SA River Murray Flow Report

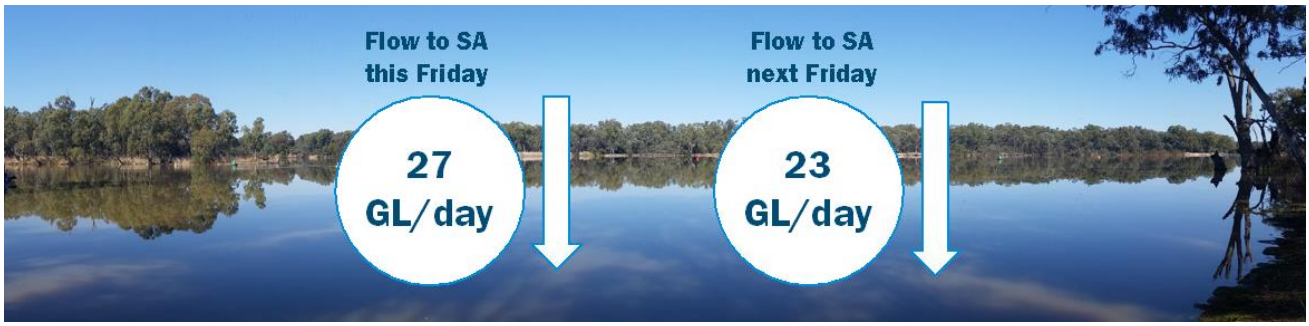
Government of South Australia
Department for Environment and Water

Report #11/2023

Issued 10:00 am 17 March 2023

This supersedes the previous Flow Report issued by the Department for Environment and Water (DEW) on 3 March 2023. The next Flow Report will be provided on Friday 24 March 2023.

Flow outlook



The flow at the South Australian border is approximately 27 GL/day and is forecast to decrease to around 23 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 28 GL/day and will decrease to around 24 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 appears to have reached Bulpunga in NSW where the flow rate is around 11 GL/day. 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

Safety on and around the River Murray in SA

Water users should be mindful of the following:

- Operating watercraft and swimming in the main River Murray channel can be more hazardous during and after a high flow. Submerged objects, debris and the force of the current can present a risk to public safety.
- People operating watercraft, swimming, canoeing or participating in other activities on the main River Murray channel are advised to be aware of the risk of high flow, and take precautions to protect life and property.
- When operating a boat on the floodplain or near inundated river banks, be aware of submerged obstacles such as trees and fence lines.
- Always wear a personal floatation device on the river.
- While swimming, do not jump or dive into the river when you do not know what is below the surface.
- Supervise children at all times and do not allow them to play in or near fast-flowing river water.
- If camping ensure that you are on higher ground away from the river bank.
- **The hazards associated with riverbank collapse still exist in some areas so be aware of the signs - such as cracked riverbanks and leaning trees and keep away from fenced or sign-posted affected areas.**
- If in doubt, stay out.
- Listen and take action on any instructions from the emergency services - the SASES, SA Police and the CFS.
- Tune to ABC local radio for community safety information.

Requests for assistance for on-water incidents should be directed to the SA State Emergency Service (SASES) on 132 500.

For life threatening emergencies call 000.

Barrage operations and water levels in the Lower Lakes

The water level in Lake Alexandrina is approximately 0.55 m AHD and Lake Albert is approximately 0.56 m AHD.

River users may have noticed over the last week that water levels around Goolwa are lower than usual. Current water levels are typical for this time of the year however, this may seem excessively low following the period of high water levels recently experienced as the flood peak passed. 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 over the coming days 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.

Murray Mouth

Bathymetric survey of the width and depth of the Murray mouth has shown that the mouth has scoured as a result of the high flows. 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.

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 15 March 2023 the following River Vessel Waste Disposal Stations are online and operational:

- **Loxton**
- **Berri**
- **Goolwa.**

The other stations have been initially assessed for damage and repair works required. Based on initial assessments, indicative timeframes for recommissioning of the remaining stations are as follows:

• Blanchetown, Waikerie, Renmark,	Mid to late March 2023*
• Morgan, Swan Reach	Late March 2023*
• 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.

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 in accordance with *Emergency Services (Lower Murray Reclaimed Irrigation Areas) Direction 2023* which came into effect on 3 March 2023.

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 short-term feasible 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 – Banjo frog success on the Pike floodplain

The musical eastern banjo frog (*Limnodynastes dumerili*) was frequently heard calling during spring and early summer at Pike Floodplain, and recent monitoring has shown it has been a very successful year for breeding across the site. Banjo tadpoles were recorded up to 100mm in length and were the dominant species making up 41% of all tadpoles recorded.

Figure 1: The eastern banjo frog tadpoles and adult recently observed on the Pike floodplain (DEW)

Blackwater

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.

There is currently no hypoxic blackwater present in the South Australian section of the River Murray.

PIRSA, with support from DEW, SA Water and the Murray-Darling Basin Authority and other relevant government agencies, continues to closely monitor blackwater events upstream and plan mitigation measures should it reach South Australia.

When dissolved oxygen levels in water drop below critical levels, it can cause fish and crustaceans to die. 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
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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