

# RIVER MURRAY FLOW REPORT and WATER RESOURCES UPDATE

Public I2 A2

Report #24/2014

Issued 10:00 am 13 June 2014

**This supersedes the previous flow report issued by the Department of Environment, Water and Natural Resources (DEWNR) on 6 June 2014. The next flow report will be provided on Friday, 20 June 2014.**

In this report, for ease of representation, large volumes of water are expressed in gegalitres (GL), while smaller volumes are expressed in megalitres (ML). One GL is equal to 1 000 ML.

## WATER RESOURCES UPDATE

During May 2014, the total River Murray System inflow was approximately 220 GL, which is half the May long-term average of 440 GL. Inflow to Menindee Lakes (from the Darling System) during May 2014 was approximately 1 GL, which is well below the May long-term average of 200 GL.

The flow to South Australia during May 2014 was approximately 115 GL (compared to 165 GL in May 2013 and the May long-term average of 350 GL). The flow comprised the May Entitlement Flow of 93 GL plus approximately 20 GL of environmental water from the Commonwealth Environmental Water Holder and trade adjustments.

The flow to South Australia is currently around 3 000 ML/day, which is the June Entitlement Flow.

## STORAGE VOLUMES

### Murray-Darling Basin storage volumes at 11 June 2014 and 11 June 2013

Storage	Full Supply Volume (GL)	11/6/2014 (GL)	11/6/2013 (GL)	Long-term average (end of June)
Dartmouth	3 856	3 458 (90%)	3 618 (94%)	
Hume	3 003	1 353 (45%)	1 671 (56%)	
Lake Victoria	677	442 (65%)	452 (67%)	
Menindee Lakes	1 731*	374**(22%)	1 248 (72%)	
<b>TOTAL</b>	<b>9 267</b>	<b>5 627 (61%)</b>	<b>6 989 (75%)</b>	<b>6 174 (67%)</b>

\*Menindee Lakes can be surcharged to 2 015 GL

\*\*Menindee Lakes are now under New South Wales control

## MENINDEE LAKES

Under the Murray-Darling Basin Agreement, the Murray-Darling Basin Authority controls the Menindee Lakes until the stored water volume decreases to 480 GL. The New South Wales Government assumes control of the storage at 480 GL and maintains control until the volume in storage exceeds 640 GL. On 18 February 2014, the volume in the Menindee Lakes decreased to below 480 GL and the control switched to the New South Wales Government.

## RAINFALL AND TEMPERATURE OUTLOOK

The latest Bureau of Meteorology weather outlook for June to August 2014 indicates a drier than normal winter is more likely for most of southeast Australia, along with warmer temperatures.



## River Murray Flow Report and Water Resources Update

The El Niño-Southern Oscillation (ENSO) is currently in a state of transition towards El Niño. El Niño is often, but not always, associated with below-normal rainfall across large parts of southern and inland eastern Australia during the second half of the year.

### WATER ALLOCATION OUTLOOK

South Australia will receive its full Entitlement Flow of 1 850 GL in 2014-15.

### SOUTH AUSTRALIA'S STORAGE RIGHT

On 1 May 2014, South Australia had deferred 30 GL of its Entitlement Flow into storage to meet critical human water needs use in future dry years and 20 GL for private carryover use in future dry years. The volume of deferred water held in the upstream storages is adjusted for net evaporation losses until it is delivered to South Australia. South Australia is not proposing to defer any of its Entitlement Flow while flows remain low. There is a high risk of some private carryover water spilling from Lake Victoria due to recent rainfall and water level limits related to the works on the outlet regulator. Until the risk of spill from Lake Victoria reduces, no further deferral will occur. The risk of spill from Lake Victoria is currently around 90 per cent and Dartmouth Reservoir around 45 per cent.

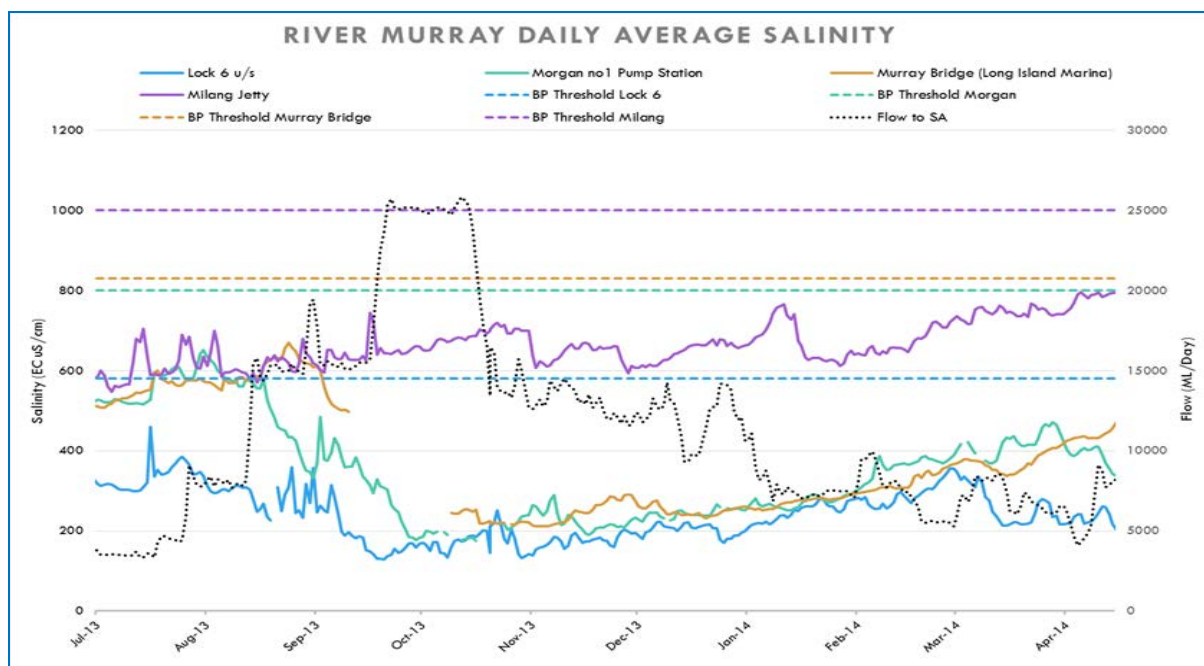
DEWNR is currently investigating opportunities to defer part of South Australia's Entitlement Flow in 2014-15.

### WATER QUALITY - Salinity

A number of targets are identified under the Basin Plan, which all Basin States must have regard to in managing River Murray flows. The targets for real-time salinity are identified below. Salinity must not exceed these values for 95 per cent 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 from July 2013 to May 2014. The dashed-lines identify the Basin Plan thresholds for the corresponding colour coded location. It confirms that salinity has not exceeded the threshold at any of these four locations during this period.



Note: Data gaps are due to technical monitoring issues experienced at the site

## FLOW OUTLOOK

The flow at the South Australian border is approximately 3 000 ML/day and will remain around this rate during the coming week, depending on upstream river and storage operations, extractions, and rainfall events. The flow comprises the normal June Entitlement Flow of 3 000 ML/day.

Construction works at the Lake Victoria outlet regulator will continue into July 2014. These works are restricting the outlet capacity. DEWNR is working closely with the Murray-Darling Basin Authority and SA Water to manage the flow to South Australia during this time.

The flow over Lock 1 is approximately 2 500 ML/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.

## BARRAGE OPERATIONS AND WATER LEVELS IN THE LOWER LAKES

The water level in Lake Alexandrina is approximately 0.64 m AHD and approximately 0.69 m AHD in Lake Albert. The volume of water in the Lower Lakes is being managed to optimise water availability for continuous barrage releases during winter. Barrage releases are being prioritised through Tauwichee and Goolwa. All fishways are in operation. SA Water will continue to operate the barrages to minimise any negative salinity impacts from reverse flow events.

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 Regional Algal Coordinating Committees) has issued red alert warnings for toxic blue-green algae at:

- Menindee Lakes and the Great Darling Anabranch at, and upstream of, Tara Downs, where the water is unsuitable for stock and domestic, irrigation and recreational purposes;
- Balranald on the Murrumbidgee River, where the water is unsuitable for recreational and stock watering purposes; and
- downstream of Barren Box Swamp on the Murrumbidgee River, where the water is unsuitable for irrigation, stock and domestic purposes.

Although these toxic blue-green algal blooms pose 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. It is not uncommon to experience algal blooms at this time of the year.

## 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 the river depth.

### CONSTRUCTION WORKS

#### *Swan Reach River Vessel Waste Disposal Station*

Upgrade works commenced on the Swan Reach River Vessel Waste Disposal Station on 1 May 2014. The works will take about two months to complete. A temporary waste pumping service is being provided by Swan Reach Septic Pumping and Maintenance. The phone number and details of the service are available at the station and advertised in the local media.

#### *Lock 4*

Remedial works at Lock 4 commenced on 5 May 2014 and are expected to be completed by early August 2014. The works are necessary to improve the structural integrity of the Lock chamber. During this period Lock 4 will be closed to navigation.

#### *Mullaroo Creek*

Remedial works in the Mullaroo Creek (located in Victoria and flows into the Lindsay River, which enters the River Murray between Lock 6 and 7) are expected to be completed around the end of July 2014. The works are necessary to improve the control of flows in this system. For public safety reasons, the Mullaroo Creek will be closed to navigation at the work site during the construction period.

#### *Chowilla*

Construction of the Chowilla Creek Environmental Regulator and associated structures is ongoing. For public safety reasons, the Chowilla Creek remains closed to navigation at the construction site. Works are also underway to upgrade the weirs on Pipeclay Creek and Slaney Creek to improve the management of flows into the Chowilla anabranch and to enable fish passage. The weirs are closed to boat traffic during this construction program.

#### *Lake Victoria Outlet Regulator*

Remedial works on the Lake Victoria Outlet Regulator are underway and expected to be completed around the end of July 2014. The works are necessary to improve the structural integrity of the regulator.

Camping is not allowed in the area immediately downstream of the regulator during the construction period. There are alternate camping sites nearby, along Rufus River.

#### *Lock 11*

Installation of mechanised gates at Lock 11 will commence in mid-July and is expected to be completed in mid-August 2014. During this period the water level in the Lock 11 weir pool (Mildura) will be drawn down to a very low level and the Lock will be closed to navigation.

# River Murray Flow Report and Water Resources Update

## 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 11 June 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	30.82	33.81	33.32
Lock 9 Kulnine	764.8	27.40	27.52	30.03	29.44
Lock 8 Wangumma	725.7	24.60	25.13	27.60	27.19
Lock 7 Rufus River	696.6	22.10	22.14	25.70	25.24
Lock 6 Murtho	619.8	19.25	19.26	21.03	20.50
Renmark	567.4	-	-	18.54	18.04
Lock 5	562.4	16.30	16.38	18.07	17.50
Lyrup	537.8	-	13.26	16.85	16.26
Berri	525.9	-	13.25	15.81	15.74
Lock 4	516.2	13.20	13.21	15.65	15.08
Loxton	489.9	-	10.04	15.05	14.12
Cobdogla	446.9	-	9.94	13.44	12.38
Lock 3	431.4	9.80	9.90	13.16	12.02
Overland Corner	425.9	-	6.44	12.73	11.58
Waikerie	383.6	-	6.50	11.26	10.24
Lock 2	362.1	6.10	6.28	10.28	9.30
Cadell	332.6	-	3.47	9.17	8.08
Morgan	321.7	-	3.44	8.85	7.65
Lock 1 Blanchetown	274.2	3.20	3.39	6.81	5.38
Swan Reach	245.0	0.75	0.64	6.06	4.51
Mannum PS	149.8	0.75	0.60	3.15	1.90
Murray Bridge	115.3	0.75	0.55	2.06	1.26

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



# River Murray Flow Report and Water Resources Update

## 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.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](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](http://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>

Information is also available from the SA Water Hotline on **08 8595 2299**

Department of Environment, Water and Natural Resources

<http://www.environment.sa.gov.au/Home>

ID	RM-Flow-Report 20140613
Classification	Public I2 A2
Issued	13 June 2014
Authority	DEWNR
Master Document Location	Q:\OMP\RM REM\02 RM Ops\04 Communications\Flow Advices\2013-14
Managed and Maintained by	River Murray Operations
Author	River Murray Operations
Reviewer	Director River Murray Operations and Major Projects