

REPORT FOR THE WEEK ENDING

Wednesday, 27 June 2007

Our Ref : M2006/01015/prs, dwg
Trim Ref : 07/8618

29 June, 2007



Rainfall and Inflows

There was widespread rain this week across southern Queensland, eastern NSW and south-eastern Victoria as another low pressure cell made its way down the east coast of Australia (*see map*). Recent low pressure cells produced heavy rain and flooding in the Hunter Valley and south coast of NSW. This latest weather system has resulted in major flood warnings for several rivers in Victoria's Gippsland region (www.bom.gov.au).

Although the highest rainfall totals were in catchments to the south-east of the Murray-Darling Basin, there has been a small increase in inflows to the River Murray System. Inflow to Dartmouth Reservoir increased from 1 000 to 5 500 ML/day but is now gradually declining. Flow in the Ovens River at Wangaratta has increased from 600 to 2 600 ML/day and should exceed 4 000 ML/day this weekend. Although the Upper Murray catchment generally received less rain than the Victorian alpine area, the flow in the River Murray at Biggara has increased from 400 to 2 700 ML/day, the highest flow rate at this site since October 2005. An accurate assessment of the overall improvement in flows to the River Murray System from this rain will be included next week, but at this stage it is expected to be in the order of 100 GL.

Other catchments within the Basin have also benefited from the rain this week. Storage in Wyangala Dam (Lachlan River) has increased by 2% to 7.4% capacity as inflows increased from 2 000 to 15 000 ML/day. Storage in Burrinjuck Dam (Murrumbidgee River) increased from 26% to 29% capacity and Lake Eildon (Goulburn River) has increased from 8% to 10% after inflows increased to 29 000 ML/day.

River Murray System Operations

Release from Hume Reservoir will be varied on a daily basis over the coming weeks to allow a routine inspection of the spillway (*see attached media release*). Although the same amount of water would be released each day (400 ML/day), the flow rate downstream of the dam would be higher during the daytime and then lower at night.

Release from Yarrawonga Weir was reduced from 2 600 to 2 000 ML/day earlier in the week but has now been increased to 3 000 ML/day (29 June) in order to pass the higher inflows from the Ovens and Kiewa Rivers. Further increases in the release from Yarrawonga Weir are expected to be made over the coming week. Stevens Weir pool (Edward River) will be partially lowered over the coming weeks to allow maintenance on the Colligen Creek offtake regulator (*see attached media release*). This will result in the flow downstream of Stevens Weir temporarily increasing from 200 to about 500 ML/day.

Flow in the River Murray at Wentworth is currently 5 000 ML/day as a result of the previous rain event in late May. The majority of this water is being diverted into Lake Victoria storage, which has increased in volume by 28 GL to 276 GL (41% capacity).

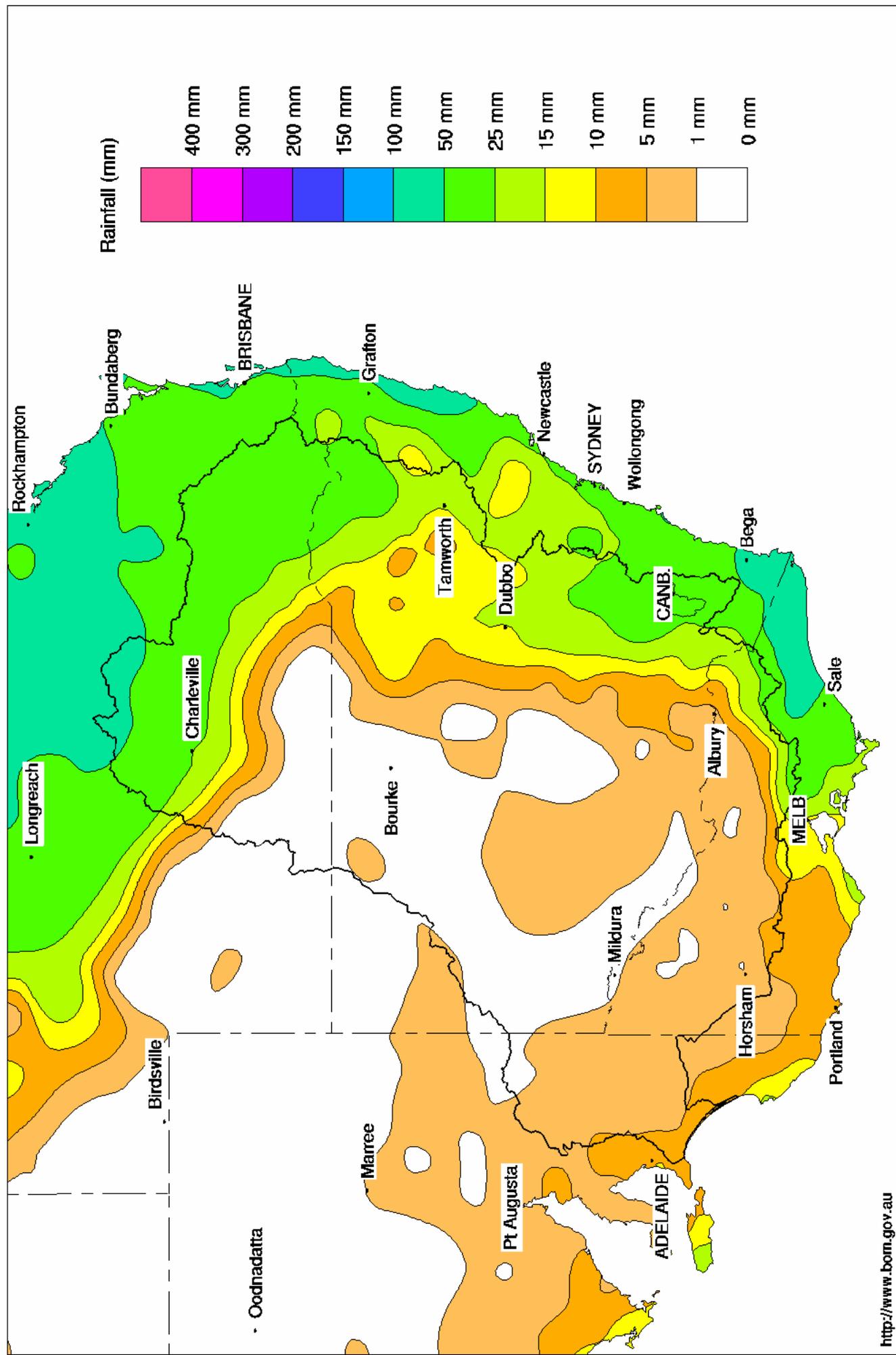
Flow to South Australia has been steady at about 1 000 ML/day, however the flow past Lock 1 has continued to gradually decline. It is currently 100 ML/day after being 2 000 ML/day earlier this month as a result of local rain. The flow past Lock 1 will be increased this weekend to about 300 ML/day.

DAVID DREVERMAN
General Manager

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Murray Darling Rainfall Analysis (mm) Week Ending 27th June 2007

Product of the National Climate Centre



MEDIA RELEASE

Wednesday, 27 June 2007

RELEASE FROM HUME RESERVOIR TO BE VARIED OVER COMING WEEKS



The Murray-Darling Basin Commission today announced that the release from Hume Dam will be varied over the coming weeks to allow a routine inspection of the spillway.

Mr David Dreverman, General Manager of River Murray Water, said that although the same amount of water would be released each day (400 ML/day), the flow rate downstream of the dam would be higher during the daytime and then lower at night.

This variable flow pattern is likely to commence on 28 June 2007 and continue for at least one week.

The level of the River Murray at Heywoods Bridge is currently 1.06 m (gauge height) and is expected to vary between about 0.9 and 1.45 m on a daily basis.

The variable release will mainly affect the short section of the River Murray (about 18 km) between Hume Dam and the junction with the Kiewa River.

Further downstream at Albury, the flow in the River Murray is being supplemented by inflows from the Kiewa River and as such the variable flow pattern will be less noticeable.

Boat operators, stock owners, river pumpers and other river users are advised to take these changed water levels into account and make any necessary adjustments to their activities.

Further advice will be provided if this operation needs to be extended for a longer period of time.

For further information contact:

Sam Leone

Media Officer

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(Sam Leone is not to be quoted as a spokesperson)

TRIM Ref: 07/8579

Media Release

State
Water

STEVENS WEIR POOL LEVEL TO BE LOWERED

29 June 2007

State Water today announced that the annual winter lowering of Stevens Weir pool has commenced.

South Area Customer Service Manager Lindsay Beck said the water level will be gradually lowered to assist with annual maintenance works within the weir pool.

"Due to the continuing drought conditions, the annual lowering of Stevens Weir pool has been delayed this winter over concerns regarding the ability to meet town water supply requirements in the Edward River at Deniliquin and Moulamein," he said.

"Recent rainfall is expected to increase river flows upstream, which now means there is scope to temporarily lower the weir pool level with confidence that there will be sufficient water available to refill the pool when required."

The reduction in weir pool levels means that river levels in the Edward River at Deniliquin could fall from the current level of 1.5m to about 0.4m.

Edward River levels downstream of Stevens Weir will rise slightly during the drawdown.

"River users need to be aware of changing river levels and protect stock and equipment accordingly," Mr Beck concluded.

State Water will issue further advice regarding the proposed timing of the refilling of Stevens Weir pool at a later date.

River users requiring further information should contact the Duty Operations Officer on (03) 5898 3925.

-ENDS-

**Media enquiries and interviews:
Suzie Gaynor 02 6841 2006 or 0428 613 478**

For **Water Delivery Announcements** and State Water Media Releases go to:
<http://www.statewater.com.au/whanew/mediareleases.htm>

For **Available Water Determinations** and Department of Water and Energy
Media Releases go to:
http://waterinfo.dlwc.nsw.gov.au/mediarelnr/mr_toc_currnr.html

For more information about **storage levels** and **river heights**
go to the *Waterinfo Website* at <http://www.waterinfo.nsw.gov.au>



River Murray System - Drought Update No. 8 June 2007

IN BRIEF

Promising early signs

Key developments since the last update in April 2007 have been:

- Rainfall across the upper River Murray has continued at about average rates.
- Catchments remained extremely dry in April - inflow for the month set a new April low of 40 GL.
- May inflow was 103 GL (less than May 2006 at 137 GL - record low for May was 75 GL in 1902).
- By early June catchments were 'wetting up' - flow rates in upper Mitta Mitta and Ovens Rivers were the highest seen since December 2005.
- June inflows are expected to be more than 180 GL - about 70 GL higher than June 2006.
- The Bureau of Meteorology reports "*an elevated chance of a La Niña event occurring in 2007*".

Partner Governments are finalising arrangements which will allow small amounts of water to be made available to the States at the opening of the 2007/08 irrigation season. It is expected that the initial volumes will be very small and further information will be provided by the relevant State authorities over coming weeks.

A long long way to go to break the drought...

Despite these welcome signs, significant persistent rainfall will be needed over coming months to improve the outlook for water availability and for the environment of the River Murray.

The end of May 2007 Murray system active storage volume of 740 GL was 380 GL below the previous lowest level of 1120 GL post-Dartmouth construction in 1983. It is estimated that streamflows would need to be in the wettest 15% of records for Hume Reservoir to spill this winter/spring. It is likely that, even with good falls of rain this year, it could take several years for storage levels to return to long-term average levels.

CURRENT SITUATION

Rainfall and Streamflows

Rainfall in recent months has brought some hope to rural communities across much of the Murray-Darling Basin. Figure 1 shows how rainfall in May 2007 compared with May 2006. There was between 25 and 100 mm more this year across much of the Basin - excluding the upper Darling catchment in southern Queensland where rainfalls have been similar to last year.

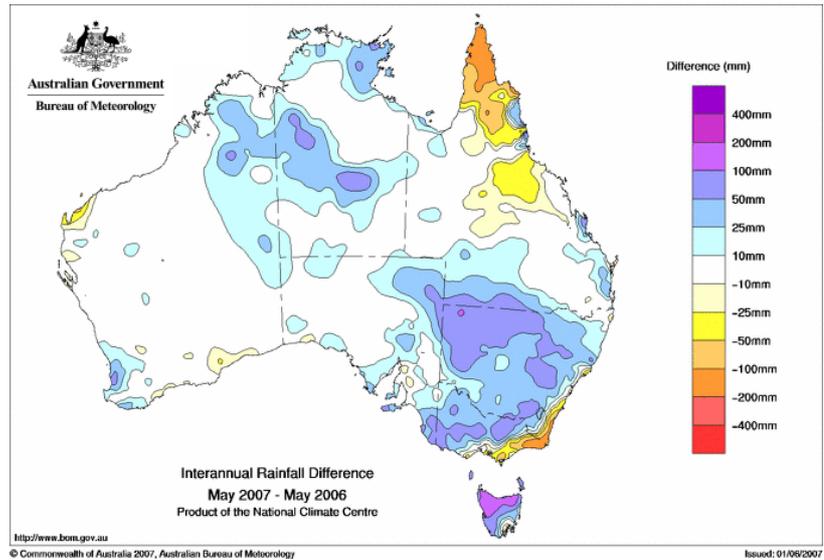


Figure 1. May Rainfall Comparison - Comparison of 2006 and 2007

Following the third moderate rain event in four weeks, surface soil layers had become sufficiently 'wetted up' by early June to result in streamflow response in the upper catchments. Total inflow to the River Murray for the year to date has begun to rise, see Figure 2, but is still behind where we were this time last year. The steeper rise in June this year indicates June inflows have been higher this year than in 2006.

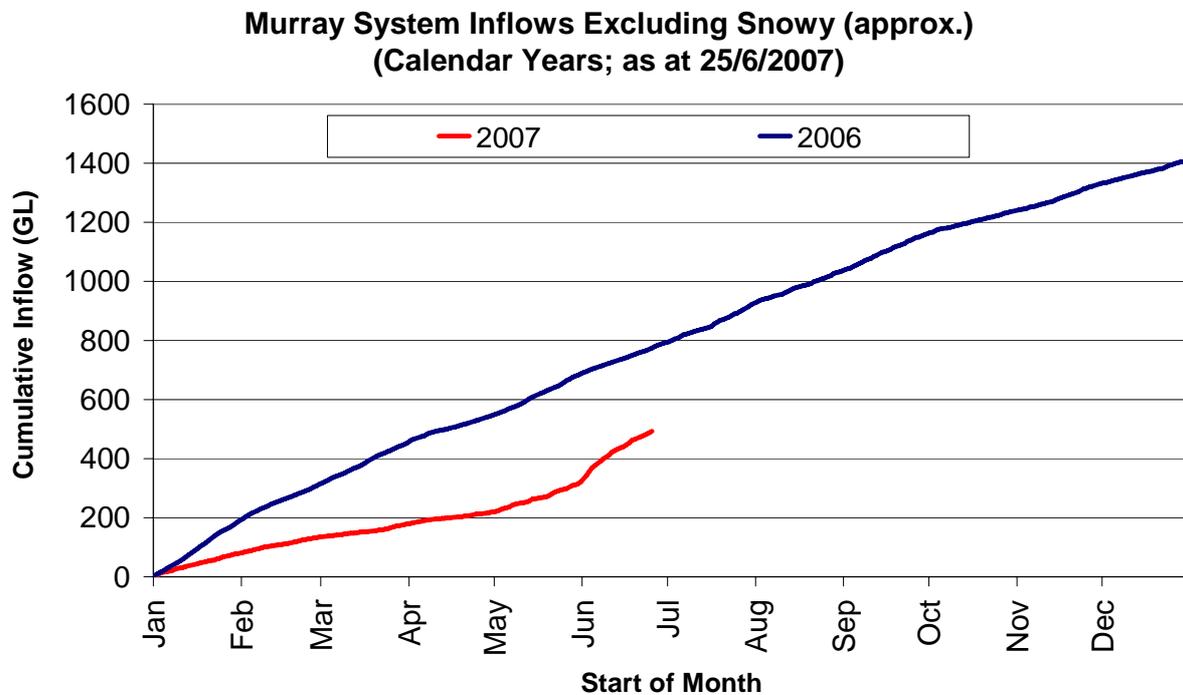


Figure 2. Cumulative Inflows to River Murray - Comparison of 2006 and 2007 (excluding Snowy Scheme releases)

Current Operations

At end May the available volume held in MDBC storages was 740 GL compared to the 'worst case' projection of 490 GL in the last Drought Update in April.

The increase in storage was due to:

- use of special arrangements by Snowy Hydro Ltd under which some water due to be released to the Murray in 2007/08 has been delivered early;
- lower evaporation and transmission losses due to the rain of recent months; and
- reduced usage of allocated water by irrigators.

As the 2006/07 irrigation season drew to a close, flows in the River Murray were reduced below normal minimum winter flow rates to conserve water upstream in Hume and Dartmouth reservoirs. The recent rainfall has boosted tributary inflows - particularly from the Kiewa and Ovens Rivers - and this rise is currently making its way downstream to be stored in Lake Victoria.

Flow to South Australia has been reduced to a target of about 950 ML/day - less than a third of the normal flow rate for this time of year and the lowest such flow since before Hume Dam was completed in 1936.

Weir pools have generally been maintained close to normal full supply levels in recent weeks. It is likely that with continuing rain the need to lower weir pools over coming months will be reduced.

By mid April the lower lakes in South Australia had fallen to about 0.10 m AHD (Australian Height Datum), close to the record low level set in March 1968. This is below sea level for most of the tide cycle. Substantial efforts to reduce leakage of sea water through, under and around the barrages have been made, but some inevitable leakage has resulted in elevated salinity levels in the reaches immediately upstream of the barrages.

Local rainfall and reduced evaporation rates have seen lake levels rise gradually over the last few weeks to about 0.20 m AHD.

A number of wetlands across the system - particularly in South Australia - have been or are planned to be temporarily disconnected from the River Murray. This is aimed at reducing evaporation losses to augment critically low water availability in 2007/08.

WATER AVAILABILITY 2007/08

By late June 2007 water availability for 2007/08 was sufficient to meet critical urban and some stock and domestic water supplies (subject to appropriate levels of restriction) with small additional volumes of water likely to be available to the States to distribute as appropriate. 'Water availability' means actual water in storage plus the minimum expected inflow used for planning (up to end May 2008) minus expected delivery and storage evaporation losses. The minimum expected inflow used for planning is based on a repeat of the inflows experienced in the 2006/07 year with further reductions to reflect expected record low releases from the Snowy Mountains Scheme and major tributaries (particularly Murrumbidgee and Goulburn) should extremely low inflows persist.

As the season progresses water availability will be reviewed at least monthly. With critical urban water needs now assured it is reasonable to expect that improvements in inflows, in excess of the minimum case, will be available to the States for allocation. The sharing of such improvements between the States has been agreed by First Ministers¹ and advice will be provided over coming weeks.

¹ The Prime Minister, Premiers of New South Wales, Victoria, South Australia and the Chief Minister of the Australian Capital Territory

Exactly how those improvements are allocated to water users is a matter for each State. The Murray-Darling Basin Commission's role is to advise each State of the water available.

Each State then determines how much water is allocated to consumers and the method of allocation, taking account of (as applicable):

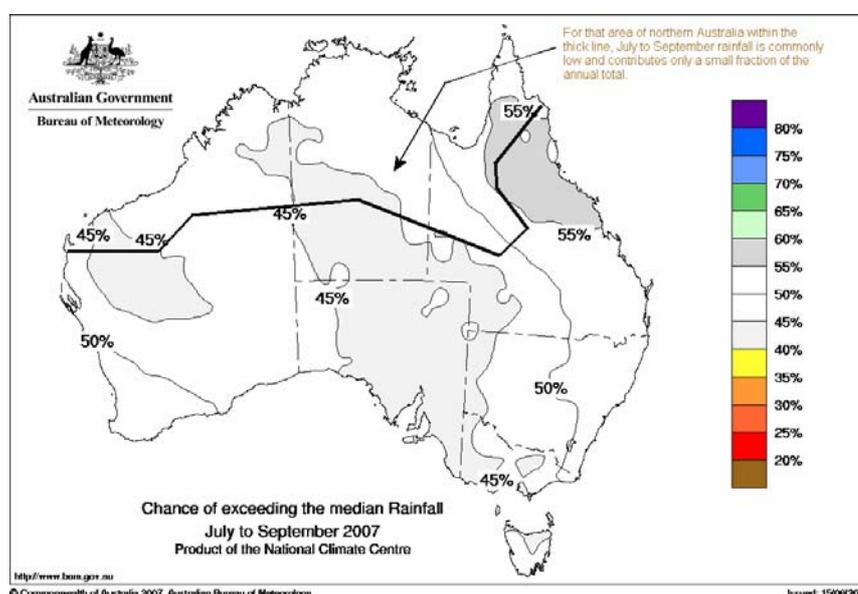
- water carry-overs (including, in NSW, water suspended in 2006/07);
- critical human and environmental requirements;
- transmission losses in major canal systems (NSW and Victoria);
- salinity dilution requirements (South Australia);
- inter-valley water trades;
- paybacks of volumes borrowed from environmental accounts; and
- paybacks of previous Snowy 'deals' (NSW).

Rainfall Outlook

In its latest rainfall outlook for July to September inclusive, the Bureau of Meteorology shows, based on current climatic indicators, the outlook for winter rain is normal - that is no strong odds towards either wet or dry conditions.

Figure 3. Chance of exceeding the median rainfall July to September 2007

(Australian Bureau of Meteorology)



However, the Bureau also advises that all six international dynamic climate computer models observed suggest that there is an elevated chance of a La Niña event occurring in 2007 - "*La Niña events bring wetter than normal conditions across much of the eastern half of Australia during the second half of the year. Furthermore, the years following El Niño usually bring average to above average rainfall to eastern and southern Australia*". Future Drought Updates will provide the latest advice from the Bureau of Meteorology.

Streamflow Outlook

Despite surface soil layers in some upper catchments now wetting up and yielding some runoff, the deeper soil profiles may remain depleted from the prolonged and extreme drought conditions. This means, whilst the outlook for rainfall is better than we have seen for some time, the potential runoff that may be yielded could be less than normally expected with the same rainfall.

For example, whilst close to average rainfall was received in the Hume Dam catchment the year following the extreme drought years of 1903 and 1945, streamflows yielded from this near-average rain was only about half of the average inflow.

Water Availability Outlook

Whilst it is a State responsibility to announce allocation information some key messages can be provided here:

1. The bulk of the water available at end June will be committed to meeting critical human needs and delivery losses. A small amount will be available for irrigation at 1 July, however increases in water availability in 2007/08 will continue to depend entirely on inflows over coming months. If inflows remain low there will be little water available for irrigation.
2. Last season - even with the extreme low inflows - a total of about 3 700 GL was able to be delivered to the States. This is because about 3 200 GL of available water was in storage at the start of 2006/07. This season starts with only 740 GL available in storage. This means that significant inflows are needed this season just to achieve similar levels of water availability to last year. *There is about a 1 in 4 chance that total River Murray system water availability in 2007/08 will be no higher than in 2006/07.*
3. The chance that conditions will be wet enough in 2007/08 to return storages to long-term average levels is very small - less than a 15% chance. Large inflows would be needed into Dartmouth Dam and Menindee Lakes to return reserves to long-term averages by end 2007/08.

Figure 4 gives a picture of potential outlooks for the coming season based on historical records.

Total Season Inflow	Chance of this inflow or higher in 2007/08*	Water Availability	Outlook for the Environment	Comment
Flood of record (> 40 000 GL)	Very unlikely	Full allocations	Major flooding across entire River Murray to the sea	Very unlikely with current conditions
Repeat of 1996/97 - the most recent good wet year (16 000 GL)	<5%	High allocations	Significant flooding in upper and mid reaches. Moderate flooding in SA	Flood flows lower than in 1996 due to refilling of major dams
Long-term Average (11 100 GL)	15%	Reasonable Allocations	Moderate flooding of Barmah-Millewa Minor flooding of lower reaches	Moderate reserves for 2008/09
Repeat of 2005/06 - a 'reasonable' inflow year (6 500 GL)	50%	Moderate Allocations	Minor flooding of Barmah-Millewa Minor Barrage releases	Low reserves at end of year as most water consumed
3500 GL	75%	Similar total availability to 2006/07	Extremely bleak for mid and lower reaches	Less water for SA & Vic than in 2006/07 - more for NSW
Repeat of 2006/07 (< 1000 GL)	High chance of exceeding	Critical Human needs - almost no irrigation	Extremely bleak for mid and lower reaches	Contingency arrangements in place

* Probability has been reduced to reflect the strong correlation between dry autumn/winters and subsequent inflows.

Figure 4. Outlook Summary for 2007/08

IMPLEMENTING CONTINGENCY PLANS FOR 2007/08

With water availability indicating that there is only a small volume more (under “worst case scenario”) than needed to meet critical human needs in 2007/08, it is prudent to continue development and implementation of Dry Inflow Contingency Plans.

The probabilities of breaking out of this extreme dry inflow scenario improve as we move into the higher inflow months of August to October.

Partner governments have been working closely on special arrangements to ensure critical human needs can be met in the event of extreme dry inflows persisting. Partner governments have developed special arrangements which will enable early season access in each State to improvements in water availability, however small they may be.

A range of contingency measures will likely need to be in place until system inflows of about 4 000 GL are reasonably assured. A fact sheet on drought contingency measures is available on the MDBC website at http://www.mdbc.gov.au/news/drought_contingency_measures_may_2007.

ADDITIONAL INFORMATION

How do I get more information?

MDBC will provide further drought updates in coming months, and will release periodic operational outlooks as the season progresses. Additional information is available at www.mdbc.gov.au and from the relevant Australian and State Government Agencies.

For media interviews with MDBC personnel, please contact:

Sam Leone, MDBC Media Liaison, telephone: 0407 006 332

Water in Storage

MDBC Storages	Full Supply Level (m AHD)	Full Supply Volume (GL)	Current Storage Level (m AHD)	Current Storage		Dead Storage (GL)	MDBC Active Storage (GL)	Change in Storage for the week (GL)
				(GL)	%			
Dartmouth Reservoir	486.00	3 906	402.26	503	13%	80	423	+5
Hume Reservoir	192.00	3 038	171.62	376	12%	30	346	+44
Lake Victoria	27.00	677	23.31	276	41%	100	176	+28
Menindee Lakes		1 731 *		94	5%	(- -) #	0	-1
Total		9 352		1 250	13%	--	946	+76

* Menindee surcharge capacity 2050 GL

% of Total Active MDBC Storage = 11%

NSW takes control of Menindee Lakes when storage falls below 480 GL, and control reverts to MDBC when storage next reaches 640 GL

Major State Storages

Burrinjuck Reservoir	1 026		276	27%	3	273	+17
Blowering Reservoir	1 631		374	23%	24	350	+19
Eildon Reservoir	3 390		295	9%	100	195	+19

Snowy Mountains Scheme

Snowy diversions for week ending 26-Jun-2007

Storage	Active storage (GL)	Weekly change (GL)	Diversion (GL)	This week	From 1 May 2007
Lake Eucumbene - Total	54	-44	Snowy-Murray	+34	157
Snowy-Murray Component	127	-27	Tooma-Tumut	+3	13
Target Storage	1 240		Nett Diversion	30.8	145
			Murray 1 Release	+36	193

Major Diversions from Murray and Lower Darling (GL)

New South Wales	This week	From 1 July 2006
Murray Irrig. Ltd (Net)	.0	397.5
Wakool System loss	0.2	67.8
Western Murray Irrig.	0.2	23.5
Licensed Pumps	n/a	177.4
Lower Darling	0.1	18.4
TOTAL	0.5	684.6

Victoria	This week	From 1 July 2006
Yarrowonga Main Channel (net)	.0	436
Torrumbarry System + Nyah (net)	0.0	613
Sunraysia Pumped Districts	0.6	137
Licensed pumps - GMW (Nyah+u/s)	0.0	160
Licensed pumps - LMW	1.6	230
TOTAL	2.3	1 575

Flow to South Australia (GL)

Entitlement this month	90 *	(1 000 ML/day)
Flow this week	7.2	
Flow so far this month	26	
Flow last month	52	

* Reduced to approx. 30 GL during June drought contingency operations

Salinity (EC)

(microsiemens/cm @ 25° C)

	Current	Average over the last week	Average since 1 August 2006
Swan Hill	80	70	70
Euston	90	110	100
Red Cliffs	-	-	120
Merbein	180	180	120
Burtundy (Darling)	1 090	1 200	910
Lock 9	170	170	130
Lake Victoria	180	180	170
Berri	500	470	270
Waikerie	530	530	350
Morgan	520	510	370
Mannum	450	470	430
Murray Bridge	510	500	440
Milang (Lake Alex.)	2 070	1 870	1 360
Poltalloch (Lake Alex.)	1 700	1 710	1 230
Meningie (Lake Alb.)	2 480	2 460	2 360
Goolwa Barrages	14 110	15 320	5 350



River Levels and Flows

	Minor Flood stage (m)	Gauge height		Flow (ML/day)	Trend	Average flow this week (ML/day)	Average flow last week (ML/day)
		local (m)	(m AHD)				
River Murray							
Khancoban	-	-	-	6 040	F	5 420	6 270
Jingellic	4.0	1.93	208.45	6 550	R	6 040	6 280
Tallandoon (Mitta Mitta River)	4.2	1.27	218.16	390	F	400	400
Heywoods	5.5	1.12	154.75	400	S	400	440
Doctors Point	5.5	1.49	149.96	1 230	R	1 330	1 830
Albury	4.3	0.63	148.07	-	-	-	-
Corowa	7.0	0.50	126.52	1 330	F	1 520	1 700
Yarrowonga Weir (d/s)	6.4	0.37	115.41	1 950	F	2 390	2 850
Tocumwal	6.4	0.90	104.74	2 340	F	2 520	3 260
Torrumbarry Weir (d/s)	7.3	1.09	79.64	2 480	F	2 770	4 440
Swan Hill	4.5	0.73	63.65	2 670	F	3 270	4 940
Wakool Junction	8.8	1.85	50.97	3 660	F	4 490	5 170
Euston Weir (d/s)	8.8	0.91	42.75	4 220	F	5 250	4 340
Mildura Weir (d/s)	-	-	-	4 820	F	4 930	2 700
Wentworth Weir (d/s)	7.3	2.96	27.72	4 820	S	4 650	2 380
Rufus Junction	-	2.37	19.30	580	F	620	630
Blanchetown (Lock 1 d/s)	-	0.11	-	340	F	380	760
Tributaries							
Kiewa at Bandiana	2.7	1.32	154.55	1 058	R	1 200	1 670
Ovens at Wangaratta	11.9	7.95	145.63	739	R	770	1 080
Goulburn at McCoys Bridge	9.0	1.12	92.54	338	S	340	340
Edward at Stevens Weir (d/s)	-	0.44	80.21	200	F	200	210
Edward at Liewah	-	0.48	55.86	204	S	230	280
Wakool at Stoney Crossing	-	0.20	54.69	101	S	100	100
Murrumbidgee at Balranald	5.0	0.48	56.44	204	R	180	190
Barwon at Mungindi	-	3.16	-	7	S	10	20
Darling at Bourke	-	3.95	-	14	S	20	20
Darling at Burtundy Rocks	-	0.64	-	6	S	10	20

Natural Inflow to Hume (ie pre Dartmouth & Snowy Mountains scheme)	3 000	2 540
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Weirs and Locks

Pool levels above or below design level

Murray	FSL (m AHD)	u/s	d/s		FSL (m AHD)	u/s	d/s
Yarrowonga	124.90	-0.11	-	No. 7 Rufus River	22.10	-0.03	+0.05
No 26 Torrumbarry	86.05	+0.00	-	No. 6 Murtho	19.25	-0.09	-0.08
No. 15 Euston	47.60	-0.01	-	No. 5 Renmark	16.30	-0.03	+0.00
No. 11 Mildura	34.40	+0.00	+0.12	No. 4 Bookpurnong	13.20	-0.01	+0.10
No. 10 Wentworth	30.80	+0.04	+0.32	No.3 Overland Corner	9.80	+0.01	+0.11
No. 9 Kulnine	27.40	+0.08	+0.18	No. 2 Waikerie	6.10	+0.02	+0.02
No. 8 Wangumma	24.60	+0.21	-0.02	No 1. Blanchetown	3.20	+0.02	-0.64

Murrumbidgee	FSL (m AHD)	relation to FSL	d/s gauge ht.		Flow (ML/day)
			local (m)	(m AHD)	
No. 7 Maude	75.40	-4.55	0.59	69.94	287
No. 5 Redbank	66.90	-4.10	0.05	61.35	190



Lower Lakes

FSL = 0.75 m AHD

	(m AHD)
Lake Alexandrina average level for the past 5 days	0.17

Barrages

Fishways @ Barrages

	Openings	Level (m AHD)	Status	Rock Ramp	Vertical Slot
Goolwa	128 openings	0.15	All closed	-	Closed
Mundoo	26 openings	0.10	All closed	-	-
Boundary Creek	6 openings	-	All closed	-	-
Ewe Island	111 gates	-	All closed	-	-
Tauwichee	322 gates	0.13	All closed	Closed	Closed

AHD = Level relative to Australian Height Datum, i.e. height above sea level