

River Murray Flow Report and Water Resources Update



Report #14/2021

Issued 10:00 am 16 April 2021

This supersedes the previous flow report issued by the Department for Environment and Water (DEW) on 9 April 2021. The next flow report will be provided on Friday 23 April 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 March 2021, the total River Murray System inflow was approximately 140 GL, which is below the March long-term average of 221 GL. During March 2021, the total Menindee Lakes inflow was approximately 7 GL, which is well below the March long-term average of 187 GL.

WaterNSW has advised that forecast inflows to Menindee Lakes from the current flows in the Upper Darling River is expected to be approximately 400 – 600 GL. However, there is significant uncertainty in the forecast inflows due to flow breakout onto the flood plains in the Barwon-Darling system. WaterNSW is monitoring the situation closely and more information can be found [here](#).

The flow to South Australia during March 2021 was approximately 196 GL, which is about 68 % of the March long-term average of 286 GL. The flow comprised of Entitlement Flow (including environmental water on SA licence), environmental water and trades.

MANAGEMENT OF SOUTH AUSTRALIA'S DEFERRED WATER

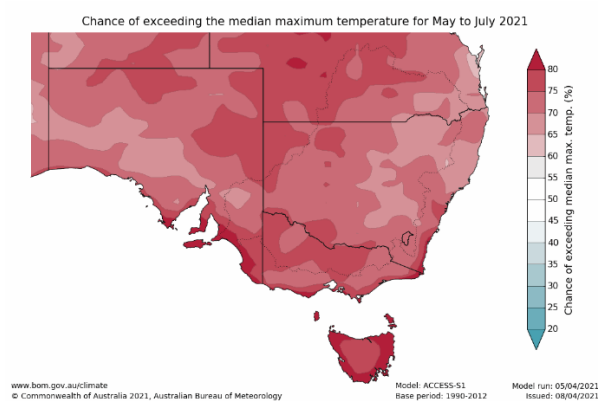
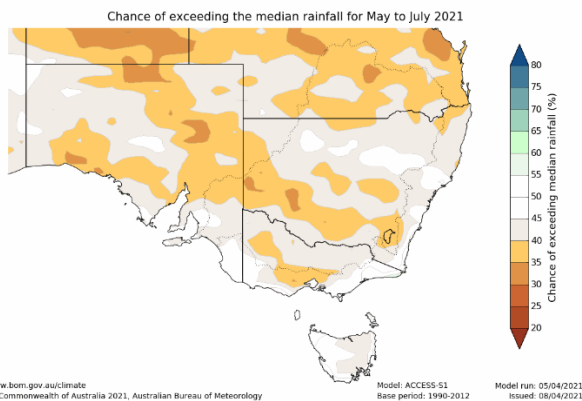
The Murray-Darling Basin Authority confirmed that on 1 April 2021 South Australia had 336.9 GL of deferred water held in storage in the Murray-Darling Basin. The following table identifies the storage in which it is held and the purpose. Volumes stored are adjusted for net evaporation losses and spills until delivered to South Australia.

At 1 April 2021				
Purpose	Lake Victoria (GL)	Hume (GL)	Dartmouth (GL)	Total (GL)
*CHWN	23.0	0.0	236.2	259.2
Private Carryover	0.0	0.0	100.7	100.7
Total	23.0	0.0	336.9	359.9

*Critical Human Water Needs (CHWN)

RAINFALL AND TEMPERATURE OUTLOOK

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



The El Niño-Southern Oscillation (ENSO) has returned to neutral levels, as are most other climate drivers.

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)	14/04/2021 (GL)	14/04/2020 (GL)	Long-term average (end of April) (GL)
Dartmouth	3 856	2 454 (64%)	1 811 (31%)	
Hume	3 007	1 369 (46%)	404 (13%)	
Lake Victoria	677	203 (30%)	231 (34%)	
Menindee Lakes	*1 731	327 (19%)	278 (16%)	
TOTAL	9 271	4 353 (47%)	2 724 (29%)	

*Menindee Lakes can be surcharged to 2 015 GL

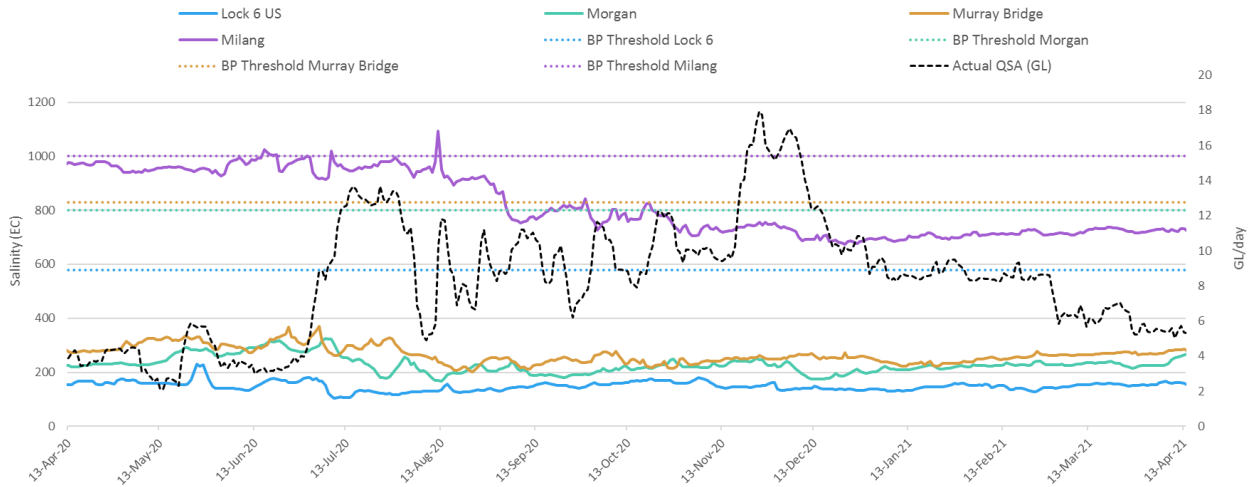
WATER QUALITY - Salinity

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 April 2020 to April 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 3 METER READING DUE BY 30 APRIL 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 3 accounting period for 2020-21 (which ended on 31 March 2021) must be recorded within the first fourteen days of April 2021 and submitted to the department by 30 April 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.

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 5.4 GL/day and will remain around 5.4 GL/day over the coming week. It comprises:

- full April Entitlement Flow (4.5 GL/day);
- plus water for the environment (see below *Environmental News*); and
- interstate trade adjustments.

The flow over Lock 1 is approximately 3 GL/day and will remain around 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;

- remove excess salt from the River Murray;
- deliver a range of outcomes to wetlands in the Riverland via arrangements with the Murraylands and Riverland Landscape Board, Australian Landscape Trust and Nature Foundation (see more information [here](#)).

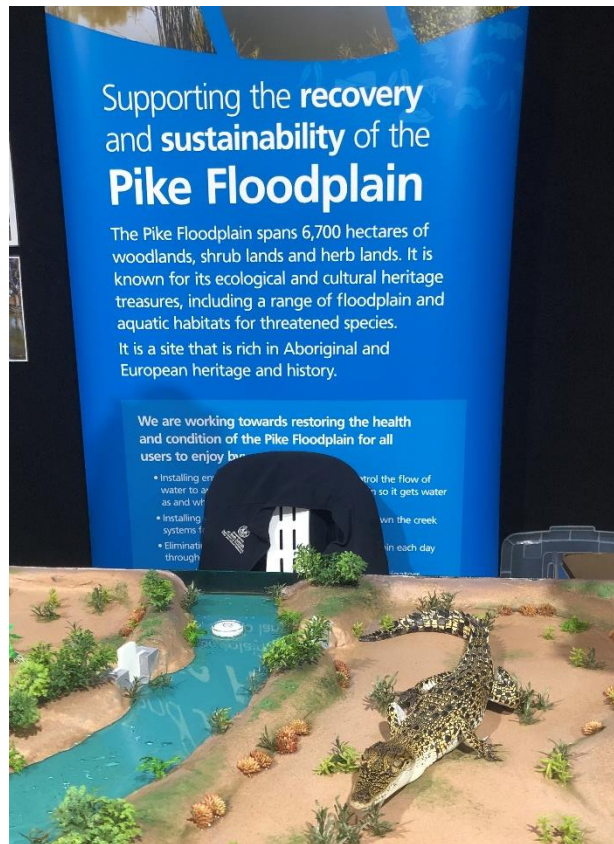


Figure 2: For those in attendance at the Karoonda Farm Fair last week it is important to note that supporting the recovery and sustainability of the Pike Floodplain does not mean introducing crocodiles to the landscape (Thanks to Animals Anonymous for the snappy visitor).

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 11 April 2021, a total of approximately 7 053 924 cubic metres of sand had been removed by dredging operations.

Both dredges are currently operating between the Goolwa and Tauwitche 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 0.56 m AHD and Lake Albert is approximately 0.67 m AHD. The difference is due to wind effects.

As of Tuesday 13 April 2021, the weekly releases were approximately 6.1 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 13 April 2021

	7 April 2021	8 April 2021	9 April 2021	10 April 2021	11 April 2021	12 April 2021	13 April 2021	Objective of releases
Goolwa	1	1	1→0	0	0	0→1	1	Maintain connectivity between the River Murray channel through to the Murray Mouth to support fish migration.
Mundoo	0	0	0	0	0	0	0	
Boundary Creek	1	1	1→0	0	0	0→1	1	Provide an attractant flow alongside the fishway to aid fish migration
Ewe Island	0	0	0	0	0	0	0	
Tauwitchere	5	5→2	2→0	0	0	0→2	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.

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.

COORONG BIO BLITZ

[Registrations are now open](#) for the Department's inaugural Coorong BioBlitz on Saturday 22 May 2021.

Held at Parnka Point, activities for the day will include:

- Sampling and sorting macroinvertebrates;
- Collecting sediments and testing water quality;
- Understanding the role of aquatic plants and how they help the Coorong; and
- Learning which birds call the Coorong home, when and why.

Places are limited and those interested are encouraged to [register](#) early to avoid disappointment.



Figure 3: Sampling mudflats near the Goolwa Barrage (Healthy Coorong, Healthy Basin)

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.

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 14/03/2021 (m AHD)	2016 High Water Level (m AHD)
Lock 10	825.0	30.80	30.79	32.72
Lock 9 Kulnine	764.8	27.40	27.31	28.85
Lock 8 Wangumma	725.7	24.60	24.20	26.85
Lock 7 Rufus River	696.6	22.10	22.06	24.97
Lock 6 Murtho	619.8	19.25	19.28	20.19
Renmark	567.4	-	16.32	17.44
Lock 5	562.4	16.30	16.31	17.05
Lyrup	537.8	-	13.25	15.80
Berri	525.9	-	13.22	15.21
Lock 4	516.2	13.20	13.22	14.73
Loxton	489.9	-	10.03	13.54
Cobdogla	446.9	-	-	11.59
Lock 3	431.4	9.80	9.84	10.98
Overland Corner	425.9	-	6.23	10.41
Waikerie	383.6	-	6.22	9.20
Lock 2	362.1	6.10	6.13	8.32
Cadell	332.6	-	3.30	7.01
Morgan	321.7	-	3.23	6.38
Lock 1 Blanchetown	274.2	3.20	3.22	4.46
Swan Reach	245.0	0.75	0.44	3.11
Mannum PS	149.8	0.75	0.52	1.33
Murray Bridge	115.3	0.75	0.48	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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