River Murray
Water Resources Report

South Australia

Government of South Australia

Issue 15: 25 March 2008

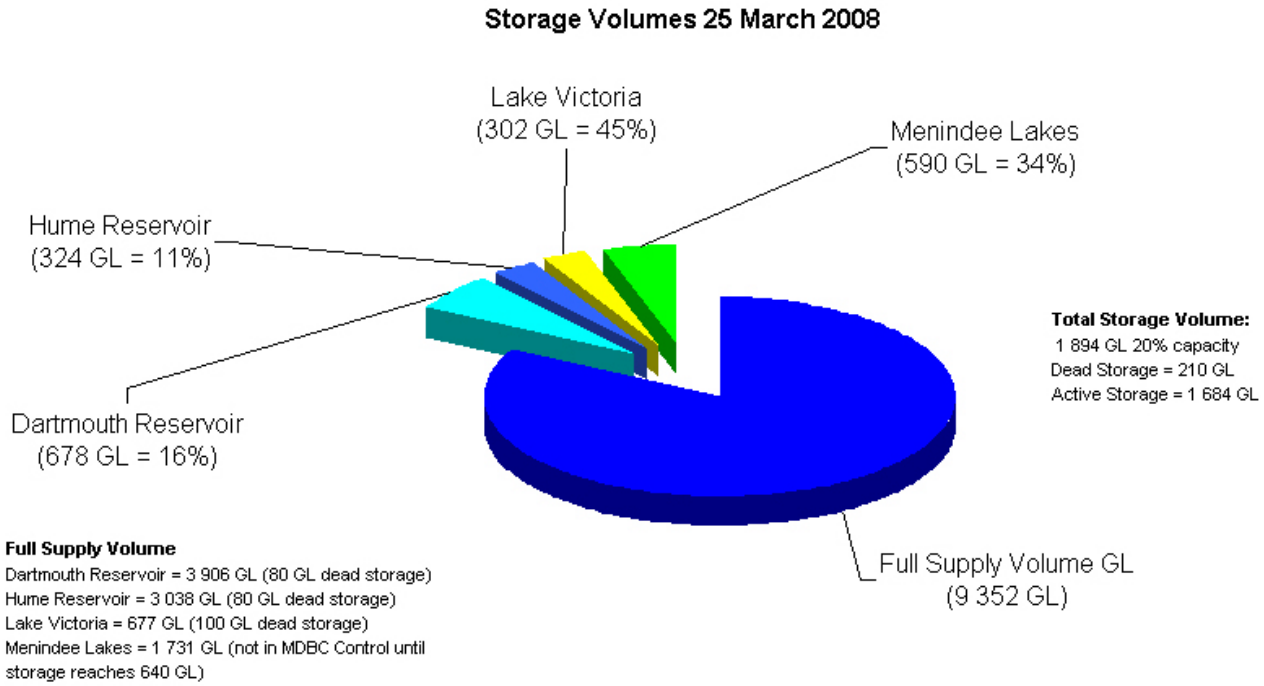
Observations at a glance

- Little rainfall fell across the Murray-Darling Basin over the past two weeks, reducing the amount of water flowing into Hume and Dartmouth Reservoirs.
- The River Murray system inflow (excluding Darling River and Snowy Hydro Scheme releases) for February was 98 GL.
- The volume of water currently in storage is 1 894 GL (20% capacity). This includes 590 GL in Menindee Lakes, all of which is owned by NSW.
- Flows to South Australia have been increased to 3 800 ML/day because of the higher temperatures and evaporation experienced over the past fortnight.
- The trading water rules for 2007-08 have been revised to allow licence holders to buy extra water specifically to carry-over for use in 2008-09.

Summary of Murray-Darling Basin storages

The volume of water in Murray-Darling Basin storages is currently 1 894 GL (20% capacity), compared to 1 063 GL (11% capacity) at the same time last year. The current volume in storage includes 580 GL held within the Menindee Lakes system. It also includes undelivered water for 2007-08 and water for critical needs in 2008-09 for NSW, Victoria and South Australia.

Figure 1: Storage volumes at 25 March 2008



All of the water currently in Menindee Lakes is owned by NSW under the current rules. The storage volume is required to exceed 640 GL for some of this water to come under Murray-Darling Basin Commission (MDBC) control. For the volume of water in this storage to increase, further rainfall and inflows are required across the northern section of the Murray-Darling Basin. If the storage volume increases to 640 GL, 160 GL of this would become available for sharing equally between NSW, Victoria and South Australia.

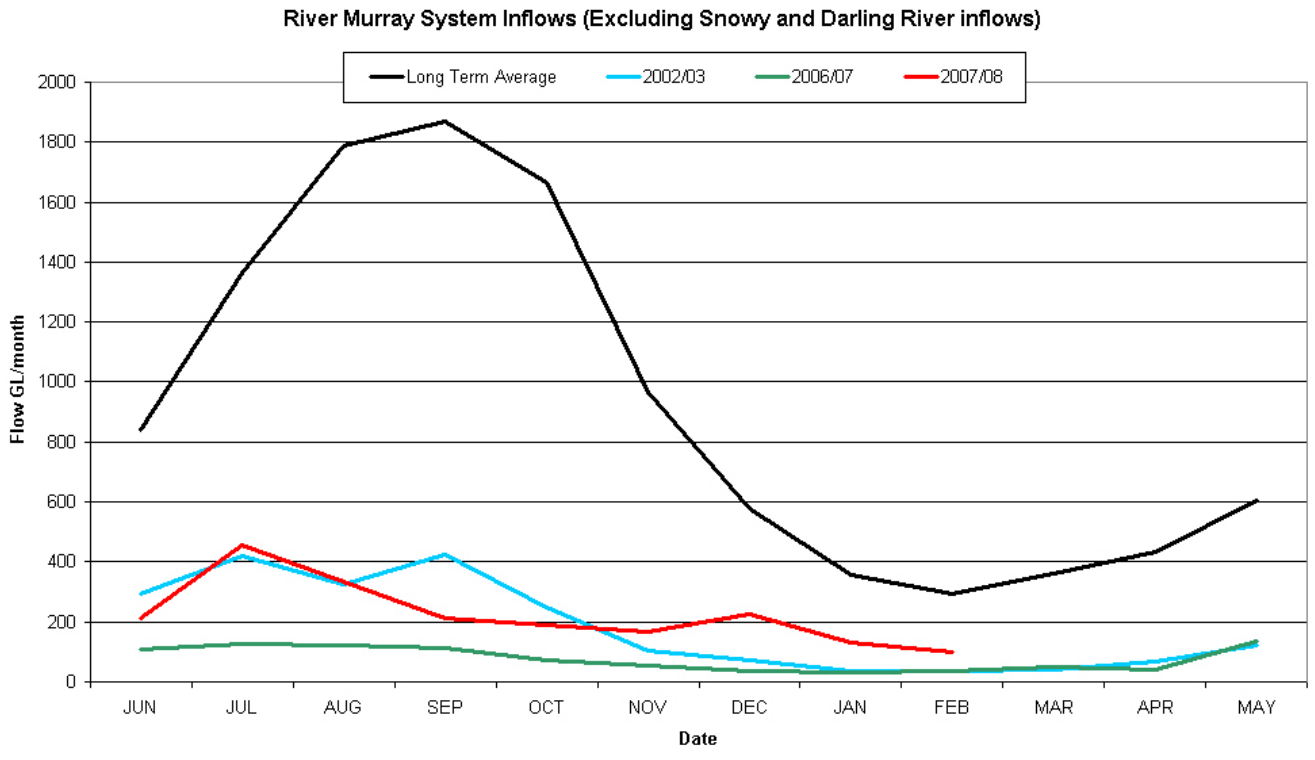
Rainfall and inflows

Total River Murray system inflow from 1 June 2007 until the end of February 2008 was 2 033 GL. Inflows still remain well below the long-term average.

During February 2008, the total River Murray system inflow was 98 GL, compared to average inflow for February of about 170 GL. Of the 98 GL, 36 GL came from the tributaries. The remaining 62 GL came from the shared Murray unregulated inflows (Hume and Dartmouth Reservoir unregulated inflow, Snowy Hydro Murray 1 Power Station releases, and Kiewa River inflows) and is available for sharing between New South Wales, Victoria and South Australia. River Murray system inflows are outlined in **Figure 2**.

Based on the current pattern of inflows into the River Murray and Murray-Darling Basin storages, it is unlikely that any significant improvement in shared resources will occur until at least July 2008 unless significantly above average autumn rainfall is received.

Figure 2: River Murray system inflows



River operations

River Murray flows upstream of the South Australia - Victorian border have been reduced in recent weeks to reduce operational losses and conserve water for 2008-09. Because of the hot weather experienced this month, some weir pools have been temporarily lowered to assist with meeting demands along the mid and lower reaches of the River Murray system. Weir pools that have been temporarily lowered include Euston, Torrumbarry and Yarrawonga.

South Australia's daily flow has been increased from 3 100 ML/day in February 2008 to 3 800 ML/day in order to manage weir pool levels above Lock 1 over the extended period of hot weather and subsequent higher demand. The normal minimum March entitlement flow is 6 000 ML/day.

Salinity levels above Lock 1 remain low. For example, at Morgan salinity has averaged 450 EC over the past week. Salinities below Lock 1 continue to increase as a result of reduced flows to South Australia. Murray Bridge salinity averaged 980 EC last week, compared to an average of 390 EC for the same period in 2007. Salinity in Lake Alexandrina is currently 3 913 EC, although there are sections where salinity levels are much higher. This compares to 1 390 EC for the same time last year.

Due to the limited water available to South Australia, there is not sufficient water to maintain water levels below Lock 1. Currently, the water level in Lake Alexandrina is minus 0.45m AHD (45cm below mean sea level) compared to 0.27m AHD at the same time last year. Revised water level modeling for Lake Alexandrina, taking into account the effects of the recent hot weather, is now available at:
http://www.dwlbc.sa.gov.au/murray/drought/index.html#ForecastsfortheRiverMurrayinSA

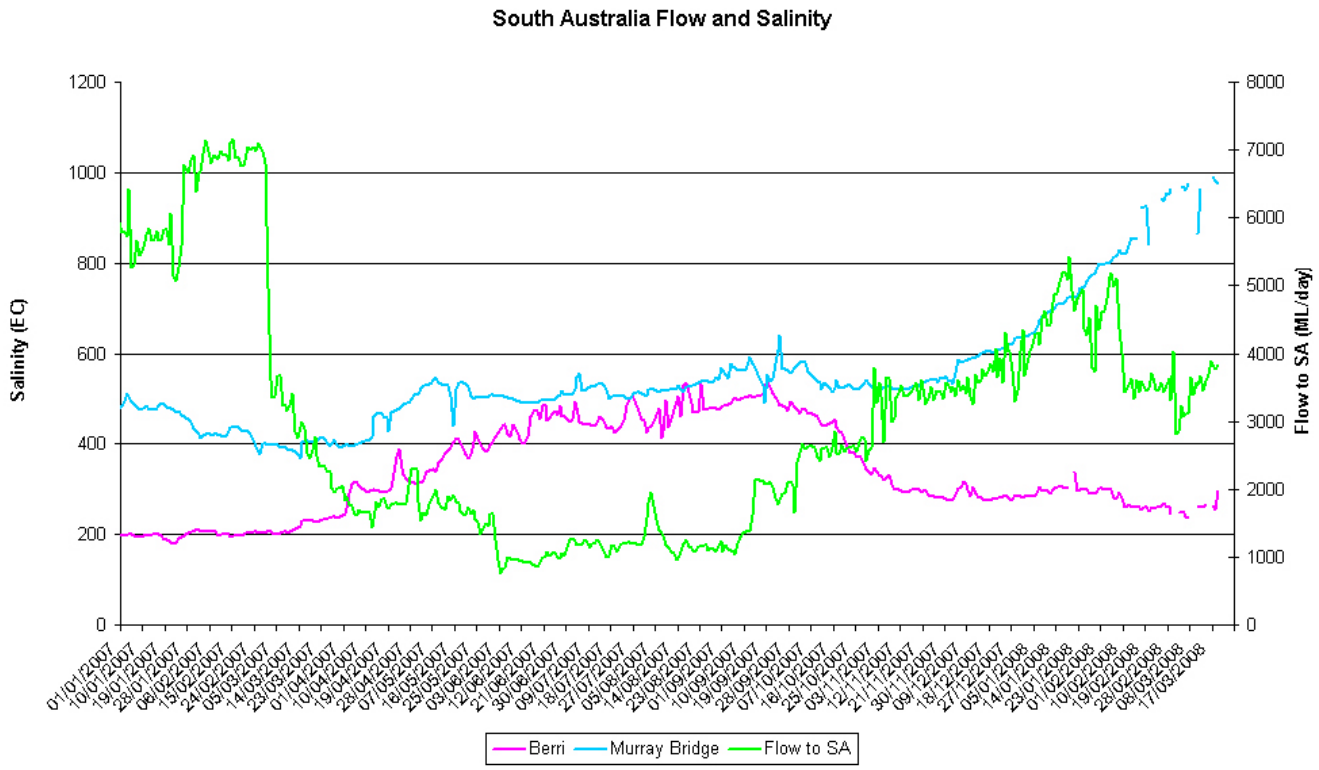
Lake Albert is currently about minus 0.5m AHD. The establishment of an embankment and pump near the entrance of Lake Albert is progressing as a matter of high priority. This will allow water to be pumped from Lake Alexandrina into Lake Albert to maintain water in Lake Albert at its current level and avoid the further development of acid sulfate soils and subsequent acidification of Lake Albert. It is anticipated that pumping will commence in mid April 2008 and continue until September 2008 when a reassessment of management options will be undertaken.

The pumping will only have a minor effect on the level and quality of Lake Alexandrina. In fact, the decrease in Lake Alexandrina's water level will be less than would have occurred naturally if Lake Albert had remained connected to Lake Alexandrina.

Table 1: Water levels and salinity levels at 25 March 2008

	Actual Water Levels at 25/03/08		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	19.25	16.31	19.25	0.00	221
Lock 5	16.30	13.28	16.30	0.00	206
Lock 4	13.21	10.13	13.20	0.01	256
Lock 3	9.83	6.23	9.80	0.03	322
Lock 2	6.12	3.30	6.10	0.02	414
Lock 1	3.25	-0.36	3.20	0.05	462
Lake Alexandrina (Milang)	-0.45				3870
Lake Albert (Meningie)	-0.50				not available
Goolwa					25881
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					

Figure 3: Flows and salinity levels in South Australia



Current water availability and irrigation allocations

River Murray water allocations in South Australia remain unchanged at 32 percent as a result of continuing low inflows into the River and storages. The latest assessment of water resources by the Murray-Darling Basin Commission, to the end of February, shows a 20 GL improvement in the total amount of water allocated to South Australia for 2007-08. This small increase will be used to pay off South Australia's imbalance to the other Murray-Darling Basin states and to secure critical human needs and carry-over for 2008-09. Therefore, no extra water will be available for allocations, and licensed water users will remain restricted to 32 percent of their allocations.

Since 1 June 2007, South Australia has been allocated a total of 1 070 GL (excluding trade) and this includes 350 GL for consumption and 720GL for dilution flow and losses from the system. Water will be held back from the dilution flow component to supply critical needs in 2008-09 in accordance with the rules agreed between the Commonwealth, NSW, Victoria and South Australia.

The Department of Water, Land and Biodiversity Conservation has produced a series of new diagrams showing:

- the total amount of water predicted to be available for sharing between South Australia, NSW and Victoria during 2007-08 (**Figure 4**).
- how water available to South Australia for consumptive use is allocated (**Figure 5**).
- how South Australia's dilution flow is used (**Figure 6**).

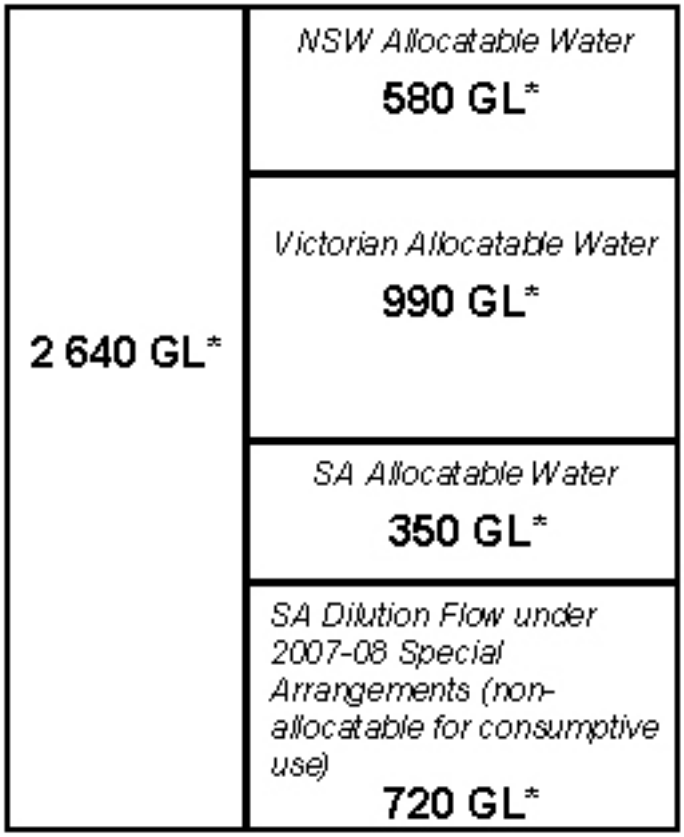
These and are also available on DWLBC's website at:
www.dwlbc.sa.gov.au/murray/drought/index.html

The figures provided in **Figure 4** represent the total volume of water predicted to be available for sharing between NSW, Victoria and South Australia between 1 June 2007 and 31 May 2008 based on the end of February 2008 Murray-Darling Basin Commission water resources assessment. These figures include access by NSW and Victoria to tributary flows, which results in the differences between the volumes allocated to each jurisdiction.

The volumes available to each State represent water availability under the current special (3L) water sharing rules but do not include trade. Trade effectively results in an adjustment in the relative State shares but the total volume available does not change.

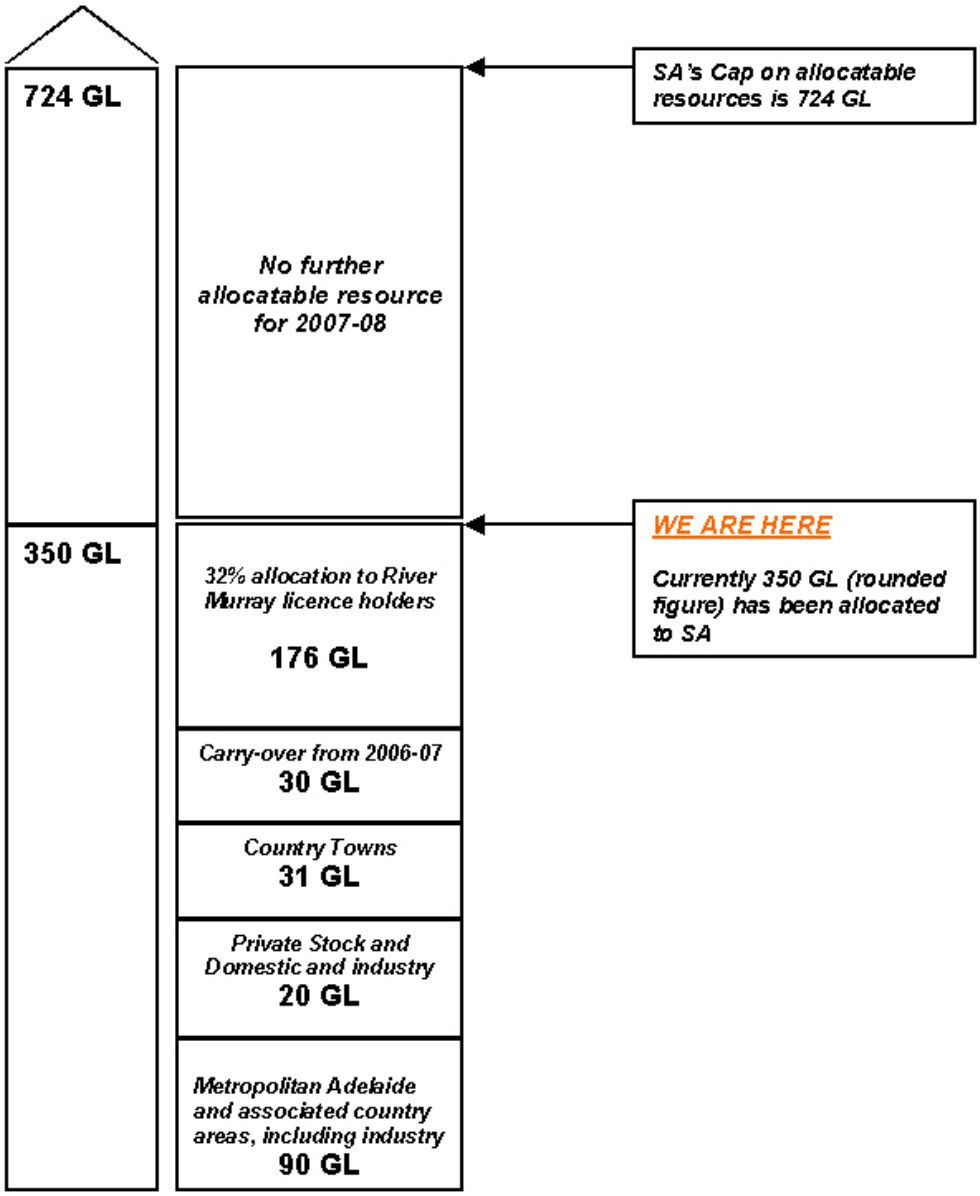
Under the normal Murray-Darling Basin Agreement water sharing rules the share of water to South Australia would have been less than 1 070 GL.

Figure 4: Total predicted River Murray water available for sharing between NSW, Victoria and SA as at 7 March 2008 (excluding trade)



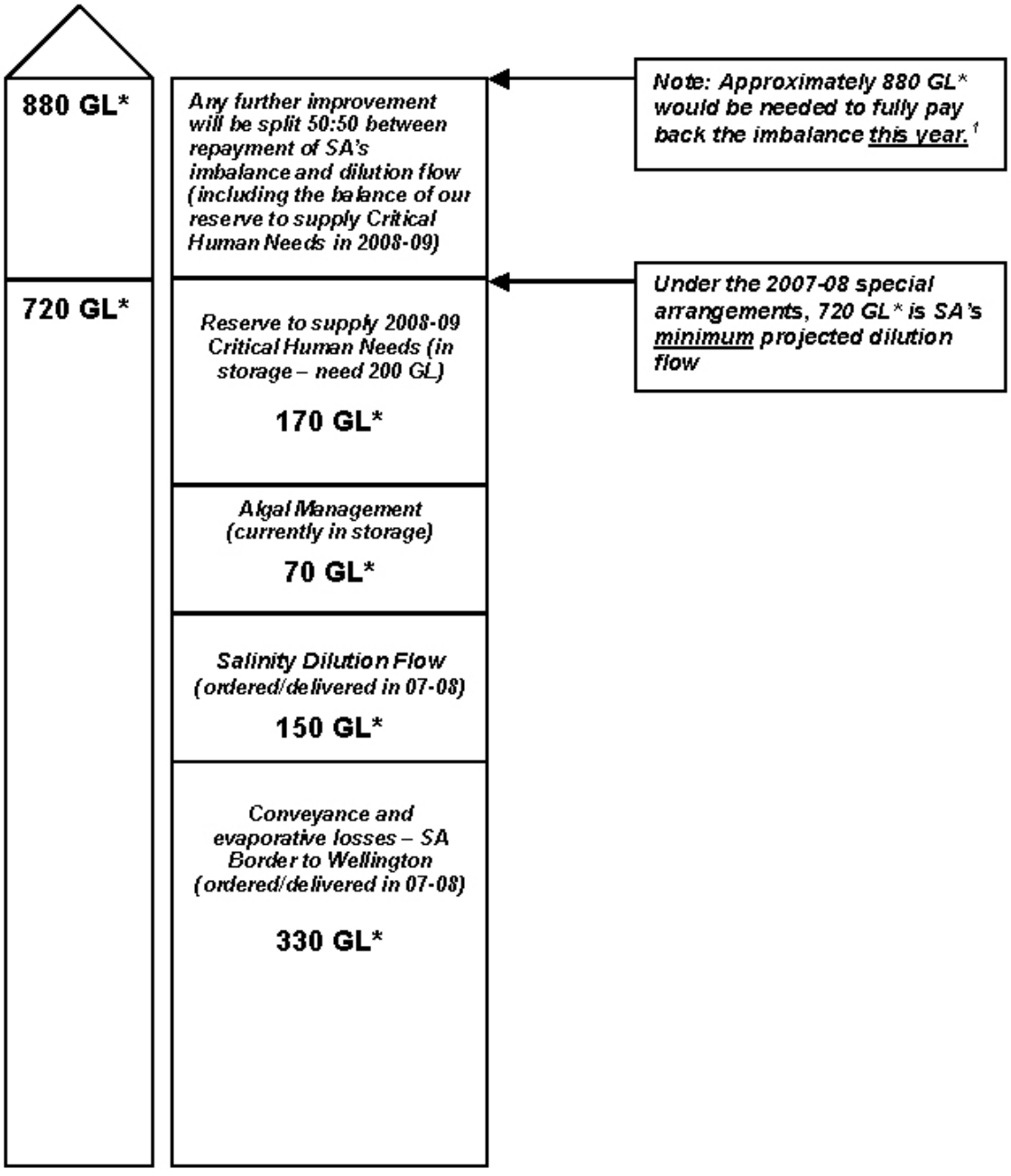
***Rounded totals**

Figure 5: SA allocatable water as at 7 March 2008



Notes: These figures do not include interstate trade, which currently amounts to an additional volume of approximately 90 GL available to South Australian irrigators.
Carry-over for 2008-09 will be provided from unused portions of the 32% allocated to South Australian irrigators and unused portion of interstate trade. Flow to SA will be reduced between April and June 2008 to retain expected carryover water in storage (quarantined for use in 2008-09).

Figure 6: SA dilution flow (2007-08 special arrangements) as at 7 March 2008



[1]The 7th Drought Contingency Planning Report to First Ministers in December 2007 identified that an imbalance had occurred in water sharing arrangements and that SA needed to pay back 148 GL. As at 7 March 2008, a volume of 83 GL remains to be paid back. This will come from 50% of further improvements in dilution flow allocated to SA. Therefore, approximately 160 GL of improvement is required to deliver 83 GL.

Opening allocations for 2008-09

There is a 50-50 chance of an opening allocation for 2008-09 of up to 5 percent. According to the Murray-Darling Basin Commission, this probability depends on rainfall and inflows into the system before 1 July 2008. Possible scenarios for flows to South Australia in 2008-09 will be outlined in an update to be provided by the Minister for the River Murray in mid-May 2008.

Carry-over and water trade

On Tuesday, 18 March 2008, the State Government announced that revised rules for water trading in 2007-08 would allow licence holders to buy extra water specifically to carry-over for use in 2008-09. While carry-over water cannot be guaranteed, irrigators who have topped up their usable water to 100% of their licensed entitlement, can now trade additional water allocations to their licence in 2007-08 without having to go through a full technical assessment.

Irrigators are reminded that all carry-over applications must be submitted by 31 March 2008 and late applications will not be accepted.

Further information about carry-over, including application forms, can be found at www.dwlbc.sa.gov.au/murray/drought/index.html

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**