RIVER MURRAY FLOW ADVICE

Flow to South Australia

Report #10/2012
Issued 10:00am 9 March 2012

This supersedes the previous flow advice issued by the Department for Water on 2 March 2012. Further flow advice will be provided on Friday 16 March 2012.

Due to the recent high rainfall event and subsequent high inflow to the River Murray system in New South Wales and Victoria, South Australia is likely to issue a **High Flow Advice** (this is NOT a Flood Warning) on 16 March 2012. This will accompany the River Murray Flow Advice on the same day.

IMPACT OF RECENT RAINFALL UPSTREAM

Over the past two weeks, an intensive low pressure system originating from the northwest of Australia has generated substantial rainfall across South Australia, New South Wales and Victoria. This has resulted in rainfall of between 100 and 400mm in key locations such as the Murrumbidgee, Snowy Mountains, Kiewa, Ovens, Upper Murray and Goulburn catchments. It has produced moderate to major flooding across these catchments, in particular northern Victoria and the Murrumbidgee River.

This rainfall event has wet all major catchments and nearly filled major storages. It will also wet the floodplain prior to winter and spring. These conditions increase the chances of higher inflow events during the reminder of 2011-12 and in 2012-13, particularly if there is a repeat of 2011-12 winter and spring rainfall across the southern Murray-Darling Basin.

Flood flows have been generated along the Murrumbidgee River due to heavy rainfall and spilling of Burrinjuck Reservoir. The peak flow recorded at Gundagai on 5 March 2012 was 425,000 ML/day and this compares to 445,000 ML/day in August 1974 (a flood year for the South Australian River Murray). This flow from the Upper Murrumbidgee River will be significantly reduced when the peak arrives at Balranald in April 2012. The Bureau of Meteorology has forecast a peak river level at Balranald of approximately 6.9 metres, which would be equivalent to a flow of 37,000 ML/day. This may increase over the coming weeks as the peak flows further downstream and is better understood.

FLOW OUTLOOK

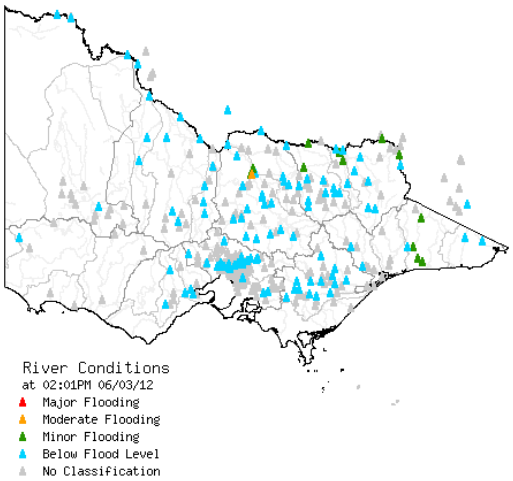
The flow to South Australia is currently 21,000 ML/day and may increase in the next week to approximately 25,000 ML/day when maintenance work at the Chowilla coffer dam and Lock 4 has been completed.

Flows in South Australia will progressively increase over the next month to between 40,000 and 60,000 ML/day by mid-April 2012. It is too early to accurately predict the peak flow to South Australia. It is possible that flows may rise above 60,000 ML/day as inflow estimates improve. A flow to South Australia of 60,000 ML/day is experienced in 30 percent of years; however it is unusual to have flows of 60,000 ML/day during April.

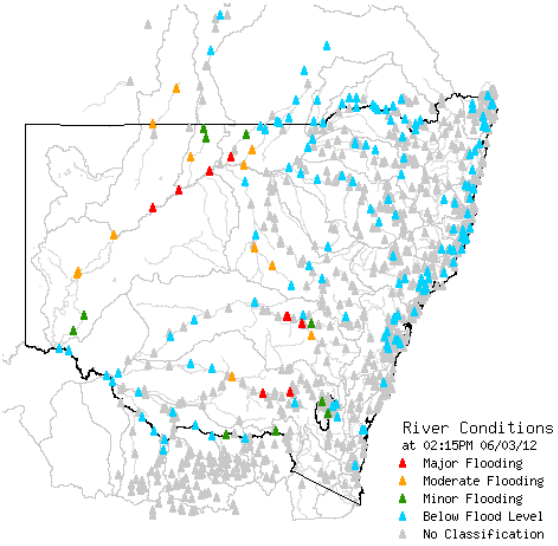
At this stage, on the current information, the flow to South Australia is not expected to reach the 93,800 ML/day observed in mid February 2011.

In South Australia, overbank flows begin to occur when the flow to South Australia increases to more than 40,000 ML/day. A flow of between 60,000 and 100,000 ML/day is required to begin flooding shack areas downstream of Cadell and the floodplains in South Australia.

On 6 March 2012, the Bureau of Meteorology issued flood warnings for the following rivers in **Victoria** (which may affect flow to South Australia): Kiewa, Ovens, Kings, Broken, Goulburn and River Murray upstream of Hume. http://www.bom.gov.au/vic/flood/index.shtml



On 6 March 2012, the Bureau of Meteorology issued flood warnings for the following rivers in **New South Wales** (which may affect flow to South Australia): Murrumbidgee, Barwon-Darling and Lachlan. http://www.bom.gov.au/nsw/flood/index.shtml



There is no immediate risk of flooding to **South Australia**.

South Australia's Entitlement Flow during March is 6, 000 ML/day and Additional Dilution Flow (ADF) of 3,000 ML/day is still being received. Unregulated flow conditions are currently being experienced and are likely to continue for a number of months as South Australia is now likely to receive flows in the range of 15,000-60,000 ML/day until June 2012 and possibly further into 2012.

The flow over Lock 1 is currently 18, 000 ML/day. This will increase next week to approximately 25,000 ML/day; hold at this rate for about a week, then reduce to approximately 20,000 ML/day.

The unregulated flow will pass through South Australia to the Lower Lakes and Coorong. This will assist in the maintenance of barrage releases over autumn and winter, to improve and maintain salinity levels in Lakes Alexandrina and Albert and maintain connectivity to the Coorong. In addition, environmental water from *The Living Murray* initiative is being delivered to wetlands on the Chowilla Floodplain to enhance floodplain vegetation and wildlife habitat. Currently, Coombool Swamp, a wetland on the Chowilla floodplain, has received approximately 2 GL of water. A recent waterbird survey identified more than 1,000 birds (24 species) using this wetland. Another two wetlands are to receive environmental water in March.

SALINITY OUTLOOK

Continuation of Additional Dilution Flow will help mitigate some of the impact of localised salinity increases. The Department for Water continues to undertake detailed modelling of salt loads.

Irrigators are reminded to check the salinity levels regularly at their pump sites and also to access the Department for Water's River Murray Water Data website to obtain real-time salinity data from locations where monitoring sites are established. The data may be accessed via the following link:

http://data.rivermurray.sa.gov.au/Telemetry/Default.aspx?App=RMW

BARRAGE OPERATIONS AND WATER LEVELS IN THE LOWER LAKES

The water level in Lake Alexandrina is approximately 0.72m AHD and the water level in Lake Albert is approximately 0.62m AHD. An operation to cycle water in and out of Lake Albert will be undertaken during the coming weeks in order to mobilise and export salt. The aim is to raise the water level to above 0.7m AHD, then reduce it to approximately 0.55m AHD and hold it at this level for a few weeks. Lake levels should continue to remain generally in the order of 0.55m to 0.75m AHD over the coming weeks, which is within the normal operating range. Given the large volume of water expected to flow across the border over the next three months there is a possibility of further water level manipulations.

Barrage gates are currently being operated to provide a release in the order of 22,500 ML/day. This rate is expected to increase to 26,500 ML/day during the next week and will be maintained at this rate for about three weeks. Water levels and barrage operations are continually monitored by the Government.

It is important to note that water levels in the Lower Lakes may also vary considerably with wind speed and direction. This, when combined with the high water level or high tides, could result in seawater backflow events and/or some inundation of low-lying areas around the edges of Lake Alexandrina, Lake Albert or the Goolwa Channel. Barrage operations are being monitored by SA Water to minimise the impacts of any forecast backflow events.

The Department for Water is responsible for monitoring salinity in the Lower Lakes and maintains a network of salinity recording devices at a number of locations. Data collected from this monitoring network assists the

Murray-Darling Basin Authority and the Government of South Australia in determining barrage operations, conducting scientific analysis and formulating policy positions.

RIVER MURRAY WATER LEVELS

SA Water and the Department for Water have developed a River Murray Water Level chart (attached) to provide water levels at a number of locations from Lock 10 (near Wentworth) to Murray Bridge.

FURTHER INFORMATION

The Department for Water has published a series of inundation maps for the River Murray. They are available at:
www.waterconnect.sa.gov.au

Up-to-date River Murray flow and water level information can be accessed at the Department for Water, SA Water and Murray-Darling Basin Authority websites:
http://data.rivermurray.sa.gov.au
www.sawater.com.au/SAWater/Environment/TheRiverMurray/River+Murray+Levels.htm
http://www.mdba.gov.au/water/live-river-data

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/australia/flood/

Information provided by the Commonwealth Environmental Water Holder:
http://www.environment.gov.au/ewater/southern/murray/lower-murray.html

Information on the discharge of acid drainage water into the Lower River Murray can be accessed online at
www.waterforgood.sa.gov.au

River Murray Water Levels as at 7 March 2012

Location	River Km	Normal Pool Level	Current Level (m AHD)
Lock 10	825.0	30.80	30.81
Lock 9 Kulnine	764.8	27.40	27.47
Lock 8 Wangumma	725.7	24.60	24.69
Lock 7 Rufus River	696.6	22.10	22.17
Lock 6 Murtho	619.8	19.25	19.22
Renmark	567.4	-	16.24
Lock 5	562.4	16.30	16.19
Lyrup	537.8	-	13.28
Berri	525.9	-	13.18
Lock 4	516.2	13.20	13.11
Loxton	489.9	-	-
Cobdogla	446.9	-	-
Lock 3	431.4	9.80	9.72
Overland Corner	425.9	-	6.87
Waikerie	383.6	-	6.42
Lock 2	362.1	6.10	6.10
Cadell	332.6	-	-
Morgan	321.7	-	3.56
Lock 1 Blanchetown	274.2	3.20	3.23
Swan Reach	245.0	0.75	1.01
Mannum PS	149.8	0.75	0.77
Murray Bridge	115.3	0.75	0.68

Note that water levels do not take into account local wind conditions.
Regularly updated daily water level information can be found at the following websites:

SA Water
www.sawater.com.au/SAWater/Environment/TheRiverMurray/River+Murray+Levels.htm

Department for Water
http://www.waterconnect.sa.gov.au/RMWD/Pages/default.aspx

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

UPDATES – This advice remains current until the Department for Water notifies otherwise.