

# RIVER MURRAY FLOW REPORT

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Report #1/2017

Issued 10:00 am 6 January 2017

**This supersedes the previous flow report issued by the Department of Environment, Water and Natural Resources (DEWNR) on 30 December 2016. The next report will be provided on Friday 13 January 2017.**

In this report, for ease of representation, large volumes of water are expressed in gigalitres (GL), while smaller volumes are expressed in megalitres (ML). One GL is equal to 1 000 ML.

## FLOW OUTLOOK

The flow at the South Australian border is approximately 17 GL/day and will decrease to around 16 GL/day during the coming week. The flow to South Australia comprises the normal January Entitlement Flow of 7 GL/day, environmental water, unregulated flow and additional dilution flow.

Below is a table of the actual peak River Murray water levels and dates from Lock 6 to Murray Bridge.

| Location        | Normal Pool Level<br>(m AHD) | Current level at<br>04/01/17<br>(m AHD) | Water level is<br>currently | 2016 Actual Peak |        | 2011 High Water Level<br>(m AHD) |
|-----------------|------------------------------|-----------------------------------------|-----------------------------|------------------|--------|----------------------------------|
|                 |                              |                                         |                             | Level<br>(m AHD) | Date   |                                  |
| Lock 6          | 19.25                        | 19.22                                   | Stable                      | 20.19            | 7 Dec  | 20.11                            |
| Renmark         | -                            | 16.32                                   | Stable                      | 17.44            | 8 Dec  | 17.38                            |
| Lock 5          | 16.30                        | 16.29                                   | Stable                      | 17.05            | 8 Dec  | 17.05                            |
| Lyrup           | -                            | 13.32                                   | Stable                      | 15.80            | 10 Dec | 15.68                            |
| Berri           | -                            | -                                       | Stable                      | 15.21            | 10 Dec | 15.16                            |
| Lock 4          | 13.20                        | 13.18                                   | Stable                      | 14.73            | 12 Dec | 14.75                            |
| Loxton          | -                            | 10.74                                   | Falling                     | 13.54            | 13 Dec | 13.42                            |
| Cobdogla        | -                            | 10.15                                   | Falling                     | 11.59            | 16 Dec | 11.52                            |
| Lock 3          | 9.80                         | 10.04                                   | Stable                      | 10.98            | 17 Dec | 10.93                            |
| Overland Corner | -                            | 7.18                                    | Stable                      | 10.41            | 18 Dec | 10.27                            |
| Waikerie        | -                            | 6.76                                    | Falling                     | 9.20             | 19 Dec | 9.06                             |
| Lock 2          | 6.10                         | 6.51                                    | Falling                     | 8.32             | 20 Dec | 8.25                             |
| Cadell          | -                            | 4.28                                    | Falling                     | 7.01             | 20 Dec | 6.82                             |
| Morgan          | -                            | 4.06                                    | Falling                     | 6.38             | 20 Dec | 6.20                             |
| Lock 1          | 3.20                         | 3.74                                    | Falling                     | 4.46             | 24 Dec | 4.42                             |
| Swan Reach      | 0.75                         | 0.81                                    | Falling                     | 3.11             | 24 Dec | 3.04                             |
| Mannum T Wharf  |                              | 0.99                                    | Falling                     | 3.33             | 25 Dec | 1.05                             |
| Murray Bridge   | 0.75                         | 0.88                                    | Falling                     | 1.04             | 25 Dec | 1.01                             |

Now is a great time to enjoy the River Murray. However visitors are reminded to exercise caution at all times when using the river and to seek local advice.

The peak has passed most locations. Water levels below Lock 2 are continuing to fall quickly to normal pool level. All river users, including houseboat owners and operators, as well as irrigators, will need to regularly check the water level and make daily adjustments.



Caution should be exercised when near riverbanks, as the rapid decrease in water level may affect bank stability. Depending on soil, vegetation or other factors, some riverbanks may be susceptible to slumping as water levels decrease. Signs of bank instability include cracks or leaning trees. Anyone with concerns about the safety of a particular riverbank should contact their local council. In the event of an emergency call 000.

The flow over Lock 1 is approximately 20 GL/day and will decrease to around 16 GL/day during the coming week, depending on weather conditions and extractions.

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. The forecasts will be revised as new information becomes available.

### **RIVER HAZARDS**

As water levels decrease following the peak, they will return to normal pool level, however this may be quicker than in previous flooding events. Be aware of the likely rapid decrease and take any necessary actions to modify pontoons and moorings.

Some boat launching facilities may become unserviceable due to changed river levels. Boaters are also likely to encounter floating debris which may cause damage to vessels or injury to water skiers.

If you intend to engage in high speed activities, ensure that the area of water is safe prior to commencing the activity. Vessel wash should be kept to a minimum if operating in the vicinity of shacks and other structures.

For more information, contact Department of Planning, Transport and Infrastructure Marine Operations on 1300 183 046.

### **WATER QUALITY**

#### **Salinity**

River Murray salinity levels in South Australia have started to increase in response to declining water levels back towards normal pool level. This high flow event and subsequent reduction has mobilised salt from wetlands, backwaters and the floodplain and is now entering the River Murray. Water has entered some locations that have not been inundated since 1993. It is ecologically important to mobilise salt from the landscape as this has longer-term benefits for the River Murray and associated environments. Salinity levels at the border remain relatively low, around 250 EC, but there has been a noticeable increase between Berri to Blanchetown. Increased salinity levels may last for several weeks. Information on near real-time salinity levels can be accessed at <https://www.waterconnect.sa.gov.au/Systems/RTWD/Pages/Default.aspx>

#### **Blackwater**

Blackwater is occurring in the South Australian portion of the River Murray.

Blackwater is a natural phenomenon that can occur after a significant rainfall event, when organic matter on the floodplain (eg leaves and wood) is washed into the river. The breakdown of organic matter consumes dissolved oxygen, which reduces the level of dissolved oxygen in the water. The water is blackish in appearance and may have a strong unpleasant smell.

When the dissolved oxygen levels drop below critical levels it can cause fish and crustaceans to die. To report sightings of large numbers of dead or distressed fish contact the 24-hour FISHWATCH hotline on 1800 065 522.

SA Health has advised that blackwater in the River Murray poses no direct public health risk. In a small number of people, blackwater may cause a skin irritation due to sensitivity to natural organic matter in the water. SA Health does not recommend drinking water direct from the River Murray at any time unless it is treated.

SA Water has advised that the water quality challenges presented by blackwater can be effectively treated via its treatment processes and therefore do not currently pose a drinking water quality issue.

DEWNR, SA Water and Murray-Darling Basin Authority with other government agencies are working closely to monitor the situation. Further information is available at [www.environment.sa.gov.au/managing-natural-resources/river-murray/about-the-river/issues-for-river-health](http://www.environment.sa.gov.au/managing-natural-resources/river-murray/about-the-river/issues-for-river-health)

### **MURRAY MOUTH**

Dredging operations at the Murray Mouth commenced on 9 January 2015 to maintain connectivity (exchange of water) between the Coorong and the Southern Ocean.

The dredging operations combined with recent substantial barrage releases have improved conditions at the Murray Mouth. On 27 October 2016, one of the two dredges was decommissioned. The remaining dredge paused operations on 5 December 2016 for maintenance during the Christmas-New Year period. Dredging may recommence early in 2017, subject to an assessment of the recent high flows through the Murray Mouth. At 5 December 2016 approximately 1 756 500 cubic metres of sand had been removed by dredging operations.

Mariners are advised that there are still a number of shallow zones in and adjacent to the Murray Mouth and should follow all directions in the area and reduce their speed. Boats equipped with echo sounders should regularly check depths and avoid travelling at low tide. Mariners are reminded that navigation through the Murray Mouth is only permitted during daylight hours. The Exclusion Zones established around the dredging operations have been removed for the duration of the stand down.

There is a partial park closure in place for the northern tip of the Coorong National Park. For more information visit [www.environment.sa.gov.au/parks/Safety/Park\\_closures/141219-coorong-national-park](http://www.environment.sa.gov.au/parks/Safety/Park_closures/141219-coorong-national-park).

### **ENVIRONMENTAL WATER**

During January, approximately 50 GL of environmental water will be delivered to South Australia. The environmental water will provide in-channel, Lower Lakes and Coorong environmental and water quality benefits.

DEWNR is continuing discussions regarding environmental water to be delivered during 2016-17.

### **BARRAGE OPERATIONS AND WATER LEVELS IN THE LOWER LAKES**

The water level in Lake Alexandrina is approximately 0.81 m AHD and Lake Albert approximately 0.79 m AHD. The difference in water levels is due to wind effects. Water levels are being actively managed to achieve a target water level greater than 0.5 m AHD at the end of March 2017.

Due to the peak of the event large volumes of water were being released from the barrages into the Coorong. Now the peak has passed, barrage releases are being reduced in order to manage lake water levels into the coming year. Releases are being prioritised at Tauwitchere, Goolwa, Ewe Island and Mundoo barrages. All fishways are operational to provide fish passage between Lake Alexandrina and the Coorong.

During the week ending 3 January 2017 total barrage releases were approximately 330 GL.

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

### **WEIR POOL OPERATIONS**

Due to high flows, the River Murray weirs were temporarily opened (open river conditions). This is a standard operating procedure during periods of high flow. All of the weirs have now been reinstated as the high flows are receding

### LOXTON RIVER VESSEL WASTE DISPOSAL STATION

The Loxton River Vessel Waste Disposal Station has been closed since 14 November 2016. It is planned to be recommissioned during the coming week in conjunction with the restoration of adjacent Council operated services. The remaining 12 waste disposal stations operated by DEWNR are available for use.

The nearest river vessel waste disposal stations are at Berri (38 km upstream) or Lock 3 (55 km downstream). For further information contact Hayden Smith (DEWNR) on 0457 820 553.

### NAVIGATION ISSUES

While this is a great time to visit the river, all visitors are reminded to exercise caution when navigating through the locks, and to be mindful of floating debris.

Sandbars in the vicinity of the Murray Mouth may cause navigation hazards. Boaters are advised to navigate with caution when operating in the area. Sandbars are also present along sections of the River Murray downstream of Locks 7 and 8 and in South Australia. All watercraft users should be aware of the risk of submerged navigation hazards, and should regularly check river depth.

### PRIVATE CARRYOVER 2017-18

Due to the forecast risk of spill in Dartmouth during 2017-18 being greater than 10%, private carryover will **not** be granted in 2017-18. This is in-line with the private carryover policy. For more information on private carryover please refer to the DEWNR website <http://www.environment.sa.gov.au/managing-natural-resources/river-murray/water-allocation-and-trade>

## RIVER MURRAY WATER LEVELS

Below is a table of River Murray water levels at a number of locations from Lock 10 (near Wentworth) to Murray Bridge.

### River Murray Water Levels on 4 January 2017

| Location           | River km | Normal Pool Level (m AHD) | Current Level (m AHD) | 1974 Flood Level (m AHD) | 1993 Flood Level (m AHD) | 2011 High Water Level (m AHD) |
|--------------------|----------|---------------------------|-----------------------|--------------------------|--------------------------|-------------------------------|
| Lock 10            | 825.0    | 30.80                     | 30.80                 | 33.81                    | 33.32                    | 32.28                         |
| Lock 9 Kulnine     | 764.8    | 27.40                     | 27.47                 | 30.03                    | 29.44                    | 28.80                         |
| Lock 8 Wangumma    | 725.7    | 24.60                     | 24.59                 | 27.60                    | 27.19                    | 26.79                         |
| Lock 7 Rufus River | 696.6    | 22.10                     | 22.29                 | 25.70                    | 25.24                    | 24.92                         |
| Lock 6 Murtho      | 619.8    | 19.25                     | 19.22                 | 21.03                    | 20.50                    | 20.11                         |
| Renmark            | 567.4    | -                         | 16.32                 | 18.54                    | 18.04                    | 17.38                         |
| Lock 5             | 562.4    | 16.30                     | 16.29                 | 18.07                    | 17.50                    | 17.05                         |
| Lyrup              | 537.8    | -                         | 13.32                 | 16.85                    | 16.26                    | 15.68                         |
| Berri              | 525.9    | -                         | -                     | 15.81                    | 15.74                    | 15.16                         |
| Lock 4             | 516.2    | 13.20                     | 13.18                 | 15.65                    | 15.08                    | 14.75                         |
| Loxton             | 489.9    | -                         | 10.74                 | 15.05                    | 14.12                    | 13.42                         |
| Cobdogla           | 446.9    | -                         | 10.15                 | 13.44                    | 12.38                    | 11.52                         |
| Lock 3             | 431.4    | 9.80                      | 10.04                 | 13.16                    | 12.02                    | 10.93                         |
| Overland Corner    | 425.9    | -                         | 7.18                  | 12.73                    | 11.58                    | 10.27                         |
| Waikerie           | 383.6    | -                         | 6.76                  | 11.26                    | 10.24                    | 9.06                          |
| Lock 2             | 362.1    | 6.10                      | 6.51                  | 10.28                    | 9.30                     | 8.25                          |
| Cadell             | 332.6    | -                         | 4.28                  | 9.17                     | 8.08                     | 6.82                          |
| Morgan             | 321.7    | -                         | 4.06                  | 8.85                     | 7.65                     | 6.20                          |
| Lock 1 Blanchetown | 274.2    | 3.20                      | 3.74                  | 6.81                     | 5.38                     | 4.42                          |
| Swan Reach         | 245.0    | 0.75                      | 0.81                  | 6.06                     | 4.51                     | 3.04                          |
| Mannum PS          | 149.8    | 0.75                      | 0.99                  | 3.15                     | 1.90                     | 1.05                          |
| Murray Bridge      | 115.3    | 0.75                      | 0.88                  | 2.06                     | 1.26                     | 1.01                          |

Note that the above water levels may be affected by local wind conditions.

# River Murray Flow Report

## FURTHER INFORMATION

Please tell us what you value about the Coorong and Lower Lakes, and what threats you think need to be managed. Your input will help us write the updated Ramsar Management Plan. Find out more at [www.environment.sa.gov.au/coorongvalues](http://www.environment.sa.gov.au/coorongvalues)

The WaterConnect website is South Australia's comprehensive water information portal and can be accessed at [www.waterconnect.sa.gov.au](http://www.waterconnect.sa.gov.au)

Up-to-date River Murray salinity, flow and water level information can be accessed at the Department of Environment, Water and Natural Resources, SA Water and Murray-Darling Basin Authority websites

- [www.environment.sa.gov.au/managing-natural-resources/river-murray/water-allocation-and-trade/water-allocations-and-announcements](http://www.environment.sa.gov.au/managing-natural-resources/river-murray/water-allocation-and-trade/water-allocations-and-announcements)
- [www.waterconnect.sa.gov.au/Systems/RTWD/Pages/Default.aspx](http://www.waterconnect.sa.gov.au/Systems/RTWD/Pages/Default.aspx)
- [www.sawater.com.au/SAWater/Environment/WaterProofingAdelaide/TheRiverMurray/RMOU/Dailyflow.htm](http://www.sawater.com.au/SAWater/Environment/WaterProofingAdelaide/TheRiverMurray/RMOU/Dailyflow.htm)
- <http://livedata.mdba.gov.au/>

The latest news, information and announcements about the River Murray and Basin Plan are available at [River Murray Update](#).

The Department of Environment, Water and Natural Resources has published a series of inundation maps for the River Murray. They are available at [www.waterconnect.sa.gov.au/Systems/RMIM/SitePages/Home.aspx](http://www.waterconnect.sa.gov.au/Systems/RMIM/SitePages/Home.aspx)

Information on the management of acid drainage water in the Lower River Murray can be accessed at [www.epa.sa.gov.au/environmental\\_info/water\\_quality/programs/acid\\_sulfate\\_soils/lower\\_river\\_murray\\_reclaimed\\_irrigation\\_area\\_lmria](http://www.epa.sa.gov.au/environmental_info/water_quality/programs/acid_sulfate_soils/lower_river_murray_reclaimed_irrigation_area_lmria)

Details of river height and rainfall information in the River Murray within Victoria and New South Wales are available at the Bureau of Meteorology website [www.bom.gov.au/vic/flood](http://www.bom.gov.au/vic/flood)

Information provided by the Commonwealth Environmental Water Office can be accessed at [www.environment.gov.au/ewater/southern/murray/lower-murray.html](http://www.environment.gov.au/ewater/southern/murray/lower-murray.html)

Information on The Living Murray can be accessed at [www.mdba.gov.au/managing-water/environmental-water/delivering-environmental-water/living-murray-program](http://www.mdba.gov.au/managing-water/environmental-water/delivering-environmental-water/living-murray-program)

Chowilla Floodplain Icon Site management [www.environment.sa.gov.au/Chowilla-floodplain](http://www.environment.sa.gov.au/Chowilla-floodplain)

Department of Environment, Water and Natural Resources [www.environment.sa.gov.au/Home](http://www.environment.sa.gov.au/Home)

Information provided by the Department of Planning, Transport and Infrastructure on boat licences, registering motor boats, owning and operating water craft, and boat and marine safety can be accessed at [www.sa.gov.au/boatingmarine](http://www.sa.gov.au/boatingmarine)

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