

RIVER MURRAY FLOW ADVICE- UPDATE

Flow to South Australia

Issued 10:00 11March 2011

This supersedes the previous flow advice issued by the Department for Water (DFW) on 4 March 2011. **This is NOT a Flood Warning.** A further update will be provided on Friday 18 March 2011.

SUMMARY: River Murray flow at the South Australian border has peaked and is now reducing. The flow peak is currently passing Swan Reach. Recreational boat users are warned that some artificial structures on the floodplain, wetlands and creeks – including fences, bridges and other structures – could be under water due to high flows and could present a risk to their safety.

The Department for Water has published a series of maps showing levee profiles for the area of the Lower River Murray between Mannum and Wellington. They are available at www.waterconnect.sa.gov.au. These maps form part of the Department's provision of inundation mapping for the River Murray.

Information on the discharge of acid drainage water into the Lower River Murray is contained in this advisory and online at www.waterforgood.sa.gov.au

FLOW OUTLOOK - MARCH 2011

South Australia continues to receive high River Murray flow at the border of around 77,000 ML/day, which will steadily reduce over the next week to the range of 70,000 ML/day to 75,000 ML/day.

Based on known flow in transit and current river operations, River Murray flow is now expected to be in the order of 60,000 ML/day to 65,000 ML/day by the end of March 2011. This is subject to the occurrence of further rainfall and changed river operations upstream of South Australia. There are no further flow peaks currently in transit upstream of South Australia, with flow to South Australia now receding at a slow rate.

The flow at Lock 1 (Blanchetown) is currently 78,500 ML/day and is expected to remain at this level as the peak flow passes.

Some shacks, roads, campsites and causeways located on floodplains may be inundated. The current flow is well within the normal historical flow range (i.e. many similar events of flows within this range have been experienced in previous years) for the River Murray in South Australia. No populated areas will be at risk of flooding from the



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Department for Water

WATER IS GOOD

predicted flow but the extent of inundation of low-lying areas of the floodplain, creeks and flood runners will increase.

While this is a great time to visit the river and its environs, all people travelling along the River Murray are reminded to exercise caution at all times when navigating through the navigable passes at the lock and weirs, and to be mindful of partially submerged infrastructure such as jetties and floating debris. The higher flow may present a hazard to watercraft with low-horsepower engines.

People need to be aware of the predicted levels and the rate of rise and should take any necessary actions to modify irrigation infrastructure, pontoons and moorings.

The Department of Environment and Natural Resources (DENR) has announced the closure of some campgrounds at parks and reserves in the Riverland due to the current and predicted flows. Please visit the DENR website for further information <http://www.environment.sa.gov.au/parks/resources/media.html>

COMPARISON WITH PREVIOUS FLOW EVENTS

There has been speculation within the media and community about the potential for this high flow to develop into a flood event similar to the 1956 flood. The peak flow to South Australia in 1956 was around 350,000 ML/day, which is approximately four times higher than the recent peak flow of 94,000 ML/day. Given the forecast weather and river conditions, a repeat of the 1956 flood event will not occur.

There has also been speculation of a repeat of the 1974 flood peak, which was 180,000 ML/day, also well above current and projected levels. There is not sufficient water in transit upstream of South Australia to produce an event of this magnitude at the South Australian border.

The last time that flow to South Australia was equivalent to 90,000 ML/day was 11 December 1993.

UPSTREAM CONDITIONS

High flow from the widespread rains across northern New South Wales and Queensland is in transit along the Barwon-Darling River system and into Menindee Lakes. The New South Wales Office of Water and State Water have been managing releases from Menindee Lakes in anticipation of higher flow arriving in the near future. This will result in high release rates into the Lower Darling River (and into the River Murray) for a number of months.

Releases from Menindee Lakes are currently about 34,000 ML/day. The outlook for the Lower Darling at Burtundy is 18,000 ML/day, which is below the event of 1998 in which the flow reached 21,600 ML/day, and much smaller than the flood in 1976 of 59,000 ML/day. The release pattern is included in the forecast flow to South Australia.

The River Murray is also receiving inflow from a number of other sources including the Murrumbidgee River, Loddon River and Campaspe River. Although widespread flooding has recently been recorded across these catchments, this will not result in South Australia receiving flows sufficient to inundate townships due to attenuation of flow through numerous wetlands and floodplains upstream.



WATER QUALITY

Due to high flow in the Murray-Darling system, extensive forest and floodplain environments are being inundated for the first time in many years, resulting in a lot of organic matter entering the river. Water of very low dissolved oxygen continues to adversely affect the main channel of the River Murray downstream of the Barmah-Millewa and Koondrook-Perricoota forests, although the effect is not as pronounced as in previous weeks. Currently more than 1,400 km of the River Murray is affected by this event, extending from Yarrawonga Weir to the Lower Lakes.

Water with very low dissolved oxygen, generally less than 1mg/L, is being received from numerous creeks and floodplains, leading to fish deaths. Over the past few weeks there have been a number of reports of cod deaths around the Mildura area and some of these fish may float downstream into South Australia. Some fish deaths in South Australia have been reported to SA Water and PIRSA. To report fish deaths in South Australia, contact Fishwatch on **1800 065 522**.

The Murray-Darling Basin Authority publishes black water information on its website, including regularly updated bulletins and maps, at <http://mdba.gov.au/water/blackwater>

SA Water and interstate water authorities are regularly monitoring water quality. At this point this event does not pose an immediate threat to the River Murray in South Australia.

ACID DRAINAGE WATER IN THE LOWER MURRAY RECLAIMED IRRIGATION AREAS

Acid water has been detected at 11 salt drains in the Lower Murray Reclaimed Irrigation Area between Mannum and Wellington. Some of the tested water is orange-brown in appearance and has pH values in the range of 2 to 4, and may also contain some dissolved metals.

The State Government is closely monitoring the River Murray to determine the impacts of acid drainage water that has been discharged. The investigations show that the acid water is quickly diluting and dispersing when it enters the River Murray. SA Health, SA Water, the Environment Protection Authority and the Department for Water will continue to monitor the situation and undertake further testing as required.

SA Health has established that there is no risk to public health in the river channel and SA Water has determined there is currently no risk to the public water supply. While monitoring to date does not indicate there is a risk to drinking water supplies, there may be some on-farm impacts. Landholders are advised to avoid direct contact or ingestion of undiluted drainage water. Biosecurity SA has also advised pH values in this range may burn livestock's mouths so landholders should avoid putting stock near drains and provide them with safe drinking water.

As a further precautionary measure, the State Government is installing signs and establishing buoyed access exclusion zones near the drainage outlets to prevent boat operators from accessing the water before it is diluted. Most of the buoyed access exclusion zones will be established by today.

The acid drainage water is a consequence of the unprecedented low River Murray water levels during the recent drought and is not caused by the activities of irrigators.

WATER LEVELS

SA Water and the Department for Water have developed a River Murray Water Level chart to provide projected water levels at a number of locations from Lock 10 (near Wentworth) to Murray Bridge. The table below outlines the projected water levels for a flow of 90,000 ML/day based on previous flow events.



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

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**



Projected Water Levels for a Flow of 90,000 ML/day to SA

Location	River Km	Current Level (m AHD)	Predicted Peak level (m AHD)	Approx. Date of Peak	Further Rise (m)	1974 Flood Level	1993 Flood Level
Lock 10	825.0	31.69	32.28	-	-	33.81	33.32
Lock 9 Kulnine	764.8	28.40	28.80	-	-	30.03	29.44
Lock 8 Wangumma	725.7	26.45	26.79	-	-	27.60	27.19
Lock 7 Rufus River	696.6	24.71	24.91	-	-	25.70	25.24
Lock 6 Murtho	619.8	19.94	20.11	-	-	21.03	20.50
Renmark	567.4	17.22	17.38	-	-	18.54	18.04
Lock 5	562.4	16.94	17.08	-	-	18.07	17.50
Lyrup	537.8	15.55	15.68	-	-	16.85	16.26
Berri	525.9	15.04	15.16	-	-	15.81	15.74
Lock 4	516.2	14.64	14.74	-	-	15.65	15.08
Loxton	489.9	13.35	13.41	-	-	15.05	14.12
Cobdogla	446.9	11.48	11.52	-	-	13.44	12.38
Lock 3	431.4	10.89	10.93	-	-	13.16	12.02
O/L Corner	425.9	10.22	10.27	-	-	12.73	11.58
Waikerie	383.6	9.03	9.07	-	-	11.26	10.24
Lock 2	362.1	8.22	8.25	-	-	10.28	9.30
Cadell	332.6	6.80	6.82	-	-	9.17	8.08
Morgan	321.7	6.19	6.20	-	-	8.85	7.65
Blanchetown	274.2	4.42	4.42	-	-	6.81	5.38
Swan Reach	245.0	3.04	3.20	11 Mar	0.16	6.06	4.51
Mannum PS	149.8	1.01	1.35	12 Mar	0.34	3.15	1.90
Murray Bridge	115.3	0.97	1.15	14 Mar	0.18	2.06	1.26

IMPACTS OF ELEVATED WATER LEVELS

As shown in the table above, water levels in the River Murray between Blanchetown and Murray Bridge will rise sequentially downstream in response to the flow peak passing through the South Australian River Murray. The risk of harmful inundation under current flow projections is very low; however, some low-lying shacks and other infrastructure may be affected.



HIGH FLOWS AND RECREATION

To ensure you stay safe and enjoy the river please practice the following advice from the SES:

- Don't drive, ride or walk through floodwaters, flood-affected causeways or roads.
- Be aware that significant debris is being carried downstream and may pose a hazard to water-based activities.
- When operating a boat on the floodplain, in particular wetlands and creeks or near inundated river banks, be aware of submerged obstacles such as earthen embankments, flow regulators, trees and fence lines.
- Landholders, especially those with shacks or other structures in low-lying areas, should consider securing their property from likely rising water levels.
- The hazards associated with riverbank collapse still exist in many areas so be aware of the signs - such as cracked riverbanks and leaning trees - and keep away from fenced or sign-posted affected areas.
- Regularly monitor river levels in your local area, and take care not to become isolated by rising water.
- Always wear a personal floatation device when on the river.
- Do not jump or dive into the river when you do not know what is below the surface.
- Camp on higher ground away from the river bank.
- Supervise children at all times and do not allow them to play in or near floodwater or fast-flowing river water.
- If in doubt, stay out.
- Listen and take action on any instructions from the emergency services - the SES, SA Police and the CFS.

People planning to visit low-lying floodplain areas are advised to monitor water levels and road access conditions and take reasonable precautions.

LOWER LAKES

The water level in the Lower Lakes is currently around 0.71m AHD and barrage outflow is being maintained to lower the lakes to at least 0.7m AHD or lower, depending on downstream (Coorong) levels. This is being undertaken to draw high salinity water from Lake Albert.

The peak flow for the current event is expected to reach the Lower Lakes in the next seven days. This flow will likely raise water levels again to approximately 0.8m AHD. Once the flow peak has passed, the intention is to use barrage operations over the coming months to again lower and raise water levels to further freshen Lake Albert and remove salt from the Lower Lakes.

Currently it is difficult to release large volumes of water through the barrages due to the Coorong being surcharged and even at low tides the release rate is restricted.

In order to decrease and increase water levels in both lakes, it is necessary for some of the gates/bays to be opened and closed at the barrages to maintain the desired water level target. Both water levels and barrage operations are being continually monitored by the Department for Water, SA Water and the Department of Environment and Natural Resources.

People are advised to monitor the latest weather and flow forecasts and obey any signage along the River Murray or instructions from the emergency services.



For flood-related assistance, call the State Emergency Service (SES) on **132 500**.

For life-threatening emergencies, call **000**.

LEVEE BANKS BELOW LOCK 1

Areas along the River Murray between Lock 1 and the Lower Lakes that are protected by levee banks are advised that due to prolonged drought conditions and low river levels:

- levee banks may have deteriorated and could be at risk of failure; and
- floodplain areas including levee banks may have subsided due to soil drying and consolidation, increasing the risk of overtopping on some privately owned levee banks.

There have been isolated cases of levee bank leakage. This Department is monitoring the situation and working with the SES to ensure public safety.

Projected flow in February and March 2011 may continue to affect levee banks downstream of Lock 1. People in the vicinity are advised to regularly monitor levee bank condition.

If significant structural cracking or leakage of levee banks is evident, people are advised to avoid the area, relocate to higher ground and call the Riverbank Collapse Hotline (**1800 751 970**) to report any observations.

RIVERBANK COLLAPSE

There is an increased risk of riverbank collapse during the current high flow period, particularly in those areas below Lock 1 which are known to be at risk. People living, working or playing along the River Murray, particularly below Lock 1, are advised to continue to look out for the signs of potential riverbank collapse. These include cracking in the river bank, leaning trees or bubbles in the river.

Further information is available at the Riverbank Collapse section of <http://www.sa.gov.au>.

To report the signs of riverbank collapse or to obtain further information call the free 24 hour Riverbank Collapse Hotline (**1800 751 970**). For life-threatening emergencies, call **000**.

MURRAY MOUTH

When boating in the vicinity of the Murray Mouth, people are urged to take extra caution during the current high flow period due to the possibility of dangerous conditions. For more information see the following media release from the Department of Environment and Natural Resources

<http://www.environment.sa.gov.au/data/press/110114-boat-safety.pdf>

FURTHER INFORMATION

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/vic/flood>

UPDATES

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

