

# River Murray Flow Report and Water Resources Update



Report #02/2021

Issued 10:00 am 15 January 2021

**This supersedes the previous flow report issued by the Department for Environment and Water (DEW) on 08 January 2021. The next flow report will be provided on Friday 22 January 2021.**

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.

## WATER RESOURCES UPDATE

During December 2020, the total River Murray System inflow was approximately 188 GL, which is about 41 % of the December long-term average of 458 GL. During December 2020, the total Menindee Lakes inflow was approximately 9 GL, which is approximately 7 % of the December long-term average of 121 GL.

The flow to South Australia during December 2020 was approximately 388 GL, which is about 56 % of the December long-term average of 687 GL. The flow comprised of Entitlement Flow (including environmental water on SA licence), environmental water and trades.

## MANAGEMENT OF SOUTH AUSTRALIA'S DEFERRED WATER

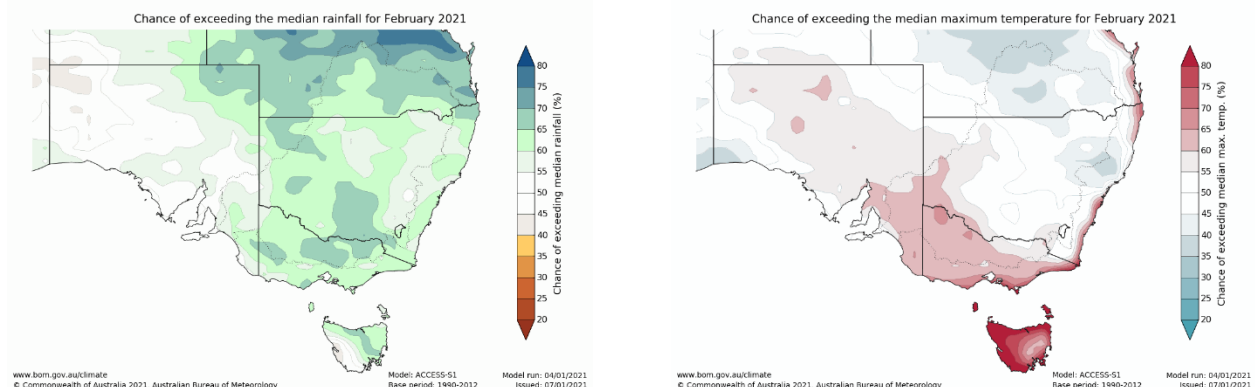
The Murray-Darling Basin Authority confirmed that on 1 January 2021 South Australia had 338.6 GL of deferred water held in storage in the Murray-Darling Basin. The following table identifies the storage in which it is held and the purpose. Volumes stored are adjusted for net evaporation losses and spills until delivered to South Australia.

At 1 January 2021				
Purpose	Lake Victoria (GL)	Hume (GL)	Dartmouth (GL)	Total (GL)
*CHWN	0.0	0.0	237.4	237.4
Private Carryover	0.0	0.0	101.2	101.2
<b>Total</b>	0.0	0.0	338.6	338.6

\*Critical Human Water Needs (CHWN)

## RAINFALL AND TEMPERATURE OUTLOOK

The latest Bureau of Meteorology weather outlook for the Murray-Darling Basin from February to April 2021 indicates that the region is expected to receive above average rainfall and average to above average temperatures in the Southern Connected Basin.



The El Niño-Southern Oscillation (ENSO) is currently negative meaning that a La Niña is currently underway. La Niña is typically associated with an increased likelihood of above average winter-spring rainfall across southern and eastern

Australia. Model outlooks are suggesting that the La Nina event is currently at its peak and neutral conditions are expected to return during autumn 2021.

The Southern Annular Mode (SAM) is positive and this generally enhances the wet signal of a La Nina in parts of eastern Australia.

The latest Bureau of Meteorology outlook information can be accessed [here](#).

## STORAGE VOLUMES

Table 1: Murray-Darling Basin Storage volumes

Storage	Full Supply Volume (GL)	13/01/2021 (GL)	13/01/2020 (GL)	Long-term average (end of Jan) (GL)
Dartmouth	3 856	2 397 (62%)	1 974 (51%)	
Hume	3 007	1 801 (60%)	657 (22%)	
Lake Victoria	677	391 (58%)	371 (55%)	
Menindee Lakes	*1 731	340 (20%)	7 (<1%)	
<b>TOTAL</b>	9 271	<b>4 929 (53%)</b>	3 009 (32%)	6 343 (68%)

\*Menindee Lakes can be surcharged to 2 015 GL

## WATER QUALITY - Salinity

A number of targets are identified under the Murray-Darling Basin Plan, which all Basin jurisdictions must have regard to in managing River Murray flows. The targets for real-time salinity are identified below. Salinity should not exceed these values for 95 % of the time:

- 580 EC at Lock 6
- 800 EC at Morgan
- 830 EC at Murray Bridge
- 1 000 EC at Milang.

The following graph shows the salinity at these locations and the flow to South Australia (QSA) from January 2020 to January 2021. The dashed-lines identify the Basin Plan (BP) thresholds for the corresponding colour coded location.

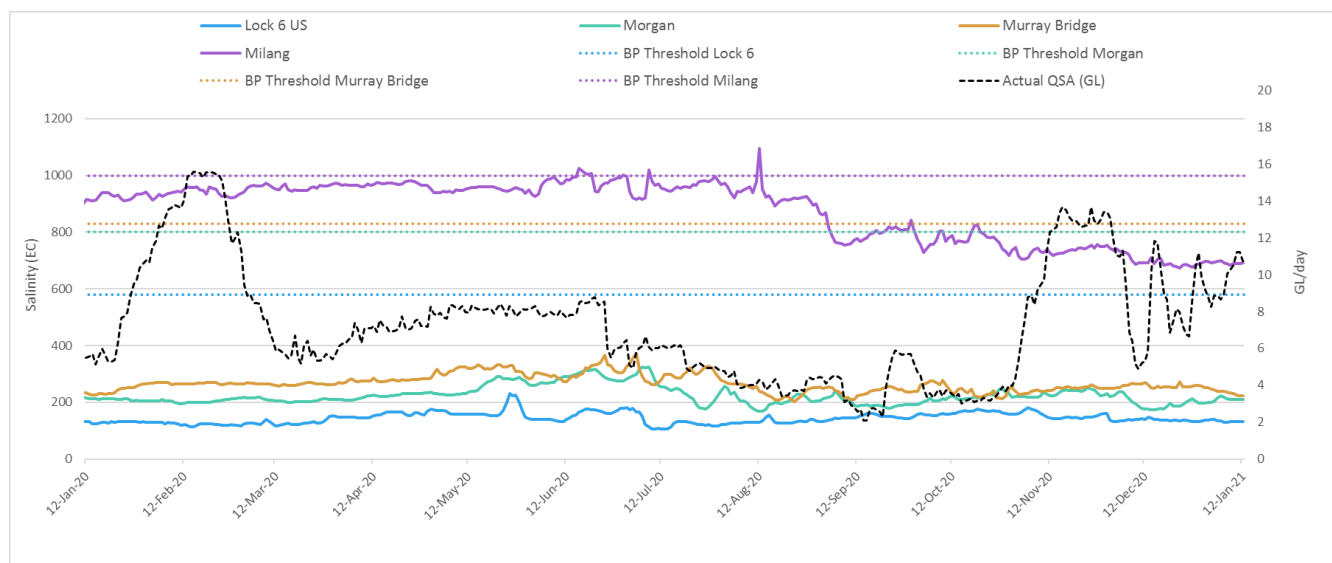


Figure 1: SA River Murray daily average salinity

## QUARTER 2 METER READING DUE BY 31 JANUARY 2021

If you hold a water resource works approval that includes a condition that requires you to provide quarterly meter readings to the Department for Environment and Water, please be reminded that meter readings for the Quarter 2 accounting period for 2020-21 (which ended on 31 December 2020) must be recorded within the first fourteen days of January 2021 and submitted to the department by 31 January 2021.

Your meter reading can be submitted via one of the following options:

- The online [Meter Reading Form](#);
- By telephone on (08) 8595 2053; or
- By emailing the Department for Environment and Water at [DEW.waterlicensingberri@sa.gov.au](mailto:DEW.waterlicensingberri@sa.gov.au).

Should you require any assistance in supplying your meter reading, including how to complete the online Meter Reading Form, please call the telephone number directly above and an officer will be happy to assist you.

The Department's preferred approach is to encourage and facilitate voluntary compliance. However, failure to voluntarily comply with the conditions of a water resource works approval may result in an expiation notice being issued.

## FLOW OUTLOOK

The flow at the South Australian border is approximately 8.5 GL/day and will remain around 8.5 GL/day over the coming week. It comprises:

- full January Entitlement Flow (7 GL/day);
- plus water for the environment (see below *Environmental News*); and
- interstate trade adjustments.

The flow over Lock 1 is approximately 4.1 GL/day and will remain around 4.1 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.

## ENVIRONMENTAL NEWS

In South Australia, water for the environment is currently helping to:

- increase 'flowing water habitat' to benefit native fish, animals and plants in the River Murray channel that have adapted to a riverine environment, including supporting spawning and recruitment of golden perch and Murray cod;
- maintain barrage flow to the Coorong North Lagoon to support a productive, food-rich environment for fish and birds and promote suitable conditions for estuarine fish (e.g. black bream) to spawn;
- remove excess salt from the River Murray (see more information [here](#));
- maintain healthy water quality, salinity and water levels in the River Murray Channel and the Lower Lakes and Coorong, including targeted releases from Tauwichee Barrage to push water down the Coorong when weather conditions are best suited (see more information [here](#));
- maintain flow connectivity between the River Murray Channel and its tributaries down to the Murray Mouth, to enable fish migration; and
- deliver a range of outcomes to wetlands in the Riverland via arrangements with the Murraylands and Riverland Landscape Board, Renmark Irrigation Trust, Australian Landscape Trust and Nature Foundation.

## 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. At 10 January 2021, a total of approximately 6 753 459 cubic metres of sand had been removed by dredging operations.

Two dredges are operating between the Goolwa and Tauwichee channels 24 hours a day, seven days a week.

Barrage releases combined with dredging have helped to maintain flow connectivity of the River Murray Channel to the Murray Mouth and have assisted in exporting salt from the river system.

There are a number of shallow zones in and adjacent to the Murray Mouth. Mariners should use caution when traversing the mouth area, follow all directions, reduce speed and avoid travelling at low tide. Mariners equipped with echo sounders should check depths regularly. Navigation through the Murray Mouth is only permitted during daylight hours. Exclusion

Zones established around the dredging operations are in place to ensure public safety. Refer to Notice to Mariners No 42 of 2016 [Notice 42](#).

There is a partial park closure in place for the northern tip of the Coorong National Park. For more information visit [Coorong partial park closure notice](#).

## BARRAGE OPERATIONS AND WATER LEVELS IN THE LOWER LAKES

The water level in Lake Alexandrina is approximately 0.77 m AHD and Lake Albert is approximately 0.76 m AHD. The difference in water levels is due to wind effects.

As of Tuesday 12 January 2021, the weekly releases were approximately 12.2 GL. Gate openings at the barrages during the week can be seen in Table 2.

*Table 2: Number of barrage gates open each day for the week ending Tuesday 12 January 2021*

	6 Jan 2021	7 Jan 2021	8 Jan 2021	9 Jan 2021	10 Jan 2021	11 Jan 2021	12 Jan 2021	Objective of releases
<b>Goolwa</b>	3	3	3→1	1	1	1	1	Provide an optimal salinity gradient to promote black bream spawning & recruitment & support diadromous fish migration.
<b>Mundoo</b>	0	0	0	0	0	0	0	
<b>Boundary Creek</b>	0	0	0	0	0	0	0	
<b>Ewe Island</b>	0	0	0	0	0	0	0	
<b>Tauwitchere</b>	1	1	1	1	1	1	1	Push fresher water down the Coorong to lower salinity levels.
<b>Fishways</b>	Fishways at all barrages and at Hunters Creek (11 in total) were open during the entire week							Provide for fish passage between the Coorong and Lower Lakes.

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.

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

## HEALTHY COORONG, HEALTHY BASIN

Following a successful Healthy Coorong, Healthy Basin Science Forum in February 2020 at Meningie, the [Project Coorong](#) team are holding a World Wetlands Day Science Forum in Goolwa on Tuesday 2 February 2021.

[World Wetlands Day](#) is celebrated each year to raise global awareness about the vital role of wetlands for people and our planet. This day also marks the 50th Anniversary of the Ramsar Convention with the adoption of the Convention on Wetlands of International Importance happening in Ramsar, Iran, on 2 February 1971.



This full day event will focus on “Science Informing Action” with themes to include First Nations knowledge; Coorong water quality and aquatic plants; Coorong fish, waterbirds and invertebrates; Lower Lakes ecology and climate change, hydrological trends and infrastructure investigations.

Venue capacity will be strictly limited and formal registration will be required through [Eventbrite](#). While the intention is that the forum will be held face-to-face, COVID-19 restrictions may require the event to shift to an online format at short notice.

In December 2020 the Healthy Coorong, Healthy Basin program also published its latest update which outlines recent activities and achievements, and highlights how the community continues to help to inform and shape the program. You can find the update [here](#).

If you have any questions on the Science Forum or update please contact [project.coorong@sa.gov.au](mailto:project.coorong@sa.gov.au)

## RIVER VESSEL WASTE DISPOSAL STATIONS

### Loxton

The Loxton River Vessel Waste Disposal Station upgrade is now complete and available for public use. If you need any other help or advice with regard to this station, please call Mr Hayden Smith on 0457 820 553.

### Lock 3

The Lock 3 River Vessel Waste Disposal Station is currently out of commission due to an infrastructure failure. This means that boat operators who need to empty sewage tanks will need to use the nearest alternative waste facility located at Waikerie. Alternatively boat operators who require an urgent pump-out in the Kingston-on-Murray area can contact Mr Hayden Smith on 0457 820 553 for help or advice. Normal boat waste (domestic or galley waste) can still be deposited at the Lock 3 facility at the present time.

## NAVIGATION ISSUES

Sandbars in the vicinity of the Murray Mouth may cause navigation hazards. Mariners 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 Mariners should be aware of the risk of submerged navigation hazards and should regularly check river depth.

## QUARTERLY COMPLIANCE – QUARTER 3 ENDS ON 31 MARCH 2021

All South Australian River Murray water users are reminded that the Quarter 3 accounting period for 2020-21 ends on March 2021. Compliance action will be taken if any water is taken in excess of the allocation available on a water account at the end of the quarter. For a water trade to be considered for Quarter 3, all paperwork must be lodged with the Department for Environment and Water before 5:00 pm on 31 March 2021.

In order to comply with the *Landscape South Australia Act 2019* by remaining within your available water allocation, you can:

- Stop taking water when you reach your allocation limit;
- Before you reach your allocation limit, trade water allocation onto your water account to cover your additional water needs; or
- Investigate whether water efficiency measures could be implemented for your property to decrease your demand for water.

To assist you to monitor your water use and remain within the water allocation available on your water account, you can submit an online meter reading at any time and elect to receive a water usage advice (similar to a bank statement) by email or SMS: <https://forms.business.gov.au/smartforms/sa-dfw/meter-reading-form/>.

For more information please [visit DEW's website](#), or contact the Berri water licensing office via telephone: (08) 8595 2053 or email: [DEW.waterlicensingberri@sa.gov.au](mailto:DEW.waterlicensingberri@sa.gov.au).

## RIVER MURRAY WATER LEVELS

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

### River Murray Water Levels

Location	River km	Normal Pool Level (m AHD)	Current Level 13/01/2021 (m AHD)	2016 High Water Level (m AHD)
Lock 10	825.0	30.80	30.81	32.72
Lock 9 Kulnine	764.8	27.40	27.35	28.85
Lock 8 Wangumma	725.7	24.60	24.12	26.85
Lock 7 Rufus River	696.6	22.10	21.62	24.97
Lock 6 Murtho	619.8	19.25	19.26	20.19
Renmark	567.4	-	16.33	17.44
Lock 5	562.4	16.30	16.33	17.05
Lyrup	537.8	-	13.23	15.80
Berri	525.9	-	13.19	15.21
Lock 4	516.2	13.20	13.19	14.73
Loxton	489.9	-	10.06	13.54
Cobdogla	446.9	-	-	11.59
Lock 3	431.4	9.80	9.80	10.98
Overland Corner	425.9	-	6.27	10.41
Waikerie	383.6	-	6.24	9.20
Lock 2	362.1	6.10	6.13	8.32
Cadell	332.6	-	3.33	7.01
Morgan	321.7	-	3.28	6.38
Lock 1 Blanchetown	274.2	3.20	3.22	4.46
Swan Reach	245.0	0.75	0.80	3.11
Mannum PS	149.8	0.75	0.82	1.33
Murray Bridge	115.3	0.75	0.74	1.04

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

## FURTHER INFORMATION

The WaterConnect website is South Australia's comprehensive water information portal. For real-time data (like salinity, water levels) go to the following page: [WaterConnect Real-time water data](#).

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

- [Water allocation and carryover announcements](#)
- [River Murray real-time water data](#)
- [SA Water River Murray info - levels, flows etc.](#)
- [Murray-Darling Basin real-time water data](#)

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

The Department for Environment and Water has published a series of inundation maps for the River Murray. They are available at [River Murray Inundation Maps](#).

Information on the management of acid drainage water in the Lower River Murray can be accessed at: [Managing Acid Sulfate Soils Research Project](#)

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:

- [Victoria rainfall and river conditions](#)
- [NSW rainfall and river conditions](#)

Information provided by the Commonwealth Environmental Water Office can be accessed at [CEWH Environmental Watering](#).

Information on The Living Murray can be accessed at [MDBA TLM](#).

Chowilla Floodplain Icon Site management [Chowilla-floodplain](#).

Department for Environment and Water [Home page](#).

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 [Boating and marine](#).

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