their dry past, there was improvement in the black box results and the majority of river red gums were assessed as being in good or better condition. There are many benefits from maintaining floodplain trees in great condition. One important benefit is that healthy trees produce an abundance of flowers and provide resources for huge numbers of insects that feed our floodplain birds, possums and reptiles.



*Black Box loaded with new buds, flowers and mature fruits. Pike floodplain, June 2024.*

*Photo credit: Michelle Denny, DEW.*

## New planning rules to support River Murray flood-resilient redevelopment have been finalised

The [River Murray Flood Resilience Code Amendment](#) aims to provide clearer guidance for impacted communities to rebuild more flood-resilient development.

The amendments were informed by [feedback received](#) from community, industry and government agencies during consultation and the extent and levels of floodwaters during the recent flood.

For more information about the Code Amendment, visit the [YourSAy website](#) at:

<https://yoursay.sa.gov.au/River-Murray-Flood-Resilience>.

## Further information

- [SA River Murray Flows page - Department for Environment and Water](#)
- [2022-23 River Murray Flood event](#)
- [Government of South Australia - State Disaster Recovery](#)
- [SA Water quality alerts - SA Health](#)
- [Real-time SA water data](#)
- [Current SA daily water levels](#)
- [Daily flow and water level information at key SA Water sites on the River Murray](#)
- [SA daily salinity information](#)
- [SA Marine safety](#)
- [Real time information - whole of River Murray system](#)
- [Whole River Murray System weekly reports](#)
- [Flows in the River Murray System including water for the environment](#)
- [Water for the environment actions in the Murray-Darling basin catchments](#)
- [NSW fish kills](#)
- [NSW algal alerts](#)

## Bureau of Meteorology

- [SA rainfall and river conditions](#)
- [Victorian rainfall and river conditions](#)
- [NSW rainfall and river conditions](#)
- [Climate outlooks](#)
- [Climate drivers](#)

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