RIVER MURRAY FLOW REPORT

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Report #43/2014
Issued 10:00 am 24 October 2014

This supersedes the previous flow report issued by the Department of Environment, Water and Natural Resources (DEWNR) on 17 October 2014. The next flow report will be provided on Friday, 31 October 2014.

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 9.5 GL/day and will remain at this rate during the coming week, depending on upstream river and storage operations, extractions, and rainfall events. The flow comprises the normal October Entitlement Flow of 5.5 GL/day plus environmental water from the Murray-Daring Basin Authority's *The Living Murray* initiative. The environmental water is being delivered to test the Chowilla environmental regulator. South Australia is working with the Commonwealth Environmental Water Holder to seek opportunities to deliver environmental water during spring and summer.

The flow over Lock 1 is approximately 6.3 GL/day and will remain around this rate 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. Flow forecasts are dependent on predictions made by the Bureau of Meteorology, Murray-Darling Basin Authority and water management agencies in upstream jurisdictions. They will be revised as new information becomes available.

MANAGEMENT OF SOUTH AUSTRALIA'S DEFERRED WATER

The Murray-Darling Basin Authority advised that on 1 October 2014, South Australia had 42.9 GL of water deferred and stored in Dartmouth (29.6 GL for critical human water needs and 13.3 GL for private carryover use in future dry years). Volumes stored are adjusted for net evaporation losses until delivered to South Australia. South Australia is not proposing to defer any water while Lake Victoria is near capacity.

DEWNR is investigating opportunities to defer additional Entitlement Flow during 2014-15.

MURRAY MOUTH

A continuous flow of at least 2 GL/day is required from the barrages to minimise sand build-up in the Murray Mouth. Flows of this magnitude reduce the rate that sand is deposited in the Murray Mouth through tidal activity, wave energy, and storms. Without unregulated flow or large volumes of environmental water, South Australia does not receive enough Entitlement Flow after Christmas each year to maintain the minimum target barrage release flow of 2 GL/day.

Periods of low River Murray flow have presented management challenges in the past and resulted in continuous dredging operations from 2002 to 2010. The physical condition and openness of the Murray Mouth has deteriorated rapidly since early 2014. Unregulated flow conditions ceased in October 2013, which meant less water was available for barrage releases. Recent monitoring of Murray Mouth sand volume and bathymetry (a measurement of depth) confirms that the condition of the Mouth is approaching the condition experienced in 2002 when dredging commenced. DEWNR, SA Water and the Murray-Darling Basin Authority have commenced planning and approvals to prepare for the possibility of dredging, should it be required.

WEIR POOL OPERATIONS

Raising the water levels in the Lock 1 and 2 weir pools up to 0.2 m above the maximum normal operating range (0.5 m above full supply level) commenced on Wednesday 15 October 2014. The first phase, raising the water levels 0.10 m above the maximum normal operating range was completed on 18 October 2014. An assessment of the action is now being undertaken before raising the water levels an additional 0.10 m (second phase). It is anticipated that the second phase will commence on Monday, 27 October 2014. Raising the water levels in this way is being done to mimic historic natural water level variability, which will promote a range of benefits, specifically restoration of ecological function. The weir pool raising is using environmental water.

If you would like to be kept informed on how the project is tracking please send your name, address and email details to: RiverineRecovery@sa.gov.au
Alternatively, you may call the Contact Officer, Ms Wendy Georganas on (08) 8463 3918.

CHOWILLA OPERATIONS

Testing of the new environmental water management infrastructure on the Chowilla Floodplain commenced on 8 September 2014 and will continue until early December 2014. Water levels have reached the target heights of 19.10 m AHD at the Chowilla regulator (raised by about 2.7 metres) and 19.65 m AHD at Lock 6, which is 0.40 m above normal pool level. These water levels are being held until 29 October 2014 to enable engineering checks and environmental monitoring to be undertaken. The testing is proceeding well with large numbers of waterbirds using the wetlands and significant frog breeding occurring. From 29 October 2014, water levels will slowly return to their normal levels. More information can be found at: www.environment.sa.gov.au/chowilla-floodplain

BARRAGE OPERATIONS AND WATER LEVELS IN THE LOWER LAKES

The water level in Lake Alexandrina is approximately 0.67 m AHD and approximately 0.70 m AHD in Lake Albert. When conditions are favourable, barrage releases will be prioritised through Tauwitchere and Goolwa, adjacent to the fishways, targeting a volume of approximately 2 GL/day. SA Water will continue to operate the barrages to minimise any negative salinity impacts from reverse flow events. All fishways are operating.

To see live salinity data at various locations on the River Murray and in the Lower Lakes, please refer to the following website: http://www.waterconnect.sa.gov.au/Systems/RTWD/SitePages/Home.aspx

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

WATER QUALITY – Blue-Green Algae

The New South Wales Government, through Sunraysia Algal Coordinating Committee, has issued a red alert warning for toxic blue-green algae on the Darling River at Tapio, where water is unsuitable for recreation, stock and domestic purposes.

Although this toxic blue-green algal bloom poses no threat to South Australia at this stage, the Murray-Darling Basin Authority and the relevant South Australian Government agencies are regularly monitoring the situation.

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 Lock 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.

When weir pools are being raised above their normal operating range, watercraft users need to be aware of the changed river conditions and exercise caution.

CONSTRUCTION WORKS

Yatco Lagoon

Work is underway to relocate pump offtakes from Yatco Lagoon and install new pump offtakes on the River Murray. The construction work is expected to be completed by early 2015.

Deep Creek (Pike Floodplain)

Work to replace the Deep Creek inlet structure and construct a vertical slot fishway is underway. Deep Creek flow will be maintained throughout the construction period via a temporary diversion pipe. Construction is expected to be completed by mid-December 2014. Traffic conditions on the Lock 5 Road will be changed during this period.

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 22 October 2014

Location	River km	Normal Pool Level	Current Level (m AHD)	1974 Flood Level (m AHD)	1993 Flood Level (m AHD)
Lock 10	825.0	30.80	30.90	33.81	33.32
Lock 9 Kulnine	764.8	27.40	27.54	30.03	29.44
Lock 8 Wangumma	725.7	24.60	25.41	27.60	27.19
Lock 7 Rufus River	696.6	22.10	22.15	25.70	25.24
Lock 6 Murtho	619.8	19.25	19.66	21.03	20.50
Renmark	567.4	-	-	18.54	18.04
Lock 5	562.4	16.30	16.40	18.07	17.50
Lyrup	537.8	-	13.30	16.85	16.26
Berri	525.9	-	13.22	15.81	15.74
Lock 4	516.2	13.20	13.20	15.65	15.08
Loxton	489.9	-	10.11	15.05	14.12
Cobdogla	446.9	-	9.90	13.44	12.38
Lock 3	431.4	9.80	9.83	13.16	12.02
Overland Corner	425.9	-	6.62	12.73	11.58
Waikerie	383.6	-	6.62	11.26	10.24
Lock 2	362.1	6.10	6.50	10.28	9.30
Cadell	332.6	-	3.71	9.17	8.08
Morgan	321.7	-	3.67	8.85	7.65
Lock 1 Blanchetown	274.2	3.20	3.61	6.81	5.38
Swan Reach	245.0	0.75	0.66	6.06	4.51
Mannum PS	149.8	0.75	0.74	3.15	1.90
Murray Bridge	115.3	0.75	0.61	2.06	1.26

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 and can be accessed at: http://www.waterconnect.sa.gov.au

Up-to-date River Murray 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:
http://www.waterconnect.sa.gov.au/Systems/RTWD/SitePages/Home.aspx
www.sawater.com.au/SAWater/Environment/TheRiverMurray/River+Murray+Levels.htm
http://www.mdba.gov.au/river-data/live-river-data

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

Information on the management of acid drainage water in the Lower River Murray can be accessed online at:
http://www.epa.sa.gov.au/environmental_info/water_quality/acid_sulfate_soils_ass/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: 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

Information on The Living Murray can be accessed at:
http://www.mdba.gov.au/about-basin/environmental-sites

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

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