



South Australia

River Murray Water Resources Report



Issue 10: 7 December 2007

Observations at a glance

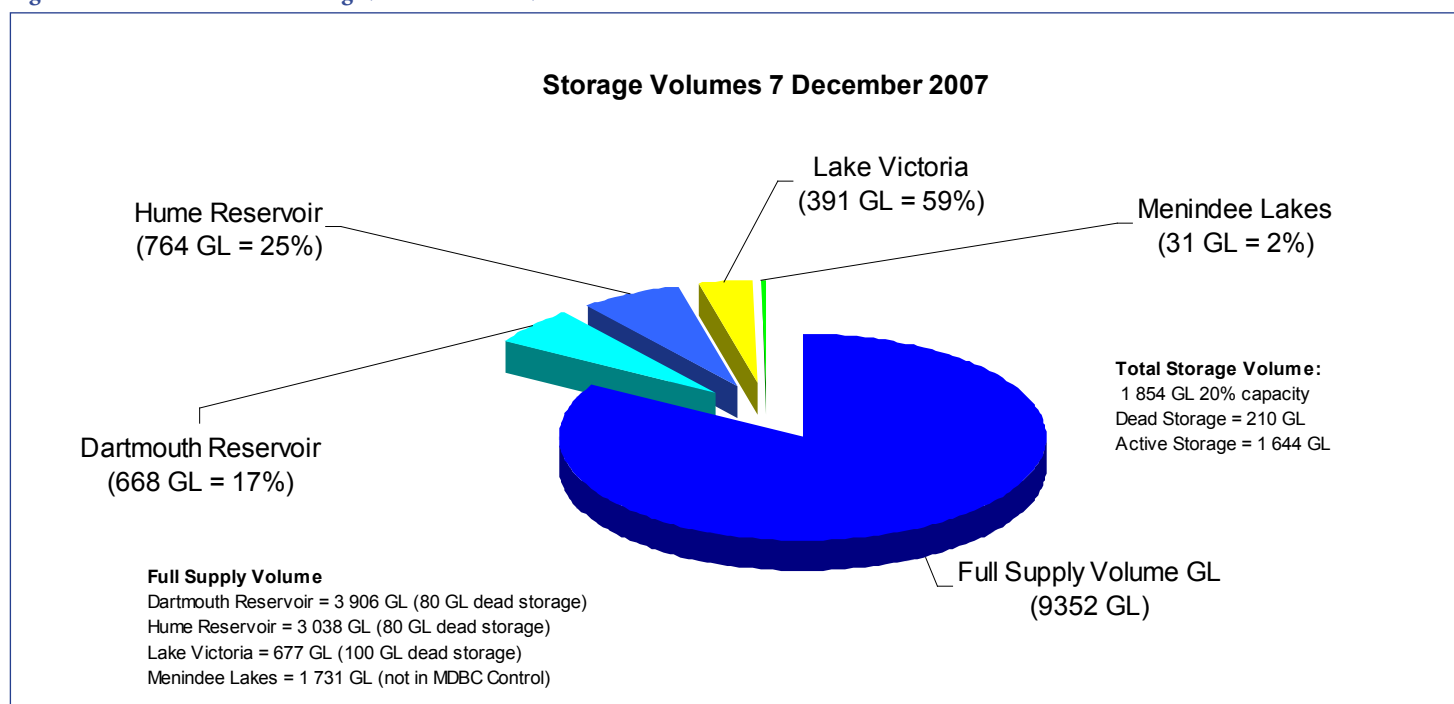
- Higher than expected inflows into the Murray-Darling Basin, along with lower than expected losses and increased releases from the Snowy Hydro Scheme, have resulted in more water being available for South Australia, New South Wales and Victoria.
- As a result, restrictions on licensed River Murray irrigators will be eased from 22% to 32% of entitlement, effective from 14 December.
- Inflows into the River Murray system during November 2007 were about 168 GL, compared to 55 GL for the same period in 2006.
- Storage volumes continue to decline and are currently at 1 854 GL (20% capacity).
- Flows to South Australia have increased from 3 400 ML/day during November 2007 to 3 500 ML/day in December 2007.
- Water levels continue to drop below Lock 1 and salinity levels continue to increase due to the limited water available for dilution flows.

Summary of Murray-Darling Basin storages

The volume of water in the River Murray storages has continued to drop. The total storage volume at 30 November 2007 was 1 885 GL (20% capacity), which is significantly below the long-term average storage volume for the end of November of 7 040 GL (75% capacity). Figure 1 shows the storage volumes in early December 2007.

Significant inflows will be needed for the storages to recover to more normal or average operating levels. For example, about five years of average inflows will be required to refill Dartmouth Reservoir.

Figure 1: Volume of water in storage 7 December 2007



River Murray inflows

During November 2007, there was reasonable rainfall in the upper Murray and Murrumbidgee catchments. Total River Murray system inflows during November 2007 were approximately 168 GL. While still well below the long-term median of 640 GL, this total is slightly above the forecast inflows of 150 GL for the month and higher than the November 2006 volume of 55 GL.

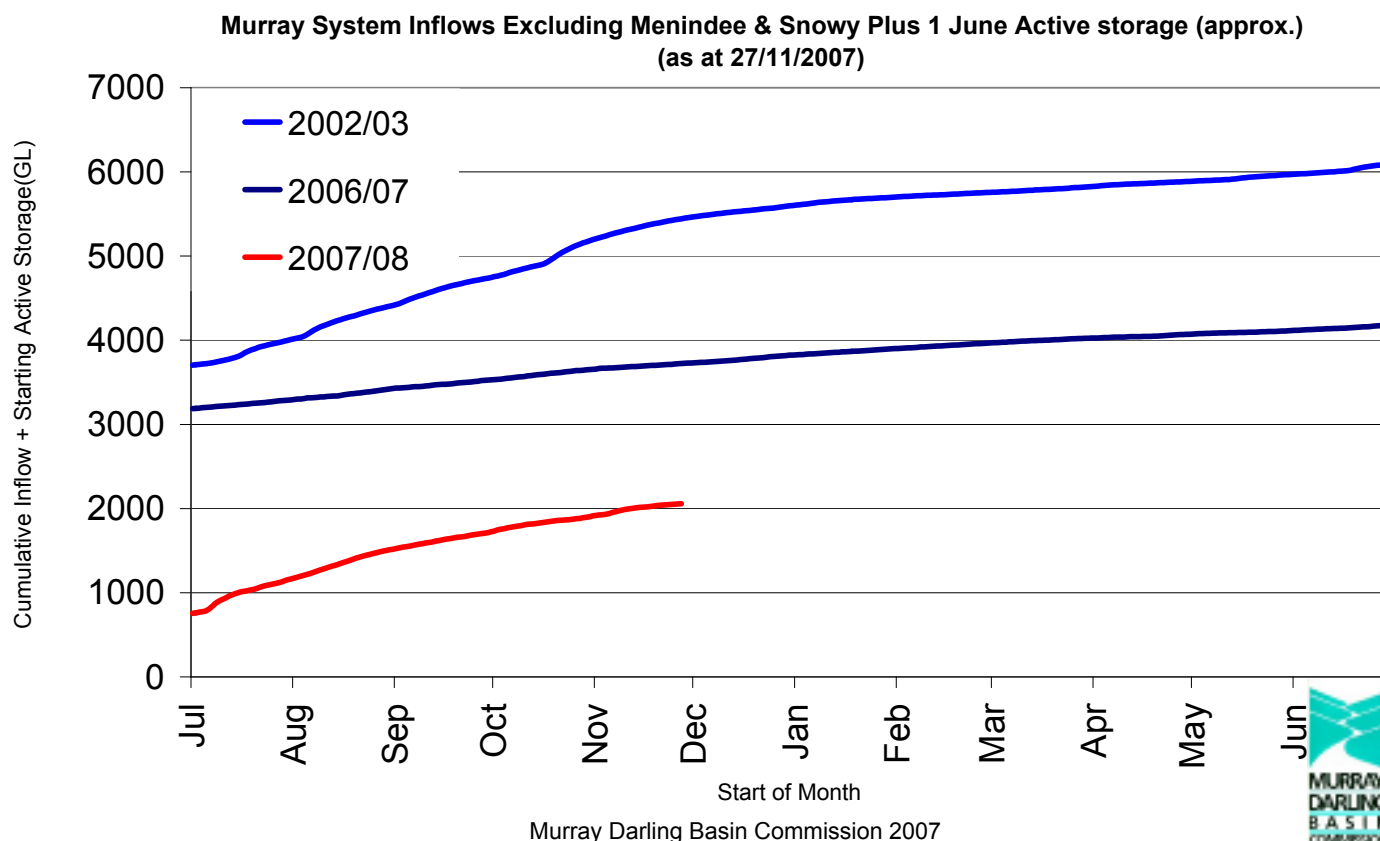
River Murray system inflows from 1 June 2007 to 30 November 2007 were about 1 585 GL, compared to the long-term average for the same period of about 6 040 GL. This means that River Murray system inflows so far this year have been about 25% of the long-term average inflow for that period.

Figure 2 outlines the River Murray inflows plus the starting active storage for the 2002-03, 2006-07 and 2007-08 water years. Although inflows during 2007-08 have been better than those received during the same period in 2006-07, the total resource available is still less than in 2006-07 because the initial volume in storage was less at the start of this year.

If hot weather and low inflows continue over the coming months, there is a significant chance that storage volumes may fall to unprecedented low levels by the end of May 2008. Contingency plans are underway to secure water for critical supplies for 2008-09 if this is the case. The contingency plans are necessary because the main rainfall/runoff period is now finished and the chances of having higher inflows to replenish storages are significantly diminished.

The Murray-Darling Basin Commission (MDBC) is continuing to conserve as much water as possible by using weir pools upstream of South Australia to supply downstream requirements. Lowering of these weir pools also reduces evaporative losses from the River Murray. For information on weir pool lowering, please visit the MDBC website: www.mdbc.gov.au

Figure 2: River Murray system inflows and active storage



Weather outlook

The Bureau of Meteorology has provided new weather forecasts for December 2007 to February 2008. These forecasts show there is a 45% to 50% chance of exceeding median rainfall across the southern Murray-Darling Basin and a 55% to 70% chance of exceeding the median maximum temperature during this period. For further information visit: www.bom.gov.au/climate/drought/drought.shtml

River Murray operations in South Australia

Flow to South Australia over the past fortnight has been maintained at approximately 3 400 ML/day, rising to 3 500 ML/day for December 2007. The normal minimum entitlement flow is 7 000 ML/day while during December 2006, the average was 5 780 ML/day. The current flow to South Australia covers estimated losses and diversions. It also includes a salinity dilution flow of 700 ML/day, which has been delivered since mid-September 2007.

A contingency flow has been set aside from South Australia's dilution flow for algae management during 2007-08. Flows may be adjusted if this water is needed to break up any algae outbreaks.

Upstream of Blanchetown, water levels immediately upstream of all locks in South Australia are being maintained at full supply level, although water access in the upstream reaches of the weir pools, particularly in backwaters, has been impacted by the low flow rates in the river. Water levels below Lock 1 continue to decline. Table 1 outlines the water level and salinity data at the weir pools, Lake Alexandrina and Albert.

Information on the predicted water levels and salinity in Lake Alexandrina has been updated and is available at www.dwlbc.sa.gov.au/murray/drought/index.html. The modelling indicates that water levels within Lake Alexandrina will continue to decline unless increased flows across the border are received.

Leakage through and over the barrages at the bottom of Lake Alexandrina has occurred over the past four months. The South Australian Government has worked with the MDBC to rectify this problem. After investigating several different methods, SA Water is fixing leaks using a geo-fabric sock filled with bentonite (volcanic clay) and cement. This work has been completed at the Tauwitchere, Ewe Island and Mundoo Barrages, and is progressing at Goolwa Barrage.

Table 1: Water and salinity levels

	Actual Water Levels at 7/12/07		Full Supply Level	Variation from Pool Level	EC Level
	U/S m AHD	D/S m AHD	U/S of Weir m AHD	U/S of Weir m AHD	
Lock 6	19.26	16.28	19.25	0.01	192
Lock 5	16.29	13.27	16.30	-0.01	205
Lock 4	13.19	10.09	13.20	-0.01	278
Lock 3	9.83	6.29	9.80	0.03	384
Lock 2	6.14	3.28	6.10	0.04	522
Lock 1	3.21	0.18	3.20	0.01	735
Lake Alexandrina	-0.05				2894
Lake Albert (Meningie)	0.03				3538
Goolwa					19624

Lake Alexandrina and Albert water and salinity Levels based on 5 day average

Water levels below Lock 1 are affected by wind and will vary throughout the day

EC Readings below Lock 1 are daily averages and will vary throughout the day

Salinity levels

Salinity levels at the border have dropped from 350 EC in early September 2007 to an average of 195 EC in November 2007. This drop has been due to higher flows across the border and the delivery of 700 ML/day for salinity dilution flows.

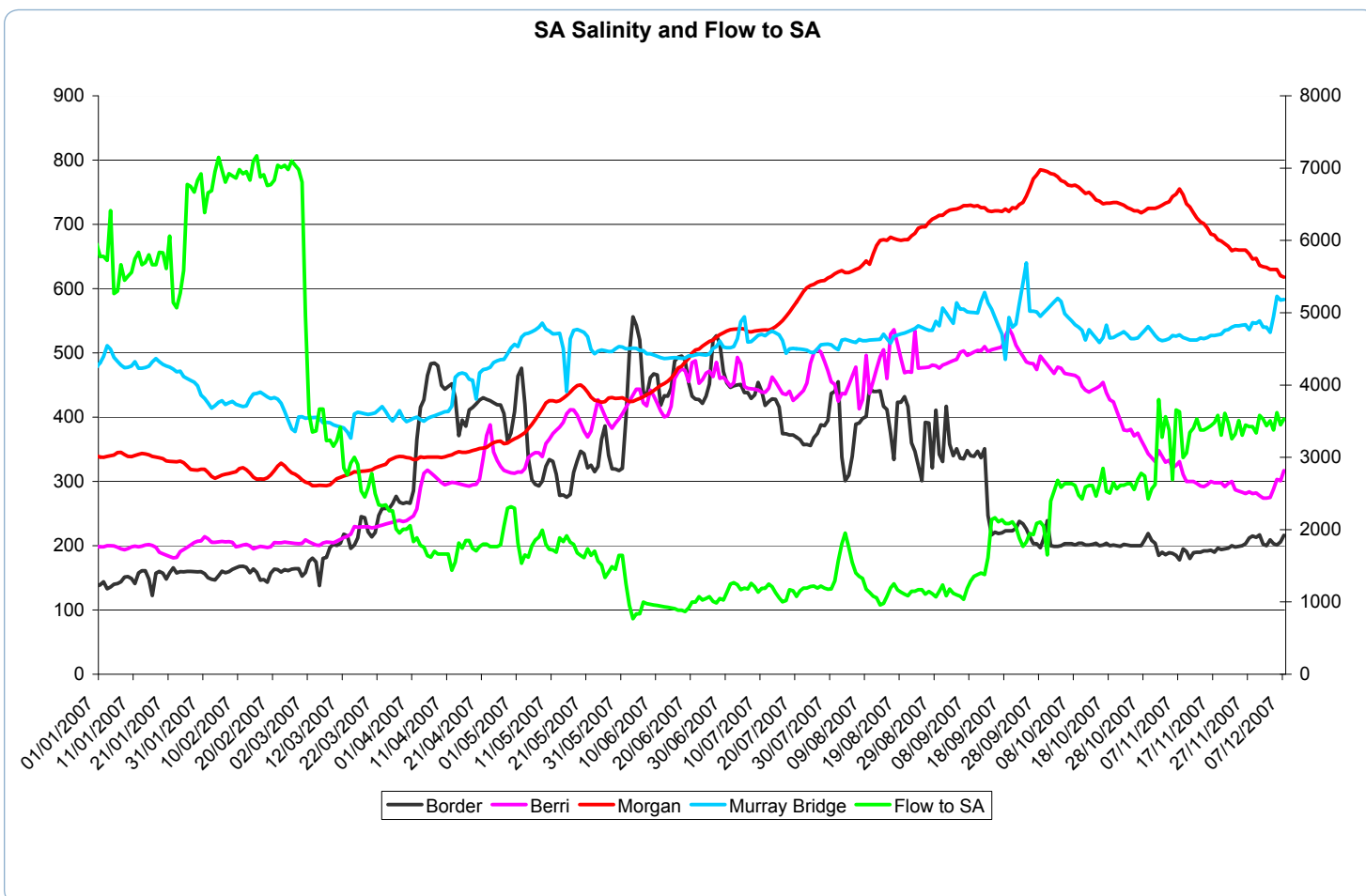
Table 2 outlines salinity levels prior to the delivery of the salinity dilution flows compared to the current levels at a number of selected locations.

Table 2: River Murray Salinity Levels in South Australia

Location	7 September 2007	7 December 2007
Border	348	216
Berri	496	317
Morgan	729	618
Murray Bridge	564	583

The level of salinity in Lake Alexandrina (Milang) on 7 December was 2 894 EC compared to 1 550 EC at the end of March 2007. The salinity in the Lower Lakes now precludes the use of this water for most irrigation purposes and in some areas, exceeds stock drinking water criteria.

Figure 3: Flows to South Australia



Water allocations

On 4 December 2007 the Minister for the River Murray announced that irrigation allocations will increase from 22% to 32%, effective 14 December 2007. For further information, please refer to the media release found at www.dwlbc.sa.gov.au/media.html

Water allocations in New South Wales and Victoria were also revised recently and are as follows:

- NSW Murray Valley High Security 0%, 50% suspended water* and critical water needs for permanent crops to the end of March 2008;
- NSW Murrumbidgee Valley 90% High Security (250 GL), plus suspended water and carry-over payback from 2006-07;
- Victorian Murray Valley 26% High Reliability Water Share;
- Goulburn Valley 37% High Reliability Water Share;
- Broken Valley 23% Reliability Water Share;
- Loddon Valley 5% Reliability Water Share; and
- Campaspe Valley 5% Reliability Water Share.

**Suspended water refers to the volume of water provided back to irrigators in 2007-08 that was suspended during 2006-07 when allocations were reduced in NSW.*

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

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