

River Murray Flow Report and Water Resources Update



Report #22/2021

Issued 10:00 am 11 June 2021

This supersedes the previous flow report issued by the Department for Environment and Water (DEW) on 4 June 2021. The next flow report will be provided on Friday 18 June 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.

QUARTERLY COMPLIANCE – QUARTER 4 ENDS ON 30 JUNE 2021

All South Australian River Murray water users are reminded that the Quarter 4 accounting period for 2020-21 ends on 30 June 2021. A penalty charge will apply for any water taken in excess of an available allocation for Quarter 4. Penalty rates can be found on [DEW's website](#).

For a water trade to be considered for Quarter 4, all paperwork must be lodged with the Department for Environment and Water before 5:00 pm on 30 June 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.

WATER RESOURCES UPDATE

During May 2021, the total River Murray System inflow was approximately 208.4 GL, which is below the May long-term average of 443 GL. During May 2021, the total Menindee Lakes inflow was approximately 576 GL, which is well above the May long-term average of 201 GL.

WaterNSW has advised that total inflows from the Upper Darling River and tributaries as measured at Wilcannia from late March is approximately 1 077 GL. The flow peaked at Wilcannia on 18 May 2021 at approximately 27 700 ML/day and the recession will now occur over the coming weeks. WaterNSW is monitoring the situation closely and more information can be found [here](#).

The flow to South Australia during May 2021 was approximately 127 GL, which is about 36 % of the May long-term average of 351 GL. The flow comprised of Entitlement Flow (including environmental water on SA licence), environmental water and trades.

MANAGEMENT OF SOUTH AUSTRALIA'S DEFERRED WATER

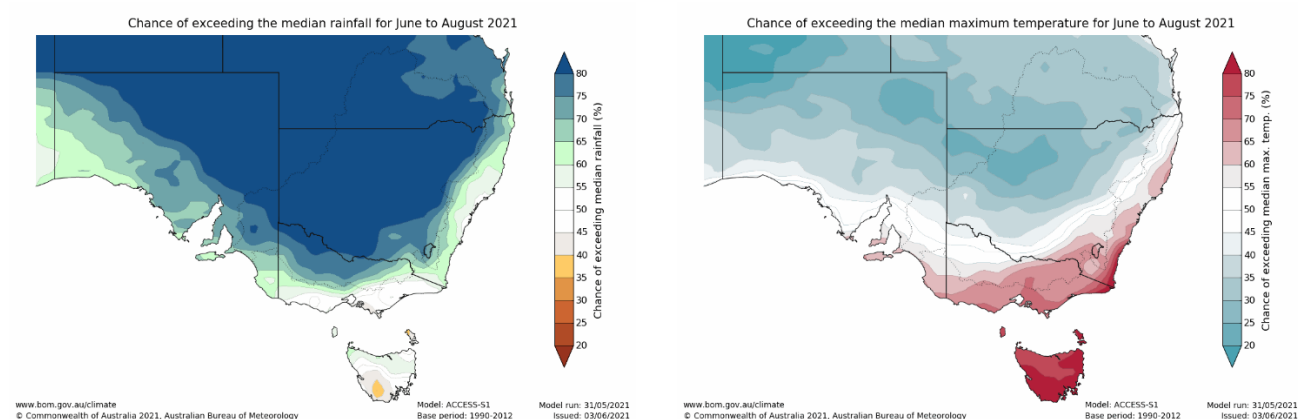
The Murray-Darling Basin Authority confirmed that on 1 June 2021 South Australia had 386.3 GL of deferred water held in storage in the Murray-Darling Basin. The following table identifies the storage in which it is held and the purpose. Volumes stored are adjusted for net evaporation losses and spills until delivered to South Australia.

At 1 June 2021				
Purpose	Lake Victoria (GL)	Hume (GL)	Dartmouth (GL)	Total (GL)
*CHWN	9.5	40	236.1	285.6
Private Carryover	0	0	100.7	100.7
Total	9.5	0.0	336.8	386.3

*Critical Human Water Needs (CHWN)

RAINFALL AND TEMPERATURE OUTLOOK

The latest Bureau of Meteorology weather outlook forecasts that rainfall over winter is likely to be above average for NSW, SA and northern parts of Victoria. Temperatures are likely to be average to above average in the Southern Connected Basin.



The El Niño-Southern Oscillation (ENSO) is currently at neutral levels and it is expected to stay at this level until at least spring. The Indian Ocean Dipole and Southern Annular Mode are also currently at neutral levels.

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)	9/06/2021 (GL)	9/06/2020 (GL)	Long-term average (end of June) (GL)
Dartmouth	3 856	2 473 (64%)	1 945 (50%)	
Hume	3 007	1 411 (47%)	810 (27%)	
Lake Victoria	677	312 (46%)	460 (68%)	
Menindee Lakes	*1 731	1 081 (62%)	477 (27%)	
TOTAL	9 271	5 277 (57%)	3 692 (40%)	6 173 (67%)

*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 June 2020 to June 2021. The dashed-lines identify the Basin Plan (BP) thresholds for the corresponding colour coded location.

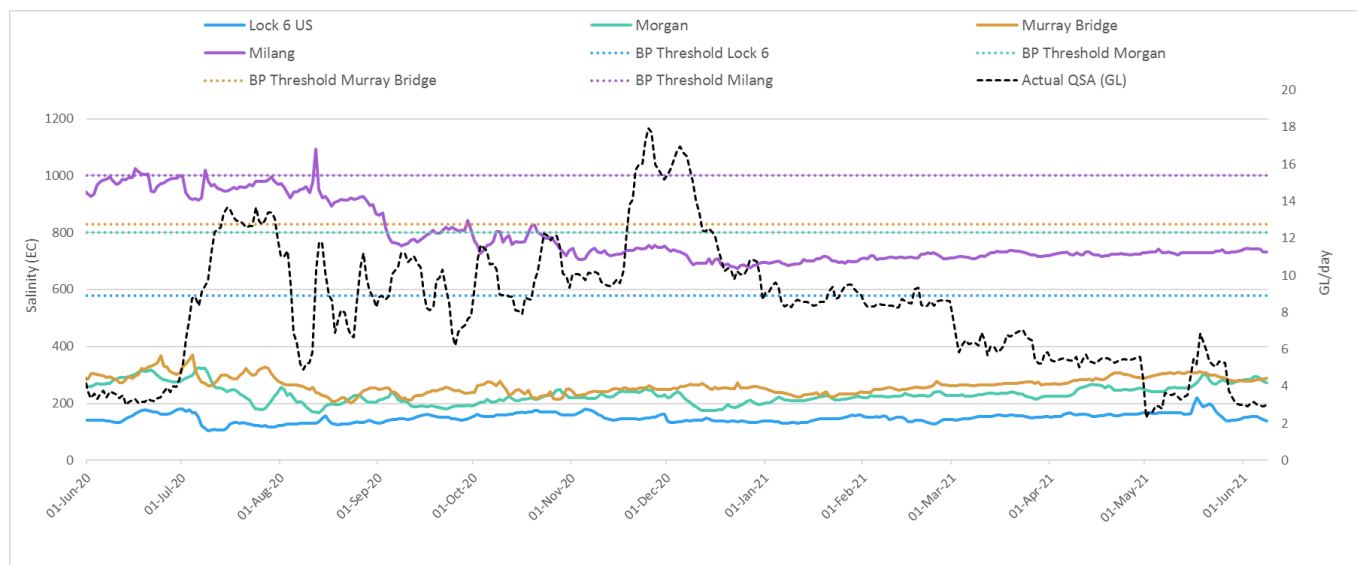


Figure 1: SA River Murray daily average salinity

FLOW OUTLOOK

The flow at the South Australian border is approximately 3 GL/day and will remain around 3 GL/day over the coming week. It comprises:

- full June Entitlement Flow (3 GL/day);
- plus water for the environment (see below *Environmental News*); and
- interstate trade adjustments.

The flow over Lock 1 is approximately 2.3 GL/day and will remain around 2.3 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:

- provide for barrage releases to the Coorong to support a productive, food-rich environment for fish and birds;
- provide habitat for threatened small-bodied native fish species in the Lower Lakes;
- maintain good connections from the Coorong to the upstream areas of the River Murray, and its tributaries, to enable fish movement and migration;
- maintain healthy water quality, salinity and water levels in the River Murray Channel and the Lower Lakes and Coorong, including through targeted releases at the barrages when weather conditions are best suited to push water down the Coorong;
- remove excess salt from the River Murray;

- deliver a range of outcomes to wetlands in the Riverland including at Chowilla and via arrangements with the Murraylands and Riverland Landscape Board, Australian Landscape Trust, Renmark Irrigation Trust and Accolade Wines Australia (see more information [here](#)).

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 6 June 2021, a total of approximately 7 278 449 cubic metres of sand had been removed by dredging operations.

Both dredges are currently operating between the Goolwa and Tauwitschere 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 0.63 m AHD and Lake Albert is approximately 0.6 m AHD. The difference is due to wind effects.

As of Tuesday 8 June 2021, the weekly releases were approximately 7 GL. Gate openings at the barrages during the week can be seen in Table 1.

Table 2: Number of barrage gates open each day for the week ending Tuesday 8 June 2021

Barrage (total number of gates)	2 June 2021	3 June 2021	4 June 2021	5 June 2021	6 June 2021	7 June 2021	8 June 2021	Objective of releases
Goolwa (120)	1*	1*	1*	1*	1*	1*	1*→0	Maintain connectivity between the River Murray channel through to the Murray Mouth to support fish migration.
Mundoo (25)	0	0	0	0	0	0	0	
Boundary Creek (5)	0	0	0	0	0	0	0	
Ewe Island (110)	0	0	0	0	0	0	0	
Tauwitschere (319)	1*	1*→2*	2*	2*	2*	2*→14*	14*→2*	Releases will help push fresher water down the Coorong to assist lowering salinity levels and provide habitat diversity.
Fishways	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.

**Automated gate utilised to maximise delivery to Coorong and avoid reverse flows.*

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.

COMMUNITY INPUT SOUGHT ON CONSTRAINTS MEASURES

DEWs Constraints Measures team will be out and about in the Riverland and mid-Murray over the next two months talking to the community about their experience with high flows and how they impact the local river system.

For more information on the Constraints program or to provide feedback and intelligence on high flows, visit: <https://www.environment.sa.gov.au/topics/river-murray-new/basin-plan/constraints-measures-project>

Community Open House Sessions will be held on the following dates:

- Wednesday 16 June 2021
 - Loxton Sporting Precinct, 12 pm-3 pm
- Thursday 17 June 2021
 - Waikerie Hotel, 5 pm-7 pm
- Tuesday 22 June 2021
 - Renmark Hotel, 3:30 pm-7 pm

For more information, contact Strategic Communications and Engagement Leader Jon Ortlieb on 0429 349 788 or via email jon.ortlieb@sa.gov.au

RIVER VESSEL WASTE DISPOSAL STATIONS

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.

Lock 3

Minor issues have been encountered with the downstream gates at Lock 3. Mariners are advised that lockage times may be longer than normal.

PLANNING FOR FLOODPLAIN OPERATIONS & WEIR POOL MANIPULATION

Planning is progressing for delivery of water for the environment for 2021-22 including through the potential operation of environmental regulators at Chowilla, Pike and Katarapko floodplains and weir raising at Locks 6, 5, 4 and 2.

Operations are being planned during the coming winter, spring and early summer months in order to achieve a range of benefits for floodplain and wetland vegetation and wildlife.

The potential operations at the three floodplains and weirs will depend on river conditions (flow and water quality), availability of water for the environment and approvals.

The scale of any operations to be undertaken is also dependant on the flow conditions. If moderate River Murray flows occur only low level operations would be considered at Chowilla, Pike and Katarapko. However if there are improvements in flows then the Pike and Katarapko floodplain regulators could be operated to slightly higher levels than 2020 to achieve potential medium level floodplain watering. At Chowilla, if River flows increase to around 20 000 ML/day or more, the regulator and Lock 6 may be operated to achieve medium to high level floodplain watering. Further updates will be provided as the planning continues.

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 9/06/2021 (m AHD)	2016 High Water Level (m AHD)
Lock 10	825.0	30.80	30.80	32.72
Lock 9 Kulnine	764.8	27.40	27.38	28.85
Lock 8 Wangumma	725.7	24.60	24.27	26.85
Lock 7 Rufus River	696.6	22.10	22.70	24.97
Lock 6 Murtho	619.8	19.25	19.19	20.19
Renmark	567.4	-	16.32	17.44
Lock 5	562.4	16.30	16.31	17.05
Lyrup	537.8	-	13.27	15.80
Berri	525.9	-	13.23	15.21
Lock 4	516.2	13.20	13.23	14.73
Loxton	489.9	-	10.02	13.54
Cobdogla	446.9	-	-	11.59
Lock 3	431.4	9.80	9.85	10.98
Overland Corner	425.9	-	6.28	10.41
Waikerie	383.6	-	6.26	9.20
Lock 2	362.1	6.10	6.18	8.32
Cadell	332.6	-	3.25	7.01
Morgan	321.7	-	3.15	6.38
Lock 1 Blanchetown	274.2	3.20	3.14	4.46
Swan Reach	245.0	0.75	0.66	3.11
Mannum PS	149.8	0.75	0.69	1.33
Murray Bridge	115.3	0.75	0.65	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](#).

[Katarapko Floodplain](#) site management

[Pike Floodplain](#) site management

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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