

SA River Murray Flow Report

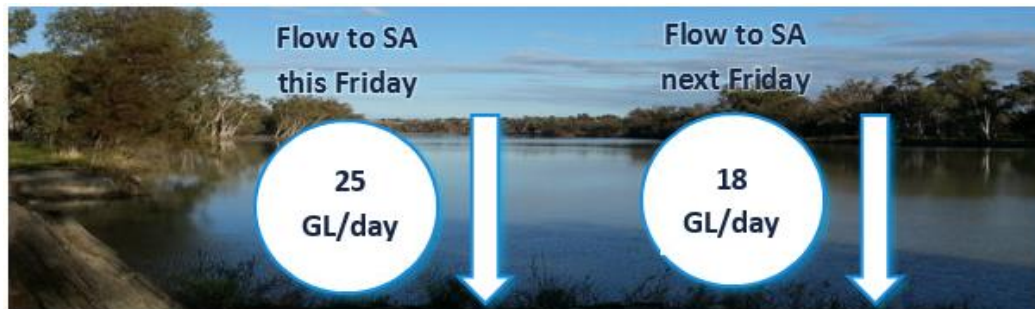


Report #12/2023

Issued 2:15 pm 24 March 2023

This supersedes the previous Flow Report issued by the Department for Environment and Water (DEW) on 17 March 2023. The next Flow Report will be provided on Friday 31 March 2023.

Flow outlook



The flow at the South Australian border is approximately 25 GL/day and is forecast to decrease to around 18 GL/day over the coming week. The current flow at the border comprises:

- full March Entitlement Flow (6 GL/day);
- water for the environment (see below *Environmental News*);
- interstate trade adjustments;
- Additional Dilution Flow (ADF); and
- Unregulated flow.

The flow over Lock 1 is approximately 24 GL/day and will decrease to around 17 GL/day over the coming week.

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.

Current water levels

Current water levels are updated daily and can be found at the following link: <https://www.waterconnect.sa.gov.au/River-Murray/SitePages/Daily.aspx>

Salinity

Increased salinity levels are common during flood recessions. The Department is closely monitoring elevated salinity levels throughout the River Murray in South Australia. In general, salinity levels across the River Murray in SA are approximately 400-500 EC which is still within acceptable limits. It is understood that some irrigators have recorded 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.

PIRSA has provided salinity management advice for irrigators on its website:

https://www.pir.sa.gov.au/emergencies_and_recovery/storms_and_floods/river_murray_flood_2022

Upstream flows

Additional flow from the Great Darling Anabranch, which enters the River Murray downstream of Wentworth, is expected to reach the South Australian border during April. The peak in the anabranch system has reached Bulpunga in NSW where

the flow rate is around 11 GL/day and falling. This is less than originally forecast and **the arrival of this water into South Australia is forecast to only result in a “flattening” of the flow recession and remain contained within the river channel.**

More information on upstream conditions and forecasts can be found in the Murray-Darling Basin Authority's *Weekly Flow Report* here: <https://www.mdba.gov.au/water-management/regular-reports-murray-data-storages/weekly-reports>

Murray Mouth

Recent bathymetric surveys of the width and depth of the Murray mouth has shown that the mouth has scoured as a result of the high flows.

Aside from the visible widening of the mouth, the greatest scouring occurred to the depth of the channel between Young Husband and Sir Richard Peninsulas. A survey taken in early August 2022 showed that the depth of this area was around



Figure 1: Satellite images of the Murray Mouth before and after flooding (Sentinel-hub Playground <https://apps.sentinel-hub.com/sentinel-playground>)

3 metres. The most recent survey has shown that the same area is now 11 m – 12 m deep. A wider and deeper Murray Mouth will have positive environmental benefits following the flood through enabling better exchange of water between the ocean and the Murray estuary and Coorong.

Barrage operations and water levels in the Lower Lakes

The water level in Lake Alexandrina is approximately 0.53 m AHD and Lake Albert is approximately 0.51 m AHD.

River users may have noticed over the last week that water levels around Goolwa are lower than usual. DEW and SA Water are working to target of an average water level of 0.6 m AHD across Lake Alexandrina. Although water levels are currently lower than the intended target, barrage gate closures should bring the water level up to the target level shortly.

Barrage releases are normally calculated using water levels from upstream and downstream of the barrages which are entered into equations to determine the volume of flow through each of the five barrages and the fishways. The existing methodology for calculating barrage releases is not accurate with the very high flow and water levels that were experienced during the flood. Analysis is now being undertaken to develop a flow record of barrage releases throughout the flood.

Water levels and barrage operations are monitored closely by the South Australian Government, Murray-Darling Basin Authority and Commonwealth Environmental Water Office.

River Murray River Vessel Waste Disposal Stations

As water levels recede, DEW is recommissioning each disposal station when it is deemed safe and possible to do so. The process to recommission includes regaining safe access to the site, inspecting the infrastructure for any damage, repairing any damaged infrastructure, reinstating equipment, and the reconnection and testing of services.

As at 24 March 2023 the following River Vessel Waste Disposal Stations are online and operational:

- **Loxton**
- **Berri**
- **Waikerie**
- **Goolwa**

The other stations have been assessed for damage and repair works are underway. Based on assessments and works completed to date, indicative timeframes for recommissioning of the remaining stations are as follows:

- | | |
|------------------------------------|-------------------------|
| • Renmark, Morgan, Swan Reach | Late March 2023* |
| • Blanchetown, Walker Flat, Mannum | Early April 2023* |
| • Lock 6 | Mid to late April 2023* |
| • Murray Bridge | TBC |

**Note – these times may be subject to change dependent on further damage being identified, reconnection to services etc. Updates will be provided as further information becomes available.*

Final commissioning of the River Vessel Waste Disposal Stations is dependent on a number of factors outside the control of the Department including SA Power Networks, removal of adjacent temporary levee banks (where applicable) and safe road access. Until the river vessel waste disposal stations can be recommissioned, commercial options remain available for businesses to utilise temporarily at houseboat owners and operators' expense while the disposal stations are closed.

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 waste (domestic or galley waste) can still be deposited at the Lock 3 facility at the present time.

If you have any questions, please contact the DEW Engagement Team on DEW.WIOCommunications@sa.gov.au

Levee embankments

Engaged levee banks along the Lower Murray from Mannum to Wellington currently remain closed. More information on current restrictions around the Lower Murray Reclaimed Irrigation Area can be found here: [Restrictions | Recovery](#).

With the River Murray flood situation now in the recovery phase, the stabilisation of the levee network and dewatering process is the highest priority for producers in the Lower Murray region. The Department is working with impacted landholders and trusts to determine which feasible short-term works may be required to stabilise the levee embankments and/or allow dewatering to occur. Further information on the stabilisation of the levee banks in the LMRIA area can be found on the [DEW Website](#).

PIRSA is leading the process of recovery planning for the LMRIA as part of the State Recovery Plan. Should you have any questions in relation to dewatering and recovery of the agricultural areas post-flood, please contact PIRSA on the Recovery Hotline on 1800 931 314.

DEW is unable to guarantee the integrity of levees following the flood event. Any Local Irrigation Trust members and contractors accessing the levees for works are encouraged to take all necessary precautions when working on the levees, particularly during or following wet weather.

If you have any questions, contact the DEW Engagement Team on DEW.WIOCommunications@sa.gov.au

Environmental news – Black box responds to flooding

These photos taken at Katarapko floodplain show the remarkable response of Black Box to the recent flooding. The bright green new foliage is clearly visible against the older grey-green mature leaves. Autumn monitoring will reveal how widespread this improvement in tree condition is.



Figure 2: Black box growth following recent flooding on the Katarapko Floodplain (DEW)

Blackwater & Menindee Lakes fish deaths

Blackwater occurs naturally when floods wash leaves, grass and cropping material off riverbanks and floodplains into waterways. High levels of organic matter in waterways, combined with warm weather, can cause oxygen levels in the water to drop. This is known as hypoxic (low oxygen) blackwater, which can have a blackish colour and a strong, unpleasant smell. In addition, when dissolved oxygen levels in water drop below critical levels, it can cause fish and crustaceans to die.

Fish deaths have been observed in the lower Darling between Menindee main weir and Weir 32. Species that have been recorded have included Carp, Bony Bream, Golden Perch and Murray Cod. Large Carp, Bony Bream, Golden Perch and Murray Cod deaths have also been observed in Kangaroo Lake, northwest of Victoria, due to hypoxic conditions.

In South Australia mainly Carp and Bony Bream deaths are continuing in the Coorong from being flushed out during ongoing barrage discharges into a saline environment. There is currently no hypoxic blackwater present in the South Australian section of the River Murray.

In response to these recent events PIRSA, with support from DEW, SA Water and the Murray-Darling Basin Authority and other relevant government agencies, continue to closely monitor blackwater, dissolved oxygen levels and fish death events upstream and plan mitigation measures should it reach South Australia.

To report sightings of large numbers of dead or distressed fish, please contact the 24-hour Fishwatch hotline on 1800 065 522.

Further information

2022-23 **River Murray Flood event**

<http://www.sa.gov.au/topics/emergencies-and-safety/river-murray-flood>.

2022-23 Flood **recovery**

<https://www.sa.gov.au/topics/emergencies-and-safety/river-murray-flood/recovery>

Water quality alerts in SA

<https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/public+health/water+quality/water+quality+alerts>

NSW **fish deaths**

<https://www.dpi.nsw.gov.au/fishing/habitat/threats/fish-kills-in-nsw-2021-2022>

Real-time water data at sites in SA

<https://water.data.sa.gov.au/>

Current daily water levels

<https://www.waterconnect.sa.gov.au/River-Murray/SitePages/Daily.aspx>

Daily flow and level information at key SA Water sites on the River Murray

<https://www.sawater.com.au/water-and-the-environment/south-australias-water-sources/river-sources/river-reports-daily-flow>

Daily **salinity** information in SA

<https://www.sawater.com.au/water-and-the-environment/south-australias-water-sources/river-sources/river-reports-daily-salinity>

Real time information throughout the **River Murray system**

<https://riverdata.mdba.gov.au/system-view>

Whole River Murray System updates

<https://www.mdba.gov.au/water-management/regular-reports-murray-data-storages/weekly-reports>

Marine safety in SA

<https://marinesafety.sa.gov.au/>

Victorian rainfall and river conditions

<http://www.bom.gov.au/vic/flood/index.shtml>

NSW rainfall and river conditions

<http://www.bom.gov.au/nsw/flood/>

Climate outlooks

<http://www.bom.gov.au/climate/ahead/outlooks/>

Climate drivers

<http://www.bom.gov.au/climate/enso/>

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