

RIVER MURRAY FLOW REPORT

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Report #31/2016

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This supersedes the previous flow report issued by the Department of Environment, Water and Natural Resources (DEWNR) on 12 August 2016. The next flow report will be provided on Friday, 26 August 2016.

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 ALLOCATIONS AND CARRYOVER

South Australian River Murray water access entitlement holders (Class 3a, 3b, 4, 7 and 8) will be provided with a 100 per cent water allocation in 2016-17.

Eligible water access entitlement holders (Class 3a, 3b, 4 and 7) will also have access to private carryover. They will receive a letter and updated water account with their carryover volume endorsed. It is expected that this advice will be received in October 2016.

MANAGEMENT OF SOUTH AUSTRALIA'S DEFERRED WATER

The Murray-Darling Basin Authority confirmed that on 1 August 2016, South Australia had 151.5 GL of deferred water held in storage. The table below identifies the storage in which it is held and the purpose.

At 1 August 2016				
Purpose	Lake Victoria (GL)	Hume (GL)	Dartmouth (GL)	Total (GL)
*CHWN	0.0	9.8	82.0	91.8
Private Carryover	0.0	0.0	59.7	59.7
Total	0.0	9.8	141.7	151.5

*Critical Human Water Needs (CHWN)

Volumes stored are adjusted for net evaporation losses and spills until delivered to South Australia.

The water held in Hume Reservoir has an increasing risk of spill. Water held in Dartmouth Reservoir currently has a low risk of spill.

Opportunities to defer and store water are considered on the basis of how Entitlement Flow is managed, plus operational flow objectives for water quality and weather conditions.

FLOW OUTLOOK

South Australia is experiencing a unique situation where it is currently expecting to receive less than its Entitlement Flow for the 2016-17 water year, but receiving an unregulated flow event. The unregulated flow event is a result of rainfall and inflows to the River Murray System below Hume and Dartmouth Reservoirs (from sources such as the Murrumbidgee and Ovens Rivers), therefore the only opportunity to capture and store (regulate) this water is in Lake Victoria. Lake Victoria is now effectively full so the additional water will flow into South Australia as an unregulated flow (meaning it cannot be captured in a Murray-Darling Basin Authority controlled storage and allocated for use at a later time).

The flow at the South Australian border is approximately 30 GL/day and will decrease to around 29 GL/day during the coming week. It comprises the normal August Entitlement Flow of 4 GL/day plus environmental water and unregulated flow.



The flow over Lock 1 is approximately 28.5 GL/day and will decrease to around 28 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. They 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.

ENVIRONMENTAL WATER

During August 2016, the Commonwealth Environmental Water Holder (CEWH) and the Murray-Darling Basin Authority's *The Living Murray* are expected to provide up to 2 GL of environmental water 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.

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. Dredges are operating in the Tauwichee and Goolwa Channels. At 14 August 2016, approximately 1 544 100 cubic metres of sand had been removed. The dredging operations combined with recent substantial barrage releases have improved conditions at the Murray Mouth.

Mariners are advised that there are 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 and that Exclusion Zones established around the dredging operations remain in place to ensure public safety. For more information refer to the Notice to Mariners at <http://dpti.sa.gov.au/news/?a=247918>

There is also a partial park closure in place for the northern tip of the Coorong National Park. For more information refer to the following http://www.environment.sa.gov.au/parks/Safety/Park_closures/141219-coorong-national-park. Signage has been installed at appropriate locations advising of Exclusion Zones.

BARRAGE OPERATIONS AND WATER LEVELS IN THE LOWER LAKES

The water level in Lake Alexandrina is approximately 0.73 m AHD and in Lake Albert approximately 0.77 m AHD. The difference in water levels is due to wind effects.

Due to favourable weather conditions and the unregulated flow event, water is being released from the barrages into the Coorong. Releases are being prioritised at Goolwa, Tauwichee and Ewe Island barrages. The primary aims of the releases are to reduce salinity levels in the Lower Lakes and scour sand from the Murray Mouth. Fishways are operational to provide fish passage between Lake Alexandrina and the Coorong.

During the week ending 16 August 2016 total barrage releases were approximately 92 GL.

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 South Australian Government agencies the Murray-Darling Basin Authority and Commonwealth Environmental Water Office.

WEIR POOL OPERATIONS

The Lock 1 weir pool remains approximately 0.1 m below the normal pool level of 3.2 m AHD to enable engineering investigations to be undertaken at the weir.

On 15 August 2016, the Lock 2 and Lock 5 weir pools commenced being raised above their normal operating range as defined in the table below.

Weir	Normal Pool Level (NPL) m AHD	Normal Operating Range m AHD
Lock 5 - Renmark	16.30	16.22 - 16.43
Lock 2 – Waikerie	6.10	6.02 - 6.40

The Lock 2 weir pool is being raised by up to 0.75 m above normal pool level (NPL) and the Lock 5 weir pool by up to 0.5 m above NPL, during spring (August to October). This will raise Lock 2 to 6.85 m AHD and Lock 5 to 16.80 m AHD. The weir pool raisings are using unregulated flow and environmental water provided by the CEWH.

Weir pool manipulations aim to reinstate some of the natural variability of water levels in the River Murray system, which has been lost due to river regulation. The manipulations will assist to improve lateral connectivity, health, resilience and biodiversity of the river channel, floodplain and wetlands. It is intended that weir pool manipulations will become a routine part of river operations.

CHOWILLA WATERING

Operations to further test the Chowilla Regulator and ancillary structures commenced on 10 August 2016. Testing involves progressively placing stop logs between the concrete piers at the Chowilla Regulator to raise the water level behind the structure. The event is targeting an initial water level at the Chowilla Regulator of up to 19.4 m AHD (3.1 m above NPL). However, if the flow to South Australia remains around the current rate for an extended period, then the target water level may be increased up to 19.75 m AHD.

As water levels are raised behind the Chowilla Regulator, the Lock 6 water level will also be progressively raised by up to 50 cm above normal pool level. The raising of Lock 6 water level is planned to commence next week at a rate of approximately 5 cm/day. Raising the Lock 6 water level is important to manage water quality and protect important habitat for native fish. This event will enable further testing of the environmental watering structures and provide inundation across the floodplain to improve the condition of floodplain vegetation and habitat for wildlife.

MODERNISATION OF WAIKERIE RIVER VESSEL WASTE DISPOSAL STATION

Modernisation of the Waikerie River Vessel Waste Disposal Station commenced on 25 July 2016. The facility will be closed until 31 October 2016. Alternative temporary arrangements for pumping waste from vessels have been established. The temporary pump-out service is available 1 kilometre downstream of the Waikerie River Vessel Waste Disposal Station. Users will need to call Mr Mick Kemp on 0428 861 777 to arrange a suitable time between 8 am and 4 pm. Please note that at least 3 hours notice will be essential.

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 watercraft users should be aware of the risk of submerged navigation hazards, and should regularly check river depth.

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 17 August 2016

Location	River km	Normal Pool Level	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	30.82	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	24.93	27.60	27.19	26.79
Lock 7 Rufus River	696.6	22.10	22.93	25.70	25.24	24.92
Lock 6 Murtho	619.8	19.25	19.31	21.03	20.50	20.11
Renmark	567.4	-	-	18.54	18.04	17.38
Lock 5	562.4	16.30	16.48	18.07	17.50	17.05
Lyrup	537.8	-	13.53	16.85	16.26	15.68
Berri	525.9	-	13.37	15.81	15.74	15.16
Lock 4	516.2	13.20	13.27	15.65	15.08	14.75
Loxton	489.9	-	11.08	15.05	14.12	13.42
Cobdogla	446.9	-	-	13.44	12.38	11.52
Lock 3	431.4	9.80	9.83	13.16	12.02	10.93
Overland Corner	425.9	-	7.42	12.73	11.58	10.27
Waikerie	383.6	-		11.26	10.24	9.06
Lock 2	362.1	6.10	6.42	10.28	9.30	8.25
Cadell	332.6	-	3.92	9.17	8.08	6.82
Morgan	321.7	-	3.68	8.85	7.65	6.20
Lock 1 Blanchetown	274.2	3.20	3.07	6.81	5.38	4.42
Swan Reach	245.0	0.75	1.05	6.06	4.51	3.09
Mannum PS	149.8	0.75	0.78	3.15	1.90	1.46
Murray Bridge	115.3	0.75	0.71	2.06	1.26	1.21

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

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FURTHER INFORMATION

The WaterConnect website is South Australia's comprehensive water information portal and can be accessed at <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
www.waterconnect.sa.gov.au/Systems/RTWD/Pages/Default.aspx
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

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

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

Information provided by the Commonwealth Environmental Water Office can be accessed at 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

Chowilla Floodplain Icon Site management www.environment.sa.gov.au/Chowilla-floodplain

Department of Environment, Water and Natural Resources www.environment.sa.gov.au/Home

Information provided by the Department of Transport, Energy 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

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