River Murray
Water Resources Report

South Australia

Government of South Australia

Issue 17: 2 May 2008

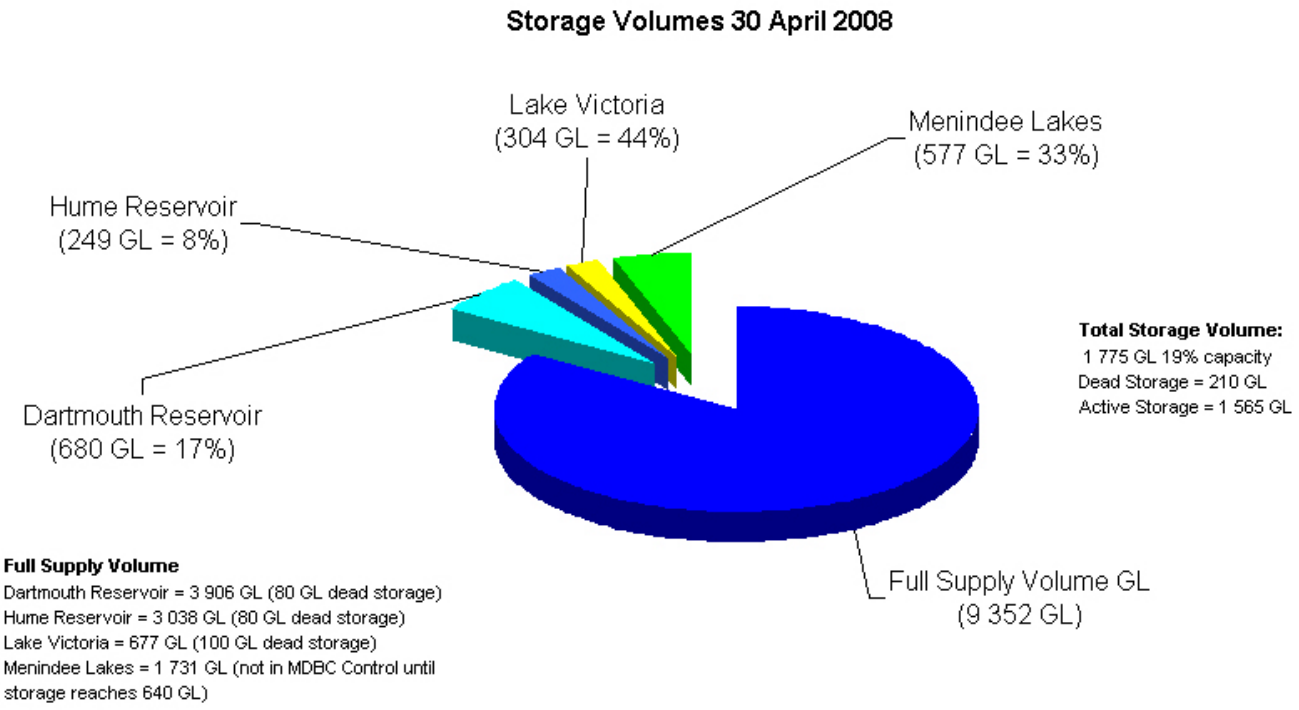
Observations at a Glance

- Low rainfall during April has continued to impact on River Murray inflows.
- Inflows from other tributaries also remain at low levels.
- The current storage volume is 1 767 GL (19% capacity), compared to 930 GL (10% capacity) at the same time last year.
- Flows to South Australia have been reduced to 2 100 ML/day compared to the normal April entitlement flow of 4 500 ML/day.
- Salinity levels upstream of Lock 1 remain stable; however in Lakes Alexandrina and Albert, salinity continues to increase as a result of low flows.

Murray-Darling Basin storages

River Murray system inflows remain at low levels, including inflows into the Murray system headwater storages, Hume and Dartmouth Reservoirs. **Figure 1** shows that the volume of water currently in storage is about 1 767 GL (19% capacity), compared to 930 GL (10% capacity) at the same time last year. The long-term average storage volume (including Menindee Lakes) for the end of April is about 4 960 GL.

Figure 1: Storage volumes at 30 April 2008



While the current storage figure of 1 767 GL is better than at the same time last year, the current storage volume includes:

- Water held in Menindee Lakes (578 GL all of which is owned by NSW);
- Water reserved for delivery and use in 2008-09 (ie for critical human needs and irrigation carry-over for 2008-09); and
- Some water released from the Snowy Mountains Hydro-electric Scheme for 2008-09.

Under the current water sharing rules, carry-over water is not part of the shared resource. The shared resource consists of water in storage, including unregulated inflows into Hume and Dartmouth Reservoirs, along with releases from the Snowy Hydro-electric scheme into Hume Reservoir, and inflows from the Kiewa River.

Taking these factors into account, the volume of water available as a shared resource is significantly less than at the same time last year.

Even if the upper Murray catchment receives average rainfall, this may not lead to average inflows because the catchment is so dry due to prolonged period of below average rainfall. Significant amounts of water will be required to return the storages to average operating levels in 2008-09. Recovery is likely to require several years of above average rainfall.

Table 1 outlines the estimated volume of water in storage in Hume, Dartmouth, Lake Victoria and Menindee Lakes over the last seven years.

Table 1: Estimated volume of water over past seven years

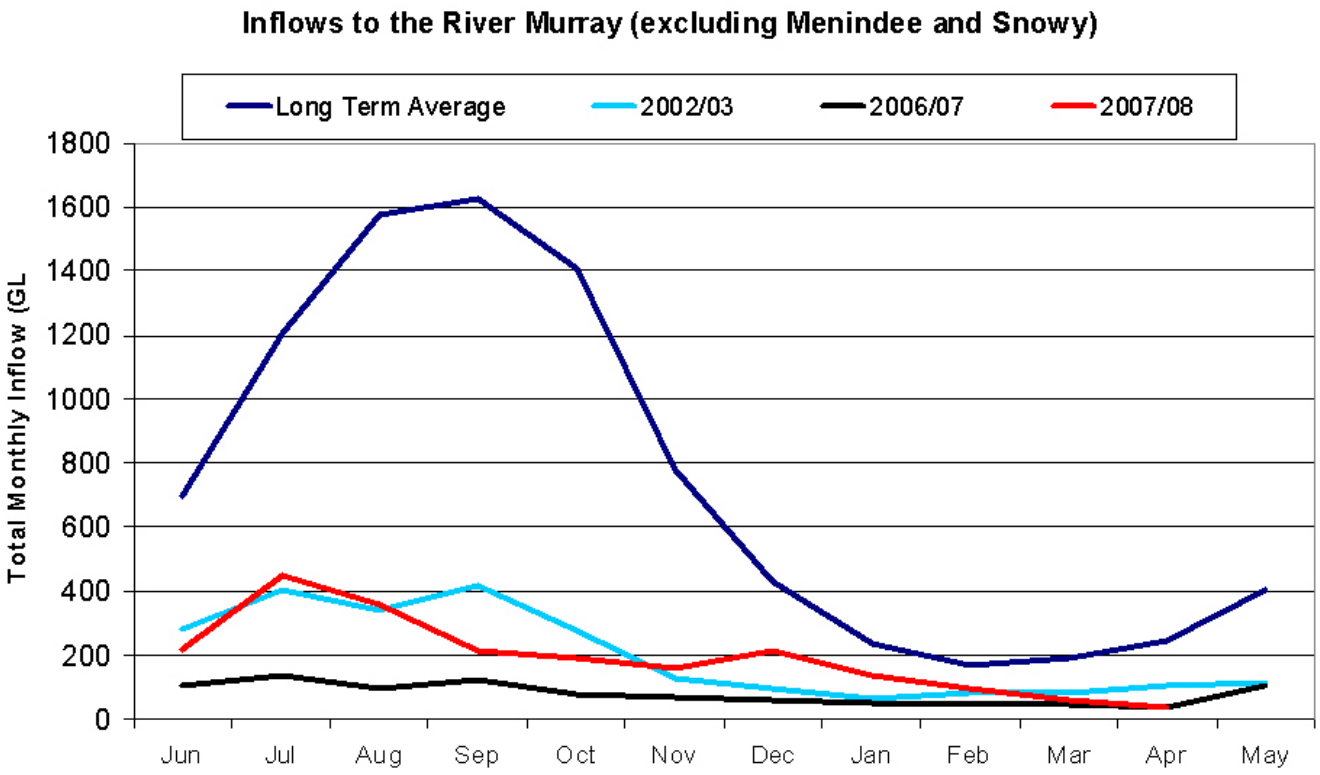
Year	Volume (GL)	% full supply
End April 2008	1 767	19
End April 2007	932	10
End April 2006	3 453	37
End April 2005	3 093	33
End April 2004	2 640	29
End April 2003	1 720	19
End April 2002	4 310	46
End April 2001	6 187	66

Inflows and rainfall

River Murray system inflows remain extremely low due to below average rainfall over the past two years. Inflows during April 2008 have remained at low levels and are expected to be about 60 GL, well below the long-term average for April of 240 GL and close to the 42 GL received in April 2007.

Figure 2 shows the long-term River Murray system inflows during 2002-03, 2006-07 and 2007-08.

Figure 2: Inflows to the River Murray



The Bureau of Meteorology advises that there is a 45-50% chance of exceeding median rainfall across the southern section of the Murray-Darling Basin in May to July 2008. The chance of exceeding median maximum temperatures for the same period is about 45%.

Information on the rainfall and temperature outlook can be found at the Bureau of Meteorology website: www.bom.gov.au

River operations

In response to cooler autumn temperatures over the past few weeks, evaporation and irrigation demands have reduced. As a result, the release of water from Hume Reservoir was reduced to about 1 000 ML/day at 30 April. Currently, just 200 ML/day is being released from Dartmouth Reservoir. The low releases have allowed water to be conserved for delivery in 2008-09.

South Australia's daily flow has been reduced to 2 100 ML/day to match estimated demands and losses upstream of Wellington for April 2008 and further reductions will occur over the coming months. This may affect weir pool levels and salinity along the River Murray in South Australia downstream to Blanchetown. The water level in the Lower Lakes and the river downstream of Blanchetown will continue to fall and salinity will continue to rise,

The flow over Lock 1 is averaging 930 ML/day and the flow past Wellington is about 700 ML/day.

Salinity and water levels

Table 2 shows the current water levels and salinity at selected locations. Salinity at Lock 2 (upstream of Morgan) is currently 371 EC, compared to an average of about 370 EC at the same time last year. Salinity below Lock 1 remains high as a result of reduced flows to South Australia. Salinity at Murray Bridge averaged about 860 EC last week, while in Lake Alexandrina (Milang) salinity averaged 4 100 EC.

Due to the limited water available to South Australia there is not enough water to maintain levels below Lock 1. Currently, the water level in Lake Alexandrina is –0.4m AHD compared to about 0.15m AHD in early April last year. Lake Albert is about -0.5m to –0.6m AHD. Cooler weather will result in reduced evaporation in the Lower Lakes, which will lead to water levels stabilising over the next two months.

Table 2: Salinity and water levels at 30 April 2008

	Actual Water Levels at 30/04/08		Full Supply Level Level	Variation from Pool Level	Current EC Level
	U/S mAHD	D/S m AHD	U/S of Weir m AHD	U/S of Weir m AHD	
Lock 6	19.24	16.24	19.25	-0.01	208
Lock 5	16.31	13.26	16.30	0.01	228
Lock 4	13.24	10.02	13.20	0.04	295
Lock 3	9.84	6.25	9.80	0.04	352
Lock 2	6.18	3.23	6.10	0.08	371
Lock 1	3.20	-0.56	3.20	0.00	460
Lake Alexandrina (Milang)	-0.40				4167
Lake Albert (Meningie)	n/a				n/a
Goolwa					24381
Water levels and salinity below Lock 1 are affected by wind and will vary throughout the day and are daily records					
EC Readings below Lock 1 are daily averages and will vary throughout the day					

Water availability and irrigation allocations

River Murray water allocations in South Australia remain unchanged at 32%. Inflows during January, February, March and April have resulted in only a slight increase in the amount of water to be shared between SA, NSW and Victoria. Ongoing dry conditions continue to limit the amount of water available for sharing.

Further information on River Murray conditions and rainfall forecasts can be obtained from the following websites:

Department of Water, Land and Biodiversity Conservation **www.dwlbc.sa.gov.au**
SA Murray-Darling Basin NRM Board **www.samdbnrm.sa.gov.au**
Murray-Darling Basin Commission **www.mdbc.gov.au**
SA Water Daily Reports **www.riverland.net.au/%7Eheinz/ex-flow-frame.htm**
Bureau of Meteorology **www.bom.gov.au**
Queensland Department of Primary Industry **www.longpaddock.qld.gov.au**