

**Murray-Darling Basin
Dry Inflow Contingency Planning
Update on water availability
June 2007**

Introduction

At the Water Summit on the Murray-Darling Basin (MDB) on 7 November 2006, senior officials were asked to examine contingency planning to secure urban water supplies in 2007-08. In January 2007 the Prime Minister and the Premiers of New South Wales (NSW), Victoria and South Australia agreed to the recommendations of the “*Murray-Darling Basin Dry Inflow Contingency Planning Report*” and committed governments to regular reporting on water availability and implementation of contingency planning measures.

On 20 April 2007, jurisdictions announced their agreement to the release of April 2007 Contingency Planning Overview Report and released a joint statement outlining the key recommendations. On 20 June 2007, the May 2007 Contingency Planning Overview Report and joint statement was released. The April and May 2007 Contingency Planning Overview Reports are available at www.environment.gov.au.

This June 2007 update provides a seasonal outlook for rainfall, an update on inflows and water availability since May 2007 and an explanation of how water availability in the system relates to State water sharing arrangements for water above critical demand, which were agreed by the Prime Minister and relevant State premiers on 20 June 2007.

This update on inflows mainly addresses areas dependent on the water resources of the southern MDB allocated to States under the terms of the MDB Agreement.

Water outlook - Seasonal outlook for rainfall

Information from the Bureau of Meteorology indicates that during autumn 2007 rainfall was close to average across most of the eastern half of the MDB. Rainfall was above average across most of the western half of the basin, including north western Victoria and extending into South Australia.

However, average rainfall has been insufficient to overcome the depletion of groundwater stores that has resulted from extended dry conditions and record low rainfall in the preceding 12 months. Whilst the surface of major River Murray catchments is now becoming saturated, the Murray-Darling Basin Commission advise that leakage through to groundwater remains high, resulting in lower runoff and lower baseflows than would normally be expected for the amount of rain received in recent months. Heavy rainfall is required across much of the MDB to provide significant relief. It is notable that the high catchment areas in the southern MDB will need to experience ‘above’ or ‘very much above’ average rainfall to reduce the long-term deficits (Figure 1 and Figure 2).

Figure 1: Rainfall deciles 1 June 2006 to 31 May 2007

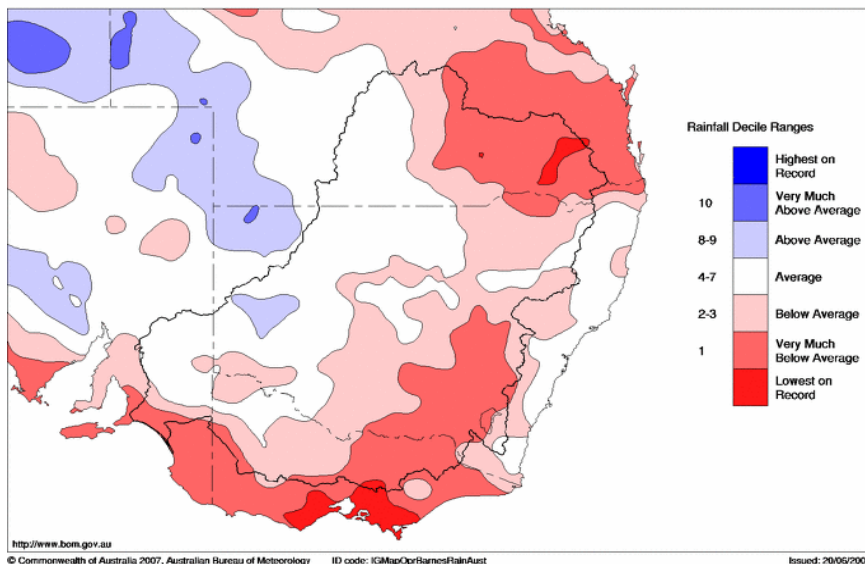
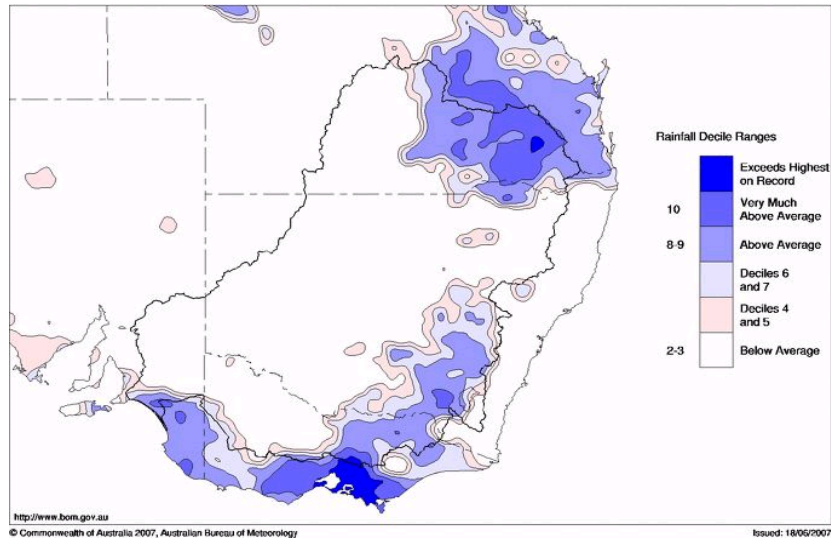


Figure 2: Rainfall required from June to August 2007 to raise total rainfall (since June 2006) to above the lowest 10 per cent on record



The likelihood that sufficient rainfall will fall over winter to relieve the severe rainfall deficiencies is low. At this stage, the outlook for July to September 2007 total rainfall shows that across the Basin there are no strong indications to either above average or below average rainfall.

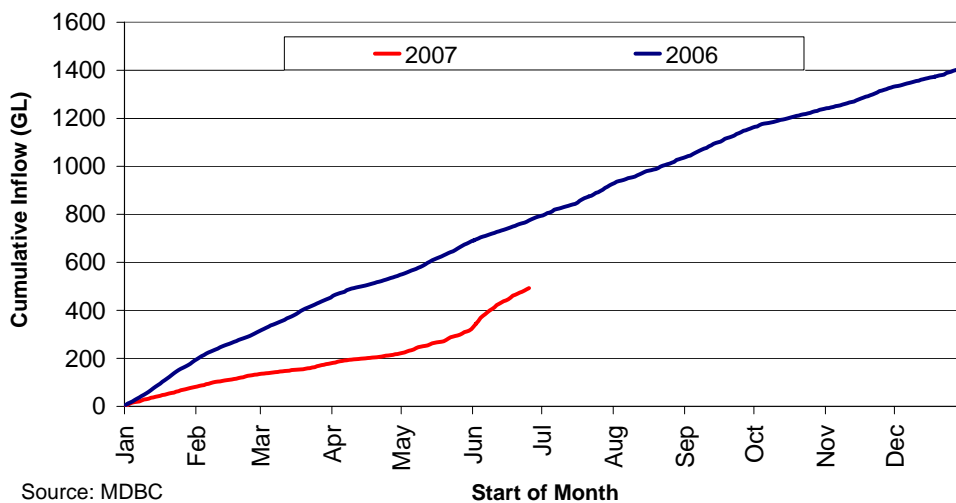
In recent months there have been neutral El Niño Southern Oscillation (ENSO) conditions in the tropical Pacific, though with more of a La Niña-like signature. Neutral ENSO conditions are expected to continue during the coming months, though development of a La Niña event still remains possible in 2007-08. Some of the recent rainfall systems in the north and east of Australia are typical of what we would expect to see during a La Niña event.

If conditions in the Pacific trend further towards a La Niña event then this would increase the likelihood of higher rainfall across the Basin and improve the odds of getting some relief. Regular information on rainfall and the seasonal outlook is available at www.bom.gov.au.

Projections of Basin wide water availability

Rain in upper Murray catchments in late May and June 2007 has started to increase runoff and has contributed to small improvements in system inflows (Figure 3).

Figure 3: Total Murray System Inflow (excluding Snowy Hydro) as at 25 June 2007.



Due to the improved inflows, the volume of water above that required to meet critical demand, at 25 June 2007, has increased from 44 GL to 148 GL since the situation described in the May 2007 Contingency Planning Overview Report (Table 1).

Table 1: Murray System hydrology update for Scenario A: Inflows in 2007-08 are the same as 2006-07

	April 2007 Overview Report Data - Lower Bound Measures (GL)	May 2007 Data - Lower Bound Measures (GL)	June 2007 Estimated as at 25 June	
Total Murray Reserves plus inflow 2007/08	1310	1442	1537	
Losses upstream of SA Border	750	750	750	
MDBC Storage Losses	0	50	50	
Supply Restricted Vic Murray urban and D&S (27 GL & 26 GL)	53	53	53	
Supply Restricted NSW Murray urban and D&S (35GL & 40GL)	75	75	75	
Estimated June 2007 Irrigation Consumption (NSW & Vic only)		33	24	State water years are 1 July to 30 June, so current allocations apply until end June.
Balance after Losses and NSW & Vic Critical Urban and D&S Demands met	432	481	585	
Proposed Measures to Increase Water Availability				
1. Upstream of SA Border				
Reduced Minimum flow (10 - 100)	10	10	10	
Disconnect selected wetlands	45	45	45	75 GL total includes 45 GL upstream of SA Border and 30 GL downstream.
Store late 2006/07 inflow improvement	Some	Some	Some	Included in end of 06/07 reserve.
South Australia				
Losses SA Border to Wellington	363	363	363	Lower water levels downstream of Lock 1 will dry out shallow wetlands reducing evaporation.
SA Restricted Adelaide and country town urban and D&S	201	201	201	60GL will be pumped in advance in 2006-07 leaving 141 GL to be supplied in 2007-08.
Estimated June 2007 Irrigation Consumption (SA only)		18	18	State water years are 1 July to 30 June, so current allocations apply until end June.
Required Flow to SA (prior to contingency measures)	564	582	582	req if SA losses high
Shortfall with no interventions	-132	-101	3	Negative indicates shortfall
Proposed Measures to Increase Water Availability				
2. Downstream of SA Border				
Early pumping Adelaide (2006/07 only)	60	60	60	Note that whilst it has been identified that 60 GL will be pumped early to Adelaide water supply storages to meet 2007/08 demand, it is expected that if dry conditions continue Adelaide pumps will continue operating even after 2007/08 requirements are met in order to provide reserves for 2008/09.
Disconnect selected wetlands	30	30	30	75 GL total includes 45 GL upstream of SA Border and 30 GL downstream.
SA Total Flow (required to meet maximum losses - with contingency measures)	487 *	487	487	
Adjustment for updated data and additional June SA consumption		5	5	
Revised SA Total Flow (required to meet maximum losses - with contingency measures)		492	492	
Total Volume of Offset Measures	145	145	145	
Net available for other purposes (Irrigation, Critical Environmental, Dilution etc)	0 *	44	148	<- Volume range expected to be available for other purposes post 1 July 2007 (note that an error margin of about +/-50-100 GL should be taken into account for the magnitude of total inflow shown here).

Source: MDBC

The water sharing arrangements agreed on 20 June 2007 by the Prime Minister and the premiers of NSW, Victoria and South Australia to cover this period of low water availability, will be used as the basis for the delivery of bulk water entitlements to each of the three southern MDB States. The water sharing arrangements determined that the next 492 GL of improvements, after water required for critical demand, would be allocated proportionally such that 120 GL be allocated to each of NSW, Victoria, dilution flows and losses in South Australia and to South Australian diversions; and 12 GL made available for River Murray Improved Flows (a total allocation of 761 GL).

Using this formula, with 148 GL of improvements above water required for critical demand, each State is entitled to 36 GL, with 36 GL for South Australia dilution flows and 4 GL available for the environment to ensure the survival of key fauna and flora through this extreme drought situation (Table 2).

Table 2: River Murray system water shares for each State sharing 148 GL

	NSW	VIC	SA	SA dilution flows	River Murray improved flows
Gigalitres (GL)	36	36	36	36	4

Victoria, NSW and South Australia have announced commencing allocations for the 2007-08 water year based on these agreed shares. At this stage only a small amount of water is available above that needed for critical demand. Water availability will be kept under continual review (updated at least fortnightly) and further allocation advice will be provided by States. The next updated allocation advice is expected to be provided by States on 16 July 2007.

Further details of the State water sharing arrangements agreed between the Commonwealth Government and relevant State governments are available at Attachment 2 of the May 2007 Contingency Planning Overview Report at www.environment.gov.au.

Senior officials working on contingency planning in the southern MDB will advise First Ministers in their next report whether there is a case to set aside a share of any improved inflows in the Murray System in 2007-08, including: the appropriate quantum and timing of a reserve to ensure critical water supplies can be delivered in 2008-09; how a reserve should be established; and any legal requirements for authorising the Murray-Darling Basin Commission to implement decisions.

Conclusions

Rainfall in late May and June 2007 across the southern MDB has improved inflows and contributed to an increase in water availability above that required to meet critical human needs, from 44 GL in May 2007 to 148 GL as at 25 June 2007.

Rainfall for the year to date has been about average. However, average rainfall has been insufficient to significantly reduce the long-term rainfall deficits. Above average rainfall to very much above average rainfall will be required in the southern Basin over the next three months to reduce the rainfall deficits experienced since June 2006.

Although there has been some improvement in the water availability outlook for the Murray System, the situation remains difficult. State water shares above those needed for critical demand are agreed between jurisdictions and these State water shares are being used by States to determine allocations to entitlement holders. Water availability will be kept under continual review and further allocation advice will be provided by States.

Senior officials will advise First Ministers in their next report on whether or not there is a case for setting aside some of the improved inflows in the Murray System in 2007-08 for the delivery of critical water supplies in 2008-09.