
RIVER MURRAY UPDATE

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Government of South Australia

Department for Water

Rainfall and inflow summary

Average rainfall during the past three months has primed the River Murray catchment for spring inflows. Several recent rainfall events have significantly improved storage volumes, River Murray system inflows and the seasonal outlook.

The forecast River Murray system inflows for September 2010 significantly improved due to widespread rainfall, across key areas of the River Murray catchment in early September 2010. The forecast minimum inflow for September 2010 has increased to 2,150 GL, which is above the long-term average of about 1,600 GL. If this forecast is reached, it will be the highest September inflow since 2000, when about 2,460 GL was received.

These higher inflows have created an unregulated flow event on the River Murray for the first time since late 2005. An unregulated flow event occurs when water cannot be captured in Lake Victoria due to insufficient channel capacity at the inlet (Frenchman's Creek). Unregulated flow to South Australia began on 31 August 2010 and is expected to continue until at least October 2010.

It is too early to accurately predict a total volume of unregulated flow to South Australia due to a number of factors, including authorised diversions for irrigation purposes and environmental consumption upstream of South Australia. Large areas of River Red Gum forests are currently being flooded upstream of South Australia and many of these areas have not received flooding for 5 to 10 years.

Widespread rain earlier this month across the Goulburn, Broken, Ovens, Kiewa and River Murray catchment produced minor flooding and high tributary inflows, which will extend the duration of unregulated flow downstream of Yarrawonga and into South Australia.

River Murray system inflows during the second week of September 2010 totaled 1,090 GL, which is more than the total inflow received in 2006-07.

While inflow conditions have improved, it is important to note that recovery from this drought may take several years. Recovery will involve refilling the main operational storages, increasing water levels in Lake Alexandrina and Lake Albert, and the resumption of freshwater releases into the Coorong through the barrages to discharge saline water.

Several years of above average rainfall may be required to replenish groundwater systems in catchments and to recover water levels in large water storages, such as Hume and Dartmouth Reservoirs. Average rainfall over a three or six month period is not enough for the River Murray system to recover, particularly if the main inflows are downstream of the major storages.

The following table shows Murray-Darling Basin storages at 14 September 2010.

Storage @ 14 September 2010	Volume (GL)	% of Capacity	Approximate volume at this time last year (GL)	Change in volume from this time last year (GL)
Hume Dam	2,229	73	862	(+)1,367
Dartmouth Dam	1,704	44	1000	(+)704
Menindee Lakes	1,674	97	276	(+)1,445
Lake Victoria	531	78	229	(+)255
Total volume	6,178	56	2,367	(+)3,771

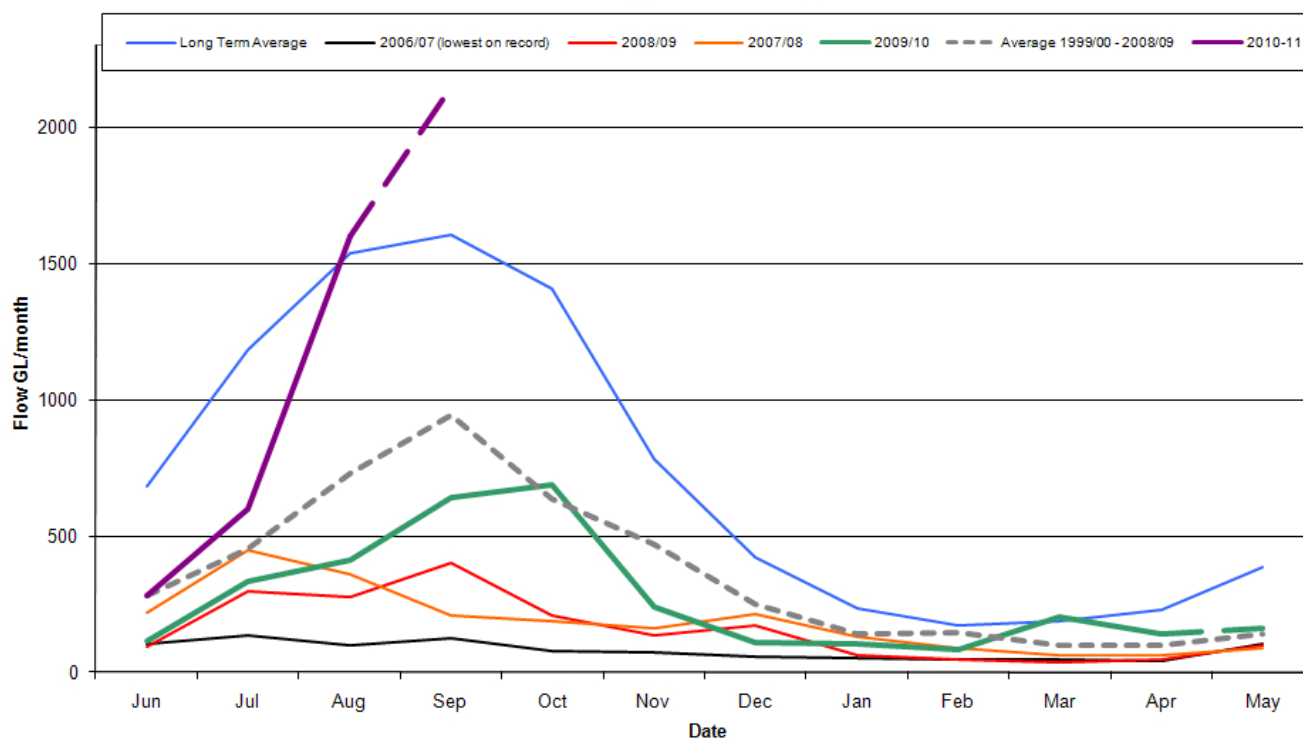
The following table shows River Murray system inflows (excluding Menindee) from June to August in various years.

MDBA Water Year (June to May)	June-August River Murray inflow (GL - rounded totals)
2005-06	3,700
2006-07	460
2007-08	1,230
2008-09	1,070
2009-10	1,500
2010-11	4,630
Past 10 years	5,010
Long-term average	2,400

Inflow graph

The following graph shows River Murray system inflows (excluding Menindee and Snowy inflows) in various years.

River Murray System Inflows (excluding Menindee Inflows and Snowy Releases)



River operations in South Australia

Flows to South Australia will be maintained at the normal monthly entitlement flow of 4,500 ML/day during September 2010. This flow will be enhanced by an extra 3,000 ML/day of additional dilution flow, which cannot be allocated for consumptive use and will flow to Lake Alexandrina and Lake Albert when reconnected. Any water above 7,500 ML/day is deemed to be “unregulated” because it cannot be captured and re-regulated in Lake Victoria.

Additional dilution flow is provided to South Australia to mitigate salinity and is only provided when storage levels in upstream storages surpass certain trigger levels. The trigger level for September and October 2010 is Menindee Lakes 1,300 GL, and Hume and Dartmouth (combined) 2,000 GL. The Murray-Darling Basin Authority has estimated that additional dilution flow will continue until at least the end of December 2010.

Flow into South Australia is currently being managed on a daily basis due to the higher volumes of water currently being received, including unregulated flow.

Since the start of September 2010, the flow to South Australia has averaged 13,600 ML/day. Further rises in flow are expected over the next two weeks as a result of higher flows currently in transit upstream. Flows are expected to continue to increase over the coming weeks and may reach 20,000 to 25,000 ML/day in early to mid October 2010. Given that the environment upstream of South Australia is consuming large volumes of water, it is too early to predict the total volume of unregulated flow that will reach South Australia. Improved estimates will be available within the next 2 to 3 weeks as water moves downstream. Further advice will be provided as it becomes available.

The inlet gates at Lake Victoria are fully opened, allowing up to 8,000 ML/day to enter Lake Victoria. Any water that cannot be captured in Lake Victoria will flow across the border to South Australia. As the water level in Lake Victoria increases, the inlet capacity will be reduced and less water can be captured and regulated.

It is important to note that flow will remain within channel capacity based on the current flow outlook. No flooding is expected in South Australia, however, weir pools will be adjusted to manage higher flow to reduce the impact at a number of construction sites including Chowilla, Lock 4 and Lock 2.

The flow at Lock 1 has increased to an average of 11,700 ML/day as a result of the higher flows to South Australia. The water level immediately downstream of Lock 1 has risen above the normal operating level. The downstream water level is currently plus 1.1 m AHD, which is 35 cm above the normal 'Full Supply Level' of plus 0.75m AHD. This increased level will usually be noticeable under higher flow conditions to Swan Reach, after which point the water level will flatten out.

During the recent years of low water levels downstream of Lock 1, many irrigators moved or modified their pumping infrastructure in order to continue pumping operations. With increased inflows, those irrigators may now need to again move or modify their infrastructure to ensure that it does not become inundated by rising waters.

Information about river operations upstream of the South Australian border is available from the Murray-Darling Basin Authority website www.mdba.gov.au

Water allocations in South Australia and interstate

Minister for the River Murray, Paul Caica, today announced that irrigator allocations have been increased from 41 percent to 63 percent as a result of improved inflows in the River Murray system and following an interim review of the 2010-11 River Murray Drought Water Allocation Decision Framework. The review amended the arrangements for distributing improvements from 65 percent to general allocations and 35 percent to the environment to 100 percent for general allocations until the 650 GL cap is reached. A copy of the Minister's full 15 September 2010 announcement can be viewed at the Water for Good website (under the "Latest News" heading) at www.waterforgood.sa.gov.au

It is important for licence holders to note that the amount of water that can be allocated for licensed consumptive use in South Australia is capped at 650 GL per year. This 650 GL limit includes any carryover water held by licence holders from previous water years. This means that general allocations will not reach 100 percent during 2010-11, as the 650 GL allocation cap would be exceeded.

Because of the rapidly changing situation in the Murray-Darling Basin and the Mount Lofty Ranges, the State Government has brought forward its comprehensive review of the 2010-11 River Murray Drought Water Allocation Decision Framework and this review will commence immediately. The review was originally scheduled for November 2010. Future carryover arrangements will be considered in this comprehensive review. It should be noted that the current carryover arrangements are a drought policy only during low water availability conditions. It is yet to be determined what carryover arrangements should be in place as water availability increases.

The latest information about allocations in New South Wales is available at <http://www.water.nsw.gov.au/>

The latest information about allocations in Victoria is available at <http://www.g-mwater.com.au/news/media-releases>

The following table outlines the current water allocations in South Australia, New South Wales and Victoria.

System	1 Jul 2010	15 Jul 2010	2 Aug 2010	16 Aug 2010	1 Sep 2010	15 Sep 2010
South Australia High Security	21%	24%	31%	34%	41%	63%
NSW Murray High Security	0%	10% [#]	40%	70%	97%	97%
NSW Murray General Security	0%	0%	0%	0%	8%	36%
Murrumbidgee High Security	30%	30%	80%	95%	95%	95%
Murrumbidgee General Security	0%	0%	0%	0%	9%	45%
Lower Darling High Security	100%	100%	100%	100%	100%	100%
Lower Darling General Security	100%	100%	100%	100%	100%	100%
Victoria Murray High Reliability Water Share	0%	0%	2%	23%	57%	94%
Goulburn High Reliability Water Share	0%	0%	5%	26%	41%	67%

[#]NSW announced a 10% allocation on 20 July 2010

The combined High and General Security water entitlements of about 90 GL in the Lower Darling are very small compared to the other areas listed above. For example, in South Australia 90 GL equates to around 14% general allocation.

Salinity and water levels

Salinity levels in Lake Alexandrina are currently averaging 3,050 EC. Salinity in Lake Albert remains high at about 12,500 EC.

The average water level in Lake Alexandrina is currently about plus 0.55m AHD, and in Lake Albert the average water level is about minus 0.30m AHD.

The following table shows the current water levels and salinity at selected locations.

	Actual Water Levels at 15/09/10		Full Supply Level U/S of Weir m AHD	Current EC level
	U/S m AHD	D/S m AHD		
Lock 6	19.13	16.98	19.25	133
Lock 5	16.16	13.97	16.30	120
Lock 4	13.19	11.40	13.20	142
Lock 3	9.78	7.07	9.80	178
Lock 2	6.04	4.02	6.10	208
Lock 1	3.20	1.11	3.20	244
Lake Alexandrina (average)	+0.55			3,050
Lake Albert (average)	-0.3			12,500
Goolwa	+0.73			12,500
Water levels below Lock 1 are affected by wind and will vary throughout the day EC Readings below Lock 1 are averages and will vary throughout the day				

Climate outlook

According to the Bureau of Meteorology, during September to November 2010 there is a 50% chance of exceeding median rainfall across the Murray-Darling Basin, and a 55 to 60% chance of exceeding median maximum temperatures.

Information on the seasonal outlook can be accessed online at www.bom.gov.au

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